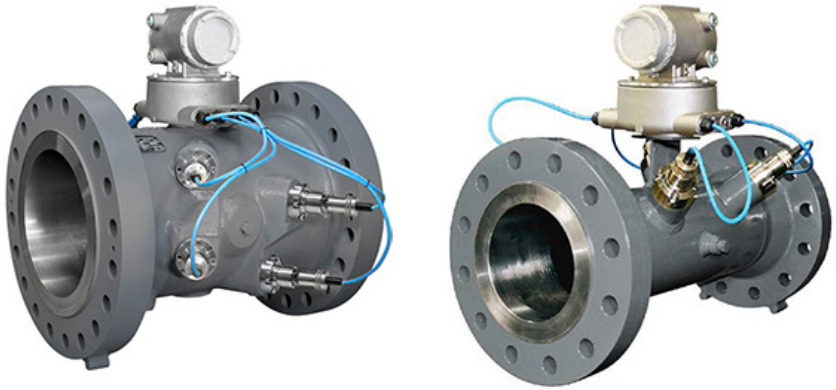
3410 Modbus Map

Reference Manual



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Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2	Reserved		R				int								
3	BaudPortA (Deprecated)	Communication Port A baud rate The baud rate used for serial port A.	R	Y	Y		int	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	19200	1200	115200
5	Reserved		R				int								
6	ModbusIDPortA	Comm Port A Modbus address The Modbus address used by communication Port A. The Modbus address is also used as a basis for the meter's IP address in the form 172.16.17.ModbusID when the meter is running a PPP server on the serial port.	RW	Y	Y		int	-	-	uint8	-		32	1	247
7	CommRspDlyPortA	Comm Port A response delay Communication Port A response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		int	ms	ms	uint8	ms		0	0	100
8	CommTCPTimeoutPortA	Inactivity timeout for PPP connections, port A Specifies the inactivity timeout (no TCP/IP packets) before the meter automatically disconnects a PPP connection (direct serial or modem connection) on Port A.	RW	Y	Y		int	sec	sec	uint8	sec		15	1	60
16	TspfMatch	Track parameter auto reset threshold: 0=always reset, 100=disable auto reset When the differences between the magnitudes of the computed upstream and downstream TSPF to exceed this percentage, they are reset to the default tracking target Pf distance (Tspf). When the differences between signal tracking targets (TspfA1..TspfD2) and target Tspf (Tspf) value exceeds this percentage, then the tracking targets are reset to the default tracking target Pf distance (Tspf). A value of 100 forces the calculated values to never reset to the defaults. A value of zero forces them to remain at the defaults.	RW	Y	Y	Y	int	%	%	uint8	%		30	0	100
18	VelHold	Number of batches to hold velocity constant when re-acquiring The number of batches the average flow velocity (AvgFlow) is held at the last measured value when meter is in acquisition mode (IsAcqMode).	RW	Y	Y	Y	int	-	-	uint8	-		0	0	255
19	StackSize	Stack size This indicates the number of transducer firings to be point-by-point averaged to generate a signal for a single transit time measurement. A value of 1 This indicates no stacking. When stacking is used, the batch period can differ from the user-specified value (SpecBatchUpdtPeriod). Stacking is primarily used to reduce random (white) noise on the received signal.	RW	Y	Y		int	-	-	uint8	-	None (1) 2 (2) 4 (4) 8 (8) 16 (16)	1	1	16
20	Pk1Thrsh	10^9 cubic meters (for "overflow" volume)	RW	Y	Y	Y	int	-	-	uint8	-		10	0	30
21	MinChord	Minimum number of operating chords for valid measurement The minimum number of operating chords for a valid measurement. If the number of operating chords is less than this value, then the too few operating chords (IsTooFewOperChords) status is set. The range of values and default value are dependent upon the meter device number (DeviceNumber).	RW	Y	Y	Y	int	-	-	uint8	-		1	1	8
22	Filter	Bandpass filter switch Bandpass filter switch. When set to TRUE (1) the bandpass filter is used on the received transducer signal to remove unwanted frequencies.	RW	Y	Y	Y	int	-	-	boolean	-	Filter off (FALSE) Filter on (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
23	FireSeq	Transducer firing sequence selector The order in which the transducers fire. The meter fires at the fastest possible rate only when each chord's upstream/downstream transducers are not fired successively.	RW	Y	Y	Y	int	-	-	uint8	-	A1-B1-C1-D1-A2-B2-C2-D2 (2)	2	2	2
24	SNRatio	Minimum signal-to-noise threshold The minimum signal-to-noise threshold. Conversion of this value to decibels is 10 * log10 (SNRatio). If the ratio of the signal energy to the noise energy is below this threshold, then the measurement is discarded. Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). If, in a batch, a chord has at least one signal discarded due to too low SNR, the chord's signal-to-noise low alarm, IsSNRTooLowA, IsSNRTooLowB, IsSNRTooLowC, IsSNRTooLowD, is set to TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-		10	5	30
25	MaxNoise	Maximum noise energy threshold Maximum noise energy threshold. If the signal's noise energy is above this threshold, the signal for that transducer firing is discarded. If a chord has at least one signal for a batch discarded due to too large noise energy, the chord's max noise alarm, DidExceedMaxNoiseA, DidExceedMaxNoiseB, DidExceedMaxNoiseC, DidExceedMaxNoiseD is set to TRUE (1).	RW	Y	Y	Y	int	energy (MkII equiv)	energy (MkII equiv)	uint32	energy		195	24	391
27	Reserved		R				int								
28	GainLowLmt (Deprecated)	Minimum gain limit The minimum gain applied to the received signal. On power-up, this value is set to the minimum gain for the Acquisition Module (DSPBdRevNum).	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)		25	0	3.40E+38
30	GainHighLmt (Deprecated)	Maximum gain limit The maximum gain applied to the received signal. On power-up, this value is set to the maximum gain for the Acquisition Module (DSPBdRevNum).	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)		49881.6	0	3.40E+38
31	NumVals	Chord proportion update factor Chord proportion update factor. This controls how quickly the chord proportions change relative to the current velocity proportion values. The lower the factor, the more quickly the proportions change.	RW	Y	Y	Y	int	-	-	uint16	-		10	1	1000
32	LowFlowLmt	Minimum velocity for updating chord proportions Minimum velocity for updating chord proportions. Chord proportions are not updated when the flow velocity is below this value.	RW	Y	Y	Y	int	m/s	m/s	uint8	m/s		1	1	30
33	FlowDir	Meter installed backwards control The meter installed backwards control used in setting the current flow direction indicator (FlowDirection). Set the meter installed backwards control to TRUE (1) if the meter is installed backwards from the normal (forward) flow direction.	RW	Y	Y	Y	int	-	-	boolean	-	Meter in normal direction (FALSE) Meter in reverse direction (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
34	ChordInactv	Chord inactive Chord inactive indicator. Used to set one or more chords to be inactive. At least one chord must be active. The range and default value are dependent upon the meter type (indicated by the DeviceNumber). If a chord is set to be inactive, its corresponding IsBatchInactiveA, IsBatchInactiveB, IsBatchInactiveC, IsBatchInactiveD, data point(s) is set to TRUE (1).	RW	*	*	*	int	-	-	bitfield	-	0 ChordInactvA (NV, Cnfg, Prot) 1 ChordInactvB (NV, Cnfg, Prot) 2 ChordInactvC (NV, Cnfg, Prot) 3 ChordInactvD (NV, Cnfg, Prot)			
35	CalFlag	Flow calibration switch: calibration started on FALSE-to-TRUE transition and stopped on TRUE-to-FALSE transition Calibration function switch. When changed from FALSE (0) to TRUE (1), the calibration accumulated uncorrected volume CalVol and calibration elapsed time CalTime data points are reset. While TRUE (1), the flow volume and time are accumulated into the CalVol and CalTime data points.	RW				int	-	-	boolean	-	Stop calibration (FALSE) Start calibration (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
37	AlarmDef	Number of consecutive batches before an alarm is set active The number of consecutive batches with active alarm condition before an alarm is set to active. This is used to activate chord A hard failed alarm (IsHardFailedA), chord B hard failed alarm (IsHardFailedB), chord C hard failed alarm (IsHardFailedC), chord D hard failed alarm (IsHardFailedD) and transducer firing synchronization alarm (IsXdcrFiringSyncError).	RW	Y	Y	Y	int	-	-	uint16	-		100	1	1000
47	DoUpdtPathDiag	Signal processing diagnostic data (path tracking) update control When set to TRUE (1), signal processing diagnostic data (path tracking information) is updated. The diagnostic data include following data points: Maximum signal quality value (MsqvA1..MsqvD2) Maximum signal quality position (MsqpA1..MsqpD2) Critical point value (PfvA1..PfvD2) Selected peak zero crossing position (P1A1..P1D2) Selected peak width (PwA1..PwD2) Energy arrival position (QpefA1..QpefD2) Critical point position (PfA1..PfD2) Peak 1 zero crossing position (Pp1A1..Pp1D2) Peak 2 zero crossing position (Pp2A1..Pp2D2) Peak 3 zero crossing position (Pp3A1..Pp3D2) Peak 4 zero crossing position (Pp4A1..Pp4D2) Peak 1 normalized amplitude (Ap1A1..Ap1D2) Peak 2 normalized amplitude (Ap2A1..Ap2D2) Peak 3 normalized amplitude (Ap3A1..Ap3D2) Peak 4 normalized amplitude (Ap4A1..Ap4D2) Peak 1 score (Ff1A1..Ff1D2) Peak 2 score (Ff2A1..Ff2D2) Peak 3 score (Ff3A1..Ff3D2) Peak 4 score (Ff4A1..Ff4D2) Peak 5 score (Ff5A1..Ff5D2) Selected peak (SelPkA1..SelPkD2) Energy arrival position (QpefA1..QpefD2)	RW				int	-	-	boolean	-	Do not update diagnostic data (FALSE) Do update diagnostic data (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
51	ResetTrkParam	Forces reset of tracking targets to defaults when TRUE Forces the signal tracking targets (TspfA1..TspfD2, TspeA1..TspeD2 and TampA1..TampD2) to be reset to the default values (Tspf, Tspe and Tamp) when TRUE (1). Once these values are reset, the value of this point is automatically reset to FALSE (0).	RW	Y			int	-	-	boolean	-	Do not reset tracking (FALSE) Do reset tracking (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
52	ResetProp	Resets chord proportions to default values when TRUE Forces the chord proportion bins (FwdPropABin1..FwdPropDBin10, RevPropABin1..RevPropDBin10, FwdPropVelABin1..FwdPropVelDBin10 and RevPropVelABin1..RevPropVelDBin10) to be reset to the default values when TRUE (1). The default values are based on the meter type, indicated by the device number (DeviceNumber). Once the chord proportion bin values are reset, the value of this data point is automatically reset to zero and proportion bin updates will not begin (IsPropUpdtActive) until the required amount of time without chord failures has elapsed (PropUpdtSeconds).	RW	Y			int	-	-	boolean	-	Do not reset proportions (FALSE) Do reset proportions (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
62	StatusA	Chord A status Chord A status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseA (NV) 1 IsSNRTooLowA (NV) 2 DidTmDevChkFailA (NV) 4 DidDltTmChkFailA (NV) 5 IsXdcrMaintenanceRequiredA (NV, Cnfg) 6 IsStackingIncompleteA (NV) 7 IsChordLengthMismatchedA (NV) 8 IsSigClippedA (NV) 9 IsSigQltyBadA (NV) 10 IsSigDistortedA (NV) 11 IsPeakSwitchDetectedA (NV) 12 IsMeasSndSpdRangeA (NV) 13 IsBatchInactiveA (NV) 14 IsFailedForBatchA (NV) 15 IsAcqMode (NV)			
63	StatusB	Chord B status Chord B status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseB (NV) 1 IsSNRTooLowB (NV) 2 DidTmDevChkFailB (NV) 4 DidDltTmChkFailB (NV) 5 IsXdcrMaintenanceRequiredB (NV, Cnfg) 6 IsStackingIncompleteB (NV) 7 IsChordLengthMismatchedB (NV) 8 IsSigClippedB (NV) 9 IsSigQltyBadB (NV) 10 IsSigDistortedB (NV) 11 IsPeakSwitchDetectedB (NV) 12 IsMeasSndSpdRangeB (NV) 13 IsBatchInactiveB (NV) 14 IsFailedForBatchB (NV) 15 IsAcqMode (NV)			

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
64	StatusC	Chord C status Chord C status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseC (NV) 1 IsSNRTooLowC (NV) 2 DidTmDevChkFailC (NV) 4 DidDltTmChkFailC (NV) 5 IsXdcrMaintenanceRequiredC (NV, Cnfg) 6 IsStackingIncompleteC (NV) 7 IsChordLengthMismatchedC (NV) 8 IsSigClippedC (NV) 9 IsSigQltyBadC (NV) 10 IsSigDistortedC (NV) 11 IsPeakSwitchDetectedC (NV) 12 IsMeasSndSpdRangeC (NV) 13 IsBatchInactiveC (NV) 14 IsFailedForBatchC (NV) 15 IsAcqMode (NV)			
65	StatusD	Chord D status Chord D status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseD (NV) 1 IsSNRTooLowD (NV) 2 DidTmDevChkFailD (NV) 4 DidDltTmChkFailD (NV) 5 IsXdcrMaintenanceRequiredD (NV, Cnfg) 6 IsStackingIncompleteD (NV) 7 IsChordLengthMismatchedD (NV) 8 IsSigClippedD (NV) 9 IsSigQltyBadD (NV) 10 IsSigDistortedD (NV) 11 IsPeakSwitchDetectedD (NV) 12 IsMeasSndSpdRangeD (NV) 13 IsBatchInactiveD (NV) 14 IsFailedForBatchD (NV) 15 IsAcqMode (NV)			
66	SystemStatus	General system status General system status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	1 AreSwComponentsIncompatible (NV) 2 DidPowerFail (NV, Cnfg) 3 IsAcqModuleIncompatible (NV) 4 IsXdcrFiringSyncError (NV) 5 IsEstimatedFlowVelocityInUse (NV) 6 DidWarmStart (NV, Cnfg) 7 IsColocMeterQFlowRangeErr (NV) 8 IsTooFewOperChords (NV) 9 IsMeterVelAboveMaxLmt (NV) 10 IsBlockageDetected (NV) 11 IsBoreBuildupDetected (NV) 12 IsLiquidDetected (NV) 13 IsAbnormalProfileDetected (NV) 14 IsReverseFlowDetected (NV) 15 WatchDogReset (NV, Cnfg)			
67	PctGoodA1	Performance of path A1 The performance of path A1 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
68	PctGoodB1	Performance of path B1 The performance of path B1 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
69	PctGoodC1	Performance of path C1 The performance of path C1 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
70	PctGoodD1	Performance of path D1 The performance of path D1 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
71	PctGoodA2	Performance of path A2 The performance of path A2 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
72	PctGoodB2	Performance of path B2 The performance of path B2 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
73	PctGoodC2	Performance of path C2 The performance of path C2 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
74	PctGoodD2	Performance of path D2 The performance of path D2 indicated as the percentage of good signals in those received from that transducer in a batch. See also the minimum percentage of good measurements for working chord (MinPctGood).	R				int	%	%	uint8	%				
77	GainA1 (Deprecated)	Gain when transducer A1 is receiving a signal Gain when transducer A1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				
78	GainA2 (Deprecated)	Gain when transducer A2 is receiving a signal Gain when transducer A2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				
79	GainB1 (Deprecated)	Gain when transducer B1 is receiving a signal Gain when transducer B1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
80	GainB2 (Deprecated)	Gain when transducer B2 is receiving a signal Gain when transducer B2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				
81	GainC1 (Deprecated)	Gain when transducer C1 is receiving a signal Gain when transducer C1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				
82	GainC2 (Deprecated)	Gain when transducer C2 is receiving a signal Gain when transducer C2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				
83	GainD1 (Deprecated)	Gain when transducer D1 is receiving a signal Gain when transducer D1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				
84	GainD2 (Deprecated)	Gain when transducer D2 is receiving a signal Gain when transducer D2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			int	gain (h/w)	gain (h/w)	float32	gain (h/w)				
200	ZeroCut	Flow velocity below which the flow rate is considered zero This value is used along with the pipe area (PipeArea) to compute the volumetric flow cutoff (QCutOff) below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. Also, when the average weighted flow velocity (AvgWtdFlowVel) is below this threshold the flow direction (FlowDirection) will not change. The flow analysis lower limit (FlowAnalysisLowFlowLmt) may not be set lower than this value.	RW	Y	Y	Y	float	m/s	m/s	float32	m/s		0.1	0	1
202	SSMax	Maximum speed of sound Maximum speed of sound. This is used to define the area to search for a signal when in acquisition mode. The minimum (SSMin) and this maximum speed of sound may need to be adjusted to prevent problems acquiring the signal.	RW	Y	Y	Y	float	m/s	m/s	float32	m/s		450	150	1500
204	SSMin	Minimum speed of sound Minimum speed of sound. This is used to define the area to search for a signal when in acquisition mode and is also used in emission rate determination. This minimum and the maximum speed of sound (SSMax) may need to be adjusted to prevent problems acquiring the signal.	RW	Y	Y	Y	float	m/s	m/s	float32	m/s		300	150	1500
206	EmRateDesired	Desired transducer firing (emission) rate The desired emission rate or time between the firing of two transducers in sequence based on the firing order (FireSeq). The actual emission rate used (EmRateActual) will not be less than the meter's calculated minimum based on the meter's geometry (pipe diameter (PipeDiam)), distance between transducers (LA, LB, LC, LD), axial distance between transducers (XA, XB, XC, XD), the minimum speed of sound (SSMin) and the physical characteristics of the transducers themselves. The actual emission rate used may also be impacted by stacking (StackEmRateActual). A value of (0) ensures the use of fastest available rate determined by the meter.	RW	Y	Y	Y	float	sec	sec	float32	ms		0	0	64
212	MinPctGood	Minimum percentage of good measurements for working chord The minimum percentage of good measurements for a working chord. A chord with a percentage of good measurements less than this threshold is considered failed and its corresponding IsFailedForBatchA, IsFailedForBatchB, IsFailedForBatchC, IsFailedForBatchD is set to TRUE (1). The percentage of good measurements for a chord may vary slightly from the individual path good measurements (PctGoodA1, PctGoodA2, PctGoodB1, PctGoodB2, PctGoodC1, PctGoodC2, PctGoodD1, PctGoodD2) since both the upstream and downstream paths must be good at the same time for a chord to be considered good.	RW	Y	Y	Y	float	%	%	uint8	%		65	0	90
214	MinHoldTime	Minimum sampling hold time The minimum sampling hold time limit. This is the minimum amount of time the meter waits after firing a transducer before sampling the receiving transducer's signal. This value should only be changed at the factory or under the direction of Emerson Flow Support. After a firmware upgrade, this value may be automatically adjusted to be within the required limits.	RW	Y	Y	Y	float	sec	sec	float32	us		208	208	32000
216	Pk1Pct	Parameter used to locate the signal start The percentage of the maximum signal amplitude used as a threshold to find the first peak which is then used to determine the starting position of the sampled waveform. If conditions exist that make the start of the signal difficult to detect (peak switching) this level may be adjusted to get a stable signal.	RW	Y	Y	Y	float	%	%	uint8	%		60	40	100
218	MinSigQlty	Minimum acceptable signal quality The minimum acceptable signal quality based on signal and noise energies. When either path in a chord's signal quality (as measured by signal to noise ratios) is below this threshold, the chord's signal quality status, IsSigQltyBadA, IsSigQltyBadB, IsSigQltyBadC, IsSigQltyBadD is set to TRUE (1).	RW	Y	Y	Y	float	-	-	uint8	-		13	5	30
220	DltChk	Maximum delta time check parameter The maximum amount of time allowed for delta times (the difference between the up stream and down stream signal transit time). Usually adjusted by setting the transducer type (SetXdcrType). It is converted to sample interval units (DltChkSI) internally for use by the meter. When a chord's delta check value exceeds this limit, the chord's time check error status, DidDltTmChkFailA, DidDltTmChkFailB, DidDltTmChkFailC, DidDltTmChkFailD is set to TRUE (1).	RW	Y	Y	Y	float	sec	sec	float32	us		5.6	2.8	32
222	SpecBatchUpdtPeriod	Specified batch update period (may be overridden if stacking is selected) Specifies the minimum batch update period when there is no stacking (StackSize). The "Rapid" update period can be selected only when there is no bandpass filtering (Filter) and may cause greater uncertainty in the measured flow rate.	RW	Y	Y	Y	float	sec	sec	uint16	ms	Standard - 1000 ms (1000) Rapid - 250 ms (250)	1000	250	1000
224	NegSpan	Minimum negative pulse width The minimum time the signal must remain negative adjacent to a zero crossing. Usually adjusted by setting the transducer type (SetXdcrType). It is converted to sample interval units (NegSpanSI) internally for use by the meter. This parameter is used to detect distorted waveforms and incorrect measurements. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sec	sec	float32	us		2.4	1	10
226	PosSpan	Minimum positive pulse width The minimum time the signal must remain positive adjacent to a zero crossing. It is converted to sample interval units (PosSpanSI) internally for use by the meter. Usually adjusted by setting the transducer type (SetXdcrType). This parameter is used to detect distorted waveforms and incorrect measurements. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sec	sec	float32	us		3.2	1	10
228	TmDevLow1	Transit time standard deviation threshold for measurement quality check The minimum standard deviation value of the transit time for which the quality check (TmDevFctr1) is evaluated. Paths with times closer to the mean are assumed to be valid without further evaluation. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sec	sec	float32	us		2	0	10

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
232	CRange	Maximum percentage chord speed of sound deviation Maximum percentage chord speed of sound deviation. If a chord's speed of sound measurement relative to the average speed of sound is above this threshold, IsMeasSndSpdRangeA, IsMeasSndSpdRangeB, IsMeasSndSpdRangeC, IsMeasSndSpdRangeD, is set to TRUE (1).	RW	Y	Y	Y	float	%	%	float32	%		0.5	0	10
238	Pk1Wdth	Maximum selected peak pulse width The maximum time between zero crossings (one half cycle) used as the distance to search for the next peak value. This value is converted internally to sample intervals for use (PkPlsWdthSI). Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sec	sec	float32	us		5.6	1	10
240	TmDevFctr1	Measurement Quality check deviation factor Measurement Quality check transit time standard deviation factor. When a path's transit time is more than this number of standard deviations from the path's median transit time for the batch, the individual measurement is flagged as bad and the corresponding chord's DidTmDevChkFailA, DidTmDevChkFailB, DidTmDevChkFailC, DidTmDevChkFailD are set to TRUE (1). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		2	1	100
248	StackEmRateDesired	Desired stacking transducer firing (emission) rate The desired emission rate or time between firing of the same transducer when stacking is turned on, that is the stack size (StackSize) is not equal to (1). The actual emission rate used (StackEmRateActual) will not be less than the meter's calculated minimum based on the meter's geometry (pipe diameter (PipeDiam)), distance between transducers (LA, LB, LC, LD), axial distance between transducers (XA, XB, XC, XD), the minimum speed of sound (SSMin) and the physical characteristics of the transducers themselves. This value may impact the overall transducer to transducer emission rate selected by the emission rate desired (EmRateDesired). A value of (0) ensures the use of fastest available rate determined by the meter.	RW	Y	Y	Y	float	sec	sec	float32	ms		0	0	64
250	TampLo	Tracking target normalized amplitude low limit The lower limit or floor for the magnitude (absolute value of) the default (Tamp) and the individual path (TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1, TampD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		30	0	100
252	TspfLo	Tracking target Pf distance low limit The lower limit or floor for the default (Tspf) and the individual path (TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2) computed values. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		8	0	37
254	TspeLo	Tracking target Pe distance low limit The lower limit or floor for the default (Tspe) and the individual path (TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		-8	-25	25
256	Tspf	Default tracking target Pf distance The default for the targeted SPF which is the time in sample intervals (SI) or distance between the first motion (Pf) and the signal the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TspfLo) and (TspfHi).	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		15	0	37
258	Tspe	Default tracking target Pe distance The default for the targeted SPE which is the time in sample intervals (SI) or distance between the first energy position (Pe) and the signal the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TspeLo) and (TspeHi).	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		8	-25	25
260	Tamp	Default tracking target normalized amplitude The default for the targeted Amp which is the value of the peak following the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1, TampD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TampLo) and (TampHi).	RW	Y	Y	Y	float	%	%	int8	%		-70	-100	100
262	TspfSen	Tracking target Pf sensitivity The sensitivity applied to the comparison of the individual peaks SPF to the paths targeted SPF, TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2. The sensitivity is used to generate similar magnitudes to the SPE and Amp comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		10	6	37
264	TspeSen	Tracking target Pe sensitivity The sensitivity applied to the comparison of the individual peaks SPE to the paths targeted SPE, TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2. The sensitivity is used to generate similar magnitudes to the SPF and Amp comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		18	6	37
266	TampSen	Tracking target normalized amplitude sensitivity The sensitivity applied to the comparison of the individual peaks Amp to the paths targeted Amp, TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1. The sensitivity is used to generate similar magnitudes to the SPE and SPF comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		30	5	100
268	TspfWt	Tracking target Pf weighting factor The weighting applied to the score generated by TspfSen when summed with TspeWt * TspeSen score and TampWt * TampSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		2	0	3
270	TspeWt	Tracking target Pe weighting factor The weighting applied to the score generated by TspeSen when summed with TspfWt * TspfSen score and TampWt * TampSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		0	0	3
272	TampWt	Tracking target normalized amplitude weighting factor The weighting applied to the score generated by TampSen when summed with TspeWt * TspeSen score and TspfWt * TspfSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		0.5	0	3
274	TspeLmt	Tracking target abs(Pe-Pf) limit The Tspf and Tspe calculations are not performed if the distance (in SI) between Pe and Pf exceed this amount. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint16	sample intervals		25	0	30

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
276	TampHi	Tracking target normalized amplitude high limit The upper limit or ceiling for the magnitude (absolute value of) the default (Tamp) and the individual path (TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		100	0	100
278	TspfHi	Tracking target Pf distance high limit The upper limit or ceiling for the default (Tspf) and the individual path (TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2) computed values. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		25	0	37
280	TspeHi	Tracking target Pe distance high limit The upper limit or ceiling for the default (Tspe) and the individual path (TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		20	-25	25
284	FwdA0	Dry calibration forward flow A0 coefficient The forward flow A0 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	m/s	m/s	float32	m/s		0	-1	1
286	FwdA1	Dry calibration forward flow A1 coefficient The forward flow A1 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
288	FwdA2	Dry calibration forward flow A2 coefficient The forward flow A2 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s/m	s/m	float32	s/m		0	-0.1	0.1
290	FwdA3	Dry calibration forward flow A3 coefficient The forward flow A3 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s2/m2	s2/m2	float32	s2/m2		0	-0.1	0.1
292	RevA0	Dry calibration reverse flow A0 coefficient The forward flow A0 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	m/s	m/s	float32	m/s		0	-1	1
294	RevA1	Dry calibration reverse flow A1 coefficient The reverse flow A1 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
296	RevA2	Dry calibration reverse flow A2 coefficient The reverse flow A2 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s/m	s/m	float32	s/m		0	-0.1	0.1
298	RevA3	Dry calibration reverse flow A3 coefficient The reverse flow A3 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s2/m2	s2/m2	float32	s2/m2		0	-0.1	0.1
302	PipeDiam	Pipe inside diameter The pipe inside diameter used to calculate the pipe area (PipeArea) and port angle (PortAngle).	RW	Y	Y	Y	float	m	m	float32	m		0.1524	0.0254	2
304	XA	Chord A "X" dimension Chord A "X" dimension (component of LA in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.1778	0	2
306	XB	Chord B "X" dimension Chord B "X" dimension (component of LB in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.28575	0	2
308	XC	Chord C "X" dimension Chord C "X" dimension (component of LC in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.28575	0	2
310	XD	Chord D "X" dimension Chord D "X" dimension (component of LD in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.1778	0	2
312	LA	Chord A length ("L" dimension) The distance between the transducer faces on chord A. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.3175	0	5
314	LB	Chord B length ("L" dimension) The distance between the transducer faces on chord B. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.4445	0	5
316	LC	Chord C length ("L" dimension) The distance between the transducer faces on chord C. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.4445	0	5
318	LD	Chord D length ("L" dimension) The distance between the transducer faces on chord D. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	m	float32	m		0.3175	0	5
332	AvgDlyA	Chord A average delay time The chord-specific delay for chord A primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	sec	sec	float32	us		0	0	50
334	AvgDlyB	Chord B average delay time The chord-specific delay for chord B primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	sec	sec	float32	us		0	0	50
336	AvgDlyC	Chord C average delay time The chord-specific delay for chord C primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	sec	sec	float32	us		0	0	50
338	AvgDlyD	Chord D average delay time The chord-specific delay for chord D primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	sec	sec	float32	us		0	0	50
340	DltDlyA	Chord A difference in upstream and downstream delay times The adjustment to the chord A delta times (the individual times used for DltTmA (DltTmA)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	sec	sec	float32	us		0	-1	1
342	DltDlyB	Chord B difference in upstream and downstream delay times The adjustment to the chord B delta times (the individual times used for DltTmB (DltTmB)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	sec	sec	float32	us		0	-1	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
344	DltDlyC	Chord C difference in upstream and downstream delay times The adjustment to the chord C delta times (the individual times used for DltTmC (DltTmC)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	sec	sec	float32	us		0	-1	1
346	DltDlyD	Chord D difference in upstream and downstream delay times The adjustment to the chord D delta times (the individual times used for DltTmD (DltTmD)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	sec	sec	float32	us		0	-1	1
348	SystemDelay	System delay time The portion of the signal transit time due to the physical characteristics of the electronics. It is computed as seven times the sample interval (SampInterval) plus an electronics delay constant. It is used in conjunction with the chord specific delay times (AvgDlyA, AvgDlyB, AvgDlyC, AvgDlyD).	R	Y			float	sec	sec	float32	us				
350	PortAngle	Meter port angle for speed of sound correction The meter port angle for the speed of sound port angle factor correction. The port angle is computed from chord "X" dimension (XA) and pipe ID dimension (PipeDiam). See also the speed of sound correction factor (SOSGeometryCorrFctrA, SOSGeometryCorrFctrB, SOSGeometryCorrFctrC, SOSGeometryCorrFctrD) data points.	R				float	deg	deg	float32	deg				
352	FlowVelA	Flow velocity for chord A Chord A flow velocity.	R				float	m/s	m/s	float32	m/s				
354	FlowVelB	Flow velocity for chord B Chord B flow velocity.	R				float	m/s	m/s	float32	m/s				
356	FlowVelC	Flow velocity for chord C Chord C flow velocity.	R				float	m/s	m/s	float32	m/s				
358	FlowVelD	Flow velocity for chord D Chord D flow velocity.	R				float	m/s	m/s	float32	m/s				
360	AvgFlow	Average flow velocity (dry and flow calibration applied) Average flow velocity (per batch). This is the dry cal velocity (DryCalVel) with any selected flow calibration method (CalMethod) as well as the flow profile correction factor (CorrectionFactor) applied.	R				float	m/s	m/s	float32	m/s				
362	SndVelA	Speed of sound for chord A Speed of sound for chord A including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrA).	R				float	m/s	m/s	float32	m/s				
364	SndVelB	Speed of sound for chord B Speed of sound for chord B including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrB).	R				float	m/s	m/s	float32	m/s				
366	SndVelC	Speed of sound for chord C Speed of sound for chord C including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrC).	R				float	m/s	m/s	float32	m/s				
368	SndVelD	Speed of sound for chord D Speed of sound for chord D including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrD).	R				float	m/s	m/s	float32	m/s				
370	AvgSndVel	Average speed of sound Average speed of sound (per batch) of all non-failed velocity measurement chords. The diagnostic chord's (IsDiagnosticChordEnabled) speed of sound is not included in the average.	R	Y			float	m/s	m/s	float32	m/s				
372	CalVol	Calibration accumulated uncorrected volume Calibration accumulated uncorrected volume. This is the accumulation of the uncorrected volume while the CalFlag data point is set to TRUE (1) or the DI1 gates the calibration with IsDI1UsedForCal as indicated by IsCalOnBatch.	R				float	m3	m3	float32	m3				
374	CalTime	Calibration elapsed time Calibration elapsed time. This is the elapsed time while the CalFlag data point is set to TRUE (1) or the DI1 gates the calibration with IsDI1UsedForCal as indicated by IsCalOnBatch. Note that the native units UNIT_MKIII_PULSES are counted in 1000 pulses/second while the Modbus UNIT_MKII_PULSES are counted as 1 pulse/0.1048575 seconds	R				float	MkII time pulses	MkII time pulses	float32	MkIII time pulses				
376	IsCalOnBatch	Identifies when the CalVol and CalTime data points are being updated Identifies when the CalVol and CalTime data points are being updated.	R				float	-	-	boolean	-	Batch calibration off (FALSE) Batch calibration on (TRUE)			
378	IsCalOn	Identifies when the meter is in the calibration mode Identifies when the meter is in the calibration mode.	R				float	-	-	boolean	-	Off (FALSE) On (TRUE)			
386	DryCalVel	Flow velocity after dry cal and before flow cal Flow velocity after application of dry-calibration coefficients (A coefficients FwdA0, FwdA1, FwdA2, FwdA3, RevA0, RevA1, RevA2 and RevA3) and before application of the flow calibration method (CalMethod) to the average weighted flow velocity (AvgWtdFlowVel).	R				float	m/s	m/s	float32	m/s				
390	LinearMtrFctr	Piecewise linearization meter factor Piecewise linearization meter factor. This meter factor is only applied to the flow velocity when the piecewise linearization method is selected via the calibration method (CalMethod) data point. It is computed from the piecewise velocities and the corresponding gains plus the offsets.	R				float	-	-	float32	-				
392	QMeter	Volumetric flow rate (no expansion correction) Volumetric flow rate (no expansion correction). Computed as average flow (AvgFlow) times pipe area (PipeArea).	R				float	m3/hr	m3/hr	float32	m3/hr				
394	QCutOff	Volumetric flow rate threshold below which the flow rate is considered zero The volumetric flow rate below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. This value is computed by multiplying the flow velocity low cutoff (ZeroCut) by the meter inside pipe area (PipeArea). When the flow rate is above this threshold, the cutoff indicator (IsFlowAboveCutoff) is TRUE (1).	R				float	m3/hr	m3/hr	float32	m3/hr				
402	MaxTmA1	Maximum batch transit time (A1) Maximum batch transit time (A1).	R				float	sec	sec	float32	us				
404	MaxTmB1	Maximum batch transit time (B1) Maximum batch transit time (B1).	R				float	sec	sec	float32	us				
406	MaxTmC1	Maximum batch transit time (C1) Maximum batch transit time (C1).	R				float	sec	sec	float32	us				
408	MaxTmD1	Maximum batch transit time (D1) Maximum batch transit time (D1).	R				float	sec	sec	float32	us				
410	MaxTmA2	Maximum batch transit time (A2) Maximum batch transit time (A2).	R				float	sec	sec	float32	us				
412	MaxTmB2	Maximum batch transit time (B2) Maximum batch transit time (B2).	R				float	sec	sec	float32	us				
414	MaxTmC2	Maximum batch transit time (C2) Maximum batch transit time (C2).	R				float	sec	sec	float32	us				
416	MaxTmD2	Maximum batch transit time (D2) Maximum batch transit time (D2).	R				float	sec	sec	float32	us				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
418	MinTmA1	Minimum batch transit time (A1) Minimum batch transit time (A1).	R				float	sec	sec	float32	us				
420	MinTmB1	Minimum batch transit time (B1) Minimum batch transit time (B1).	R				float	sec	sec	float32	us				
422	MinTmC1	Minimum batch transit time (C1) Minimum batch transit time (C1).	R				float	sec	sec	float32	us				
424	MinTmD1	Minimum batch transit time (D1) Minimum batch transit time (D1).	R				float	sec	sec	float32	us				
426	MinTmA2	Minimum batch transit time (A2) Minimum batch transit time (A2).	R				float	sec	sec	float32	us				
428	MinTmB2	Minimum batch transit time (B2) Minimum batch transit time (B2).	R				float	sec	sec	float32	us				
430	MinTmC2	Minimum batch transit time (C2) Minimum batch transit time (C2).	R				float	sec	sec	float32	us				
432	MinTmD2	Minimum batch transit time (D2) Minimum batch transit time (D2).	R				float	sec	sec	float32	us				
434	MeanTmA1	Average transit time upstream for chord A Mean batch transit time (A1).	R				float	sec	sec	float32	us				
436	MeanTmB1	Average transit time upstream for chord B Mean batch transit time (B1).	R				float	sec	sec	float32	us				
438	MeanTmC1	Average transit time upstream for chord C Mean batch transit time (C1).	R				float	sec	sec	float32	us				
440	MeanTmD1	Average transit time upstream for chord D Mean batch transit time (D1).	R				float	sec	sec	float32	us				
442	MeanTmA2	Average transit time downstream for chord A Mean batch transit time (A2).	R				float	sec	sec	float32	us				
444	MeanTmB2	Average transit time downstream for chord B Mean batch transit time (B2).	R				float	sec	sec	float32	us				
446	MeanTmC2	Average transit time downstream for chord C Mean batch transit time (C2).	R				float	sec	sec	float32	us				
448	MeanTmD2	Average transit time downstream for chord D Mean batch transit time (D2).	R				float	sec	sec	float32	us				
452	DltTmA	Mean batch delta time for chord A Mean batch delta time for chord A.	R				float	sec	sec	float32	us				
454	DltTmB	Mean batch delta time for chord B Mean batch delta time for chord B.	R				float	sec	sec	float32	us				
456	DltTmC	Mean batch delta time for chord C Mean batch delta time for chord C.	R				float	sec	sec	float32	us				
458	DltTmD	Mean batch delta time for chord D Mean batch delta time for chord D.	R				float	sec	sec	float32	us				
460	SDevTmA1	Std. deviation of transit times for chord A upstream Batch transit time standard deviation (A1). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
462	SDevTmB1	Std. deviation of transit times for chord B upstream Batch transit time standard deviation (B1). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
464	SDevTmC1	Std. deviation of transit times for chord C upstream Batch transit time standard deviation (C1). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
466	SDevTmD1	Std. deviation of transit times for chord D upstream Batch transit time standard deviation (D1). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
468	SDevTmA2	Std. deviation of transit times for chord A downstream Batch transit time standard deviation (A2). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
470	SDevTmB2	Std. deviation of transit times for chord B downstream Batch transit time standard deviation (B2). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
472	SDevTmC2	Std. deviation of transit times for chord C downstream Batch transit time standard deviation (C2). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
474	SDevTmD2	Std. deviation of transit times for chord D downstream Batch transit time standard deviation (D2). It is calculated from transit times of waveforms used for measurement.	R				float	ns	ns	float32	us				
476	SDevDltTmA	Batch delta time standard deviation for chord A Batch delta time standard deviation for chord A.	R				float	ns	ns	float32	us				
478	SDevDltTmB	Batch delta time standard deviation for chord B Batch delta time standard deviation for chord B.	R				float	ns	ns	float32	us				
480	SDevDltTmC	Batch delta time standard deviation for chord C Batch delta time standard deviation for chord C.	R				float	ns	ns	float32	us				
482	SDevDltTmD	Batch delta time standard deviation for chord D Batch delta time standard deviation for chord D.	R				float	ns	ns	float32	us				
484	MaxDltTmA	Maximum batch delta time for chord A Maximum batch delta time for chord A.	R				float	sec	sec	float32	us				
486	MaxDltTmB	Maximum batch delta time for chord B Maximum batch delta time for chord B.	R				float	sec	sec	float32	us				
488	MaxDltTmC	Maximum batch delta time for chord C Maximum batch delta time for chord C.	R				float	sec	sec	float32	us				
490	MaxDltTmD	Maximum batch delta time for chord D Maximum batch delta time for chord D.	R				float	sec	sec	float32	us				
492	MinDltTmA	Minimum batch delta time for chord A Minimum batch delta time for chord A.	R				float	sec	sec	float32	us				
494	MinDltTmB	Minimum batch delta time for chord B Minimum batch delta time for chord B.	R				float	sec	sec	float32	us				
496	MinDltTmC	Minimum batch delta time for chord C Minimum batch delta time for chord C.	R				float	sec	sec	float32	us				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
498	MinDltTmD	Minimum batch delta time for chord D Minimum batch delta time for chord D.	R				float	sec	sec	float32	us				
502	HoldTmA1	Hold time (A1) Hold time (A1).	R				float	sec	sec	float32	us				
504	HoldTmA2	Hold time (A2) Hold time (A2).	R				float	sec	sec	float32	us				
506	HoldTmB1	Hold time (B1) Hold time (B1).	R				float	sec	sec	float32	us				
508	HoldTmB2	Hold time (B2) Hold time (B2).	R				float	sec	sec	float32	us				
510	HoldTmC1	Hold time (C1) Hold time (C1).	R				float	sec	sec	float32	us				
512	HoldTmC2	Hold time (C2) Hold time (C2).	R				float	sec	sec	float32	us				
514	HoldTmD1	Hold time (D1) Hold time (D1).	R				float	sec	sec	float32	us				
516	HoldTmD2	Hold time (D2) Hold time (D2).	R				float	sec	sec	float32	us				
550	PfA1	Critical point position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
552	PfA2	Critical point position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
554	PfB1	Critical point position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
556	PfB2	Critical point position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
558	PfC1	Critical point position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
560	PfC2	Critical point position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
562	PfD1	Critical point position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
564	PfD2	Critical point position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
566	P1A1	Selected peak zero crossing position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
568	P1A2	Selected peak zero crossing position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
570	P1B1	Selected peak zero crossing position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
572	P1B2	Selected peak zero crossing position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
574	P1C1	Selected peak zero crossing position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
576	P1C2	Selected peak zero crossing position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
578	P1D1	Selected peak zero crossing position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
580	P1D2	Selected peak zero crossing position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
582	PwA1	Selected peak width (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
584	PwA2	Selected peak width (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
586	PwB1	Selected peak width (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
588	PwB2	Selected peak width (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
590	PwC1	Selected peak width (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
592	PwC2	Selected peak width (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
594	PwD1	Selected peak width (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
596	PwD2	Selected peak width (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
816	NEA1	Batch average noise energy (A1) Average batch noise energy (A1).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
818	NEA2	Batch average noise energy (A2) Average batch noise energy (A2).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
820	NEB1	Batch average noise energy (B1) Average batch noise energy (B1).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
822	NEB2	Batch average noise energy (B2) Average batch noise energy (B2).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
824	NEC1	Batch average noise energy (C1) Average batch noise energy (C1).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
826	NEC2	Batch average noise energy (C2) Average batch noise energy (C2).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
828	NED1	Batch average noise energy (D1) Average batch noise energy (D1).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
830	NED2	Batch average noise energy (D2) Average batch noise energy (D2).	R				float	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
832	QpefA1	Energy arrival position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
834	QpefA2	Energy arrival position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
836	QpefB1	Energy arrival position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
838	QpefB2	Energy arrival position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
840	QpefC1	Energy arrival position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
842	QpefC2	Energy arrival position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
844	QpefD1	Energy arrival position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
846	QpefD2	Energy arrival position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
850	MsqvA1	Maximum signal quality value (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
852	MsqvA2	Maximum signal quality value (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
854	MsqvB1	Maximum signal quality value (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
856	MsqvB2	Maximum signal quality value (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
858	MsqvC1	Maximum signal quality value (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
860	MsqvC2	Maximum signal quality value (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
862	MsqvD1	Maximum signal quality value (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
864	MsqvD2	Maximum signal quality value (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
866	MsqpA1	Maximum signal quality position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
868	MsqpA2	Maximum signal quality position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
870	MsqpB1	Maximum signal quality position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
872	MsqpB2	Maximum signal quality position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
874	MsqpC1	Maximum signal quality position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
876	MsqpC2	Maximum signal quality position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
878	MsqpD1	Maximum signal quality position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
880	MsqpD2	Maximum signal quality position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
882	PfvA1	Critical point value (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
884	PfvA2	Critical point value (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
886	PfvB1	Critical point value (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
888	PfvB2	Critical point value (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
890	PfvC1	Critical point value (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
892	PfvC2	Critical point value (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
894	PfvD1	Critical point value (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
896	PfvD2	Critical point value (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint32	-				
900	Pp1A1	Peak 1 zero crossing position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
902	Pp1A2	Peak 1 zero crossing position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
904	Pp1B1	Peak 1 zero crossing position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
906	Pp1B2	Peak 1 zero crossing position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
908	Pp1C1	Peak 1 zero crossing position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
910	Pp1C2	Peak 1 zero crossing position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
912	Pp1D1	Peak 1 zero crossing position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
914	Pp1D2	Peak 1 zero crossing position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
916	Pp2A1	Peak 2 zero crossing position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
918	Pp2A2	Peak 2 zero crossing position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
920	Pp2B1	Peak 2 zero crossing position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
922	Pp2B2	Peak 2 zero crossing position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
924	Pp2C1	Peak 2 zero crossing position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
926	Pp2C2	Peak 2 zero crossing position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
928	Pp2D1	Peak 2 zero crossing position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
930	Pp2D2	Peak 2 zero crossing position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
932	Pp3A1	Peak 3 zero crossing position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
934	Pp3A2	Peak 3 zero crossing position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
936	Pp3B1	Peak 3 zero crossing position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
938	Pp3B2	Peak 3 zero crossing position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
940	Pp3C1	Peak 3 zero crossing position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
942	Pp3C2	Peak 3 zero crossing position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
944	Pp3D1	Peak 3 zero crossing position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
946	Pp3D2	Peak 3 zero crossing position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
950	Pp4A1	Peak 4 zero crossing position (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
952	Pp4A2	Peak 4 zero crossing position (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
954	Pp4B1	Peak 4 zero crossing position (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
956	Pp4B2	Peak 4 zero crossing position (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
958	Pp4C1	Peak 4 zero crossing position (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
960	Pp4C2	Peak 4 zero crossing position (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
962	Pp4D1	Peak 4 zero crossing position (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
964	Pp4D2	Peak 4 zero crossing position (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	sample intervals	sample intervals	uint16	sample intervals				
966	Ap1A1	Peak 1 normalized amplitude (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
968	Ap1A2	Peak 1 normalized amplitude (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
970	Ap1B1	Peak 1 normalized amplitude (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
972	Ap1B2	Peak 1 normalized amplitude (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
974	Ap1C1	Peak 1 normalized amplitude (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
976	Ap1C2	Peak 1 normalized amplitude (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
978	Ap1D1	Peak 1 normalized amplitude (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
980	Ap1D2	Peak 1 normalized amplitude (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
982	Ap2A1	Peak 2 normalized amplitude (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
984	Ap2A2	Peak 2 normalized amplitude (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
986	Ap2B1	Peak 2 normalized amplitude (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
988	Ap2B2	Peak 2 normalized amplitude (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
990	Ap2C1	Peak 2 normalized amplitude (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
992	Ap2C2	Peak 2 normalized amplitude (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
994	Ap2D1	Peak 2 normalized amplitude (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
996	Ap2D2	Peak 2 normalized amplitude (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1000	Ap3A1	Peak 3 normalized amplitude (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1002	Ap3A2	Peak 3 normalized amplitude (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1004	Ap3B1	Peak 3 normalized amplitude (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1006	Ap3B2	Peak 3 normalized amplitude (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1008	Ap3C1	Peak 3 normalized amplitude (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1010	Ap3C2	Peak 3 normalized amplitude (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1012	Ap3D1	Peak 3 normalized amplitude (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1014	Ap3D2	Peak 3 normalized amplitude (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1016	Ap4A1	Peak 4 normalized amplitude (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1018	Ap4A2	Peak 4 normalized amplitude (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1020	Ap4B1	Peak 4 normalized amplitude (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1022	Ap4B2	Peak 4 normalized amplitude (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1024	Ap4C1	Peak 4 normalized amplitude (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1026	Ap4C2	Peak 4 normalized amplitude (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1028	Ap4D1	Peak 4 normalized amplitude (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1030	Ap4D2	Peak 4 normalized amplitude (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	%	%	float32	%				
1050	TspfA1	Tracking target Pf value (A1) Tracking target Pf value (A1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1052	TspfA2	Tracking target Pf value (A2) Tracking target Pf value (A2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1054	TspfB1	Tracking target Pf value (B1) Tracking target Pf value (B1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1056	TspfB2	Tracking target Pf value (B2) Tracking target Pf value (B2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1058	TspfC1	Tracking target Pf value (C1) Tracking target Pf value (C1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1060	TspfC2	Tracking target Pf value (C2) Tracking target Pf value (C2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1062	TspfD1	Tracking target Pf value (D1) Tracking target Pf value (D1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1064	TspfD2	Tracking target Pf value (D2) Tracking target Pf value (D2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1066	TspeA1	Tracking target Pe value (A1) Tracking target Pe value (A1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1068	TspeA2	Tracking target Pe value (A2) Tracking target Pe value (A2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1070	TspeB1	Tracking target Pe value (B1) Tracking target Pe value (B1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1072	TspeB2	Tracking target Pe value (B2) Tracking target Pe value (B2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1074	TspeC1	Tracking target Pe value (C1) Tracking target Pe value (C1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1076	TspeC2	Tracking target Pe value (C2) Tracking target Pe value (C2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1078	TspeD1	Tracking target Pe value (D1) Tracking target Pe value (D1).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1080	TspeD2	Tracking target Pe value (D2) Tracking target Pe value (D2).	R	Y			float	sample intervals	sample intervals	float32	sample intervals				
1082	TampA1	Tracking target normalized amplitude value (A1) Tracking target normalized amplitude value (A1).	R	Y			float	%	%	float32	%				
1084	TampA2	Tracking target normalized amplitude value (A2) Tracking target normalized amplitude value (A2).	R	Y			float	%	%	float32	%				
1086	TampB1	Tracking target normalized amplitude value (B1) Tracking target normalized amplitude value (B1).	R	Y			float	%	%	float32	%				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
1088	TampB2	Tracking target normalized amplitude value (B2) Tracking target normalized amplitude value (B2).	R	Y			float	%	%	float32	%				
1090	TampC1	Tracking target normalized amplitude value (C1) Tracking target normalized amplitude value (C1).	R	Y			float	%	%	float32	%				
1092	TampC2	Tracking target normalized amplitude value (C2) Tracking target normalized amplitude value (C2).	R	Y			float	%	%	float32	%				
1094	TampD1	Tracking target normalized amplitude value (D1) Tracking target normalized amplitude value (D1).	R	Y			float	%	%	float32	%				
1096	TampD2	Tracking target normalized amplitude value (D2) Tracking target normalized amplitude value (D2).	R	Y			float	%	%	float32	%				
1100	Ff1A1	Peak 1 score (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1102	Ff1A2	Peak 1 score (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1104	Ff1B1	Peak 1 score (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1106	Ff1B2	Peak 1 score (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1108	Ff1C1	Peak 1 score (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1110	Ff1C2	Peak 1 score (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1112	Ff1D1	Peak 1 score (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1114	Ff1D2	Peak 1 score (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1116	Ff2A1	Peak 2 score (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1118	Ff2A2	Peak 2 score (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1120	Ff2B1	Peak 2 score (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1122	Ff2B2	Peak 2 score (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1124	Ff2C1	Peak 2 score (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1126	Ff2C2	Peak 2 score (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1128	Ff2D1	Peak 2 score (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1130	Ff2D2	Peak 2 score (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1132	Ff3A1	Peak 3 score (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1134	Ff3A2	Peak 3 score (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1136	Ff3B1	Peak 3 score (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1138	Ff3B2	Peak 3 score (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1140	Ff3C1	Peak 3 score (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1142	Ff3C2	Peak 3 score (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1144	Ff3D1	Peak 3 score (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1146	Ff3D2	Peak 3 score (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1150	Ff4A1	Peak 4 score (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1152	Ff4A2	Peak 4 score (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1154	Ff4B1	Peak 4 score (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1156	Ff4B2	Peak 4 score (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1158	Ff4C1	Peak 4 score (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1160	Ff4C2	Peak 4 score (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1162	Ff4D1	Peak 4 score (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1164	Ff4D2	Peak 4 score (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1166	Ff5A1	Peak 5 score (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1168	Ff5A2	Peak 5 score (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
1170	Ff5B1	Peak 5 score (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1172	Ff5B2	Peak 5 score (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1174	Ff5C1	Peak 5 score (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1176	Ff5C2	Peak 5 score (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1178	Ff5D1	Peak 5 score (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1180	Ff5D2	Peak 5 score (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	int16	-				
1182	SelPkA1	Selected peak (A1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1184	SelPkA2	Selected peak (A2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1186	SelPkB1	Selected peak (B1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1188	SelPkB2	Selected peak (B2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1190	SelPkC1	Selected peak (C1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1192	SelPkC2	Selected peak (C2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1194	SelPkD1	Selected peak (D1) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1196	SelPkD2	Selected peak (D2) The value is updated only while the update path diagnostics control (DoUpdtPathDiag) is TRUE (1).	R				float	-	-	uint8	-				
1500	PosVolUncorr	Forward uncorrected volume Accumulation of uncorrected volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	m3	uint64	m3				
1502	NegVolUncorr	Reverse uncorrected volume Accumulation of uncorrected volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	m3	uint64	m3				
1504	DidColdStart	Meter cold started, latched until acknowledged The meter has performed a cold start. The meter configuration has reset to default values, meter archive logs are erased, user database is reset, and Smart Meter Verification reports are deleted. The meter is not configured correctly to measure flow. The user database has been reset to a single user "administrator" with the privilege to perform user management and default password is "Administrator-<CPUBdSerialNumber>". The default password is based on CPU Module serial number (CPUBdSerialNumber) mentioned on the label on the CPU Module. Recommended Actions: 1. If the cold start occurred unexpectedly, i.e. not due to firmware upgrade/downgrade or user-initiated in meter reset mode, we recommend replacing the CPU Module. Contact your local area Emerson Flow service representative. 2. If the cold start occurred after a firmware upgrade or is done using MeterLink™ to cold start the CPU Module, you must fully re-configure the meter from a previously saved configuration using Edit/Compare Configuration in MeterLink™ and reconfigure the meter's users using Manage Users in MeterLink™. 3. The alarm must be acknowledged to clear it from the list of alarms. 4. If the issue is unresolved, contact your local area Emerson Flow service representative.	RW	Y	Y		long	-	-	boolean	-	Cold start cleared (FALSE) Cold start indicated (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
1506	DataQlty	Flow data quality Flow data quality indicator. This is a bitfield consisting of multiple Boolean data point values and indicates the meter is operating at less than optimal performance.	R	*	*	*	long	-	-	bitfield	-	0 IsHardFailedA (NV) 1 IsHardFailedB (NV) 2 IsHardFailedC (NV) 3 IsHardFailedD (NV) 4 IsSndVelCompErr (NV) 16 IsTooFewOperChords (NV) 17 IsMeterVelAboveMaxLmt (NV)			
1508	PosVolUncorr	Forward uncorrected volume Accumulation of uncorrected volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
1510	NegVolUncorr	Reverse uncorrected volume Accumulation of uncorrected volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
1512	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	MkII time pulses	MkII time pulses	uint64	MkIII time pulses				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
1514	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	number of rollovers in MkII time pulses (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in MkII time pulses (multiply by 1,000,000,000 to add to accumulator)	uint64	MkIII time pulses				
1516	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	MkIII time pulses	MkIII time pulses	uint64	MkIII time pulses				
1518	SEA1	Batch average signal energy (A1) Average batch signal energy (A1).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1520	SEA2	Batch average signal energy (A2) Average batch signal energy (A2).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1522	SEB1	Batch average signal energy (B1) Average batch signal energy (B1).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1524	SEB2	Batch average signal energy (B2) Average batch signal energy (B2).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1526	SEC1	Batch average signal energy (C1) Average batch signal energy (C1).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1528	SEC2	Batch average signal energy (C2) Average batch signal energy (C2).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1530	SED1	Batch average signal energy (D1) Average batch signal energy (D1).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1532	SED2	Batch average signal energy (D2) Average batch signal energy (D2).	R				long	energy (MkII equiv)	energy (MkII equiv)	float32	energy				
1534	PosVolUncorr	Forward uncorrected volume Accumulation of uncorrected volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	m3	uint64	m3				
1538	NegVolUncorr	Reverse uncorrected volume Accumulation of uncorrected volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	m3	uint64	m3				
2004	FODO4Source	Source for Frequency/Digital Output 4 Selects the source for Frequency/Digital Output 4 if Frequency/Digital Output 4 available (IsFODO4Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO4Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	6	0	7
2005	FODO5Source	Source for Frequency/Digital Output 5 Selects the source for Frequency/Digital Output 5 if Frequency/Digital Output 5 available (IsFODO5Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO5Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	7	0	7
2006	FODO6Source	Source for Frequency/Digital Output 6 Selects the source for Frequency/Digital Output 6 if Frequency/Digital Output 6 available (IsFODO6Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO6Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	4	0	7
2007	FODO4Mode	Mode for Frequency/Digital Output 4 Selects the output levels for Frequency/Digital Output 4 (FODO4Source) when Frequency/Digital Output 4 available (IsFODO4Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
2008	FODO5Mode	Mode for Frequency/Digital Output 5 Selects the output levels for Frequency/Digital Output 5 (FODO5Source) when Frequency/Digital Output 5 available (IsFODO5Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
2009	FODO6Mode	Mode for Frequency/Digital Output 6 Selects the output levels for Frequency/Digital Output 6 (FODO6Source) when Frequency/Digital Output 6 available (IsFODO6Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2010	FODO1Source	Source for Frequency/Digital Output 1 Selects the source for Frequency/Digital Output 1 if Frequency/Digital Output 1 available (IsFODO1Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO1Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	0	0	7
2011	FODO2Source	Source for Frequency/Digital Output 2 Selects the source for Frequency/Digital Output 2 if Frequency/Digital Output 2 available (IsFODO2Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO2Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	2	0	7
2012	FODO3Source	Source for Frequency/Digital Output 3 Selects the source for Frequency/Digital Output 3 if Frequency/Digital Output 3 available (IsFODO3Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO3Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	3	0	7
2013	FODO1Mode	Mode for Frequency/Digital Output 1 Selects the output levels for Frequency/Digital Output 1 (FODO1Source) when Frequency/Digital Output 1 available (IsFODO1Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
2014	FODO2Mode	Mode for Frequency/Digital Output 2 Selects the output levels for Frequency/Digital Output 2 (FODO2Source) when Frequency/Digital Output 2 available (IsFODO2Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
2015	FODO3Mode	Mode for Frequency/Digital Output 3 Selects the output levels for Frequency/Digital Output 3 (FODO3Source) when Frequency/Digital Output 3 available (IsFODO3Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
2016	Freq1Content	Frequency Output 1 pair content Selects the data to be represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)) to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals.	RW	Y	Y	Y	int	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
2017	Freq1Dir	Selects the flow direction represented by the Frequency Output 1 pair (Freq1A, Freq1B) Selects the flow direction represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	int	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
2018	Freq2Dir	Selects the flow direction represented by the Frequency Output 2 pair (Freq2A, Freq2B) Selects the flow direction represented by the Frequency Output 2 pair (Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	int	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
2019	AO1Dir	Selects the flow direction represented by the Analog Output 1 Selects the flow direction represented by Analog Output 1. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	int	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
2020	Freq1MaxFrequency	Frequency Output 1 pair maximum (full-scale) frequency Selects the Frequency Output 1 pair maximum (full-scale) frequency used in determining the K-factor and inverse K-factor.	RW	Y	Y	Y	int	Hz	Hz	uint16	Hz	1000 (1000) 5000 (5000)	1000	1000	5000
2021	Freq1TestModeOutputPercent	Frequency Output 1 pair test mode percentage of full-scale Specifies the Frequency Output 1 pair test mode percentage of full-scale. This specifies the frequency (as a percentage of the full-scale frequency (Freq1MaxFrequency)) to force Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB) when in the frequency test mode (IsFreq1EnableTest).	RW				int	%	%	uint8	%		50	0	150
2023	Freq1FeedbackCorrectionPcnt	Frequency Output 1 pair volume feedback percentage Specifies the Frequency Output 1 pair percentage of error (determined by frequency feedback) to adjust for per batch. This only applies when the frequency pair content is selected to be a rate.	RW	Y	Y	Y	int	%	%	uint8	%		1	0	100

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2024	NonNormalModeTimeout	Non-normal operation timeout Non-normal operation timeout. The maximum length of time that a frequency output pair, digital output pair, analog output or calibration can remain in the test mode. In the event communications are lost between the Ultrasonic meter software and the meter (before a test mode is stopped), the meter will automatically end the test mode after the non-normal operation timeout has expired. This can be from 1 to 30 minutes depending on its settings. By default, the timeout is set to two minutes.	RW	Y	Y	Y	int	min	min	uint8	min		2	1	30
2025	CommTimeoutPortA	Comm Port A communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		int	sec	sec	uint8	sec		4	0	255
2026	UnitsSystem	Smart Meter Verification report, Modbus and local display unit system Selects the units for the Modbus communication, the local display, and the Smart Meter Verification report. Available options are U.S. Customary and Metric. For Modbus communication, the selected units system applies only to registers above 10000 and in the 2000-8999 range, other registers below 10000 are read in metric units only to maintain Mark II compatibility. Also, the selected units system is used by the Field Setup Wizard in MeterLink™. US customary units is the default setting. This configuration is different from the ISO 17089 Modbus units system (ISOModbusUnitsSystem) which determines units for the Modbus communication for the ISO 17089 Modbus registers block (32678 to 34112).	RW	Y	Y	Y	int	-	-	uint8	-	U.S. Customary (0) Metric (1)	0	0	1
2027	InputPressureUnit	Input pressure absolute/gage selector Specifies whether the input pressure is "Absolute" or "Gage" . If the input pressure is gage, then the absolute pressure is calculated as the sum of the input gage pressure and the atmospheric pressure (AtmosphericPress). When writing the flow-condition absolute pressure values via the ISO 17089 Modbus register then the input pressure unit has no effect and value is always considered as absolute pressure.	RW	Y	Y	Y	int	-	-	boolean	-	Gage (FALSE) Absolute (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
2028	VolFlowRateTimeUnit	Flow rate time unit for Modbus communication Selects the Modbus communication volumetric, energy or mass flow rate time unit for registers above 10000 and in the 2000-8999 range.	RW	Y	Y	Y	int	-	-	uint8	-	second (0) hour (1) day (2)	1	0	2
2030	RTCMonth	Real-time clock month This is used to read and write system time's month. The system time of the meter can be adjusted by writing to real-time clock day (RTCDate), year (RTCYear), hour (RTCHour), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-	Jan (1) Feb (2) Mar (3) Apr (4) May (5) Jun (6) Jul (7) Aug (8) Sep (9) Oct (10) Nov (11) Dec (12)	1	1	12
2031	RTCDate	Real-time clock day This is used to read and write system time's day of the month. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), year (RTCYear), hour (RTCHour), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		1	1	31
2032	RTCYear	Real-time clock year (2 digit) This is used to read and write system time's year. This specifies the last two digits of the year, which are added to 2000 to derive the four-digit year. The year may be set to a value within the range of the firmware release year to 38. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), hour (RTCHour), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		3	0	99
2033	RTCHour	Real-time clock hour in 24-hour format This is used to read and write system time's hour (in military time). The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), year (RTCYear), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		6	0	23
2034	RTCMinute	Real-time clock minute This is used to read and write system time's minute. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), year (RTCYear), hour (RTCHour) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		0	0	59
2035	RTCSecond	Real-time clock second This is used to read and write system time's second. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), year (RTCYear), hour (RTCHour) and minute (RTCMinute). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		0	0	59
2036	Reserved		R				int								
2037	Reserved		R				int								
2038	Reserved		R				int								
2039	Reserved		R				int								
2040	Reserved		R				int								
2041	Reserved		R				int								
2042	Reserved		R				int								
2043	Reserved		R				int								
2044	Reserved		R				int								
2045	DI1Mode	Digital Input 1 mode Specifies the Digital Input 1 (DI1) operating mode. If Digital Input/Calibration Input is selected, general input or calibration is determined by the Digital Input 1 calibration control flag (IsDI1UsedForCal). I/O board type (IOBdType) 4 and above is required to select Frequency/Digital Output 6.	RW	Y	Y	Y	int	-	-	uint8	-	Digital Input/Calibration Input (0) Frequency/Digital Output 6 (2)	2	0	2
2050	Freq1FullScaleVolFlowRate	Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when Frequency Output 1 pair content (Freq1Content) is set to a volumetric flow rate.	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
2052	AO1FullScaleVolFlowRate	Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to uncorrected volume flow rate (QFlow) or corrected volume flow rate (QBase).	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
2054	MinInputTemperature	Live temperature value corresponding to 4 mA input signal Specifies the input flow temperature value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	0	473.15
2056	MaxInputTemperature	Live temperature value corresponding to 20 mA input signal Specifies the input flow temperature value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	0	523.15

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2058	LowTemperatureAlarm	Temperature alarm low limit Temperature alarm low limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or below this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	143.15	473.15
2060	HighTemperatureAlarm	Temperature alarm high limit Temperature alarm high limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or above this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	143.15	523.15
2062	MinInputPressure	Live flow pressure value corresponding to 4 mA input signal Specifies the input flow pressure value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	0	280
2064	MaxInputPressure	Live flow pressure value corresponding to 20 mA input signal Specifies the input flow pressure value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		100	0	280
2066	LowPressureAlarm	Pressure alarm low limit Pressure alarm low limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or below this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.001	0	280
2068	HighPressureAlarm	Pressure alarm high limit Pressure alarm high limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or above this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		8.3	0	280
2078	SpecRhoMixFlow	Specified (fixed) flow-condition gas mass density Specifies the flow-condition gas mass density. This is used as RhoMixFlow (RhoMixFlow) when the AGA8 calculations are performed externally (selected via AGA8 calculation method (HCH_Method)).	RW	Y	Y		float	kg/m3	lbm/ft3	float32	kg/m3		0	0	500
2080	SpecZFlow	Specified (fixed) flow-condition gas compressibility Specifies the flow-condition gas compressibility. This is used as ZFlow (ZFlow) when the AGA8 calculations are performed externally (selected via AGA8 calculation method (HCH_Method)).	RW	Y	Y		float	-	-	float32	-		0	0	2
2082	SpecZBase	Specified (fixed) base-condition gas compressibility Specifies the base-condition gas compressibility. This is used as ZBase (ZBase) when the AGA8 calculations are performed externally (selected via AGA8 calculation method (HCH_Method)).	RW	Y	Y		float	-	-	float32	-		0	0	2
2084	SpecCorrectionFactor	Specified (fixed) flow profile correction factor (for single- and dual-path meters only) Specifies the (fixed) flow profile correction factor (for single and dual-path meters only) either manually entered or calculated by the meter. A zero value indicates that the meter is to calculate the flow profile correction factor based on pipe wall roughness (WallRoughness), pipe inside diameter (PipeDiam) and Reynolds Number (ReynoldsNumber). Reynolds Number (ReynoldsNumber) requires that AGA8 calculations (HCH_Method) are performed by the meter or performed externally.	RW	Y	Y		float	-	-	float32	-		0	0	1.05
2100	TBase	Base-condition temperature The base-condition temperature used for calculating the corrected, base-condition volumetric flow rate (QBase).	RW	Y	Y	Y	float	deg C	deg F	float32	K		273.15	143.15	328.15
2102	PBase	Base-condition pressure The base-condition pressure used for calculating the corrected, base-condition volumetric flow rate (QBase).	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	0.001	280
2104	AtmosphericPress	Atmospheric pressure Specifies the atmospheric pressure. This value is required when the input pressure absolute/gage selector (InputPressureUnit) is Gage, so that flow-condition absolute pressure (AbsFlowPressure) can be calculated.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.101325	0.03	0.1084
2106	HCH_Method	AGA8 method selector Selects the AGA8 calculation method. If the calculations are to be performed externally, then the calculation results must be specified (SpecRhoMixFlow, SpecZBase and SpecZFlow). For AGA8 method to be "Gross Method 1" or "Gross Method 2" or "Detail Method (AGA8, 1994)" or "GERG-2008 (AGA8 Part 2, 2017)", the base-condition pressure and temperature values must be specified (PBase and TBase), the flow-condition pressure input (EnablePressureInput) and temperature input (EnableTemperatureInput) must be "Fixed" (SpecFlowPressure and SpecFlowTemperature) or "Live" or "Transmitter Head 1" and the gas composition source (GasPropertiesSrcSel) must be "Fixed" or "Live - GC" or "Transmitter Head 1".	RW	Y	Y	Y	float	-	-	int32	-	External (0) Gross Method 1 (1) Gross Method 2 (2) Detail Method (3) GERG-2008 (5) None (4)	4	0	5
2108	MeasVolGrossHeatingVal	Volumetric gross heating value Volumetric gross heating value (required when AGA8 calculation method (HCH_Method) is "Gross Method 1"). These gas property values are either fixed (heating value and its reference temperature are user specified) or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1". Reading the gas property data from a GC requires the interface to GC to be enabled (IsOptionalGCInterfaceEnabled) and the GC communication port (GCSerialPort) to be configured. See also RefTemperatureHV. Gas property data can be read from Transmitter Head 1 of a Dual-Configuration meter only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter.	RW	Y	Y		float	kJ/dm3	Btu/ft3	float32	kJ/dm3		38.6022	15	50
2110	RefTemperatureHV	Volumetric gross heating value reference temperature Volumetric gross heating value reference temperature (required when AGA8 calculation method (HCH_Method) is Gross Method 1. See also MeasVolGrossHeatingVal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		288.7056	143.15	328.15
2112	SpecificGravity	Gas specific gravity (relative density) Gas specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either "Gross Method 1" or "Gross Method 2"). Specific gravity value is either a fixed (user specified) value or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1".	RW	Y	Y		float	-	-	float32	-		0.581078	0	2
2114	RefTemperatureGr	Reference temperature for specific gravity (relative density) Reference temperature for specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either Gross Method 1 or Gross Method 2).	RW	Y	Y	Y	float	deg C	deg F	float32	K		288.7056	143.15	328.15
2116	RefPressureGr	Reference (absolute) pressure for specific gravity (relative density) Reference (absolute) pressure for specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either Gross Method 1 or Gross Method 2).	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	0.001	280
2118	RefTemperatureMolarDensity	Reference temperature for molar density Reference temperature for molar density (required when AGA8 calculation method (HCH_Method) is Gross Method 1).	RW	Y	Y	Y	float	deg C	deg F	float32	K		288.7056	143.15	328.15
2120	RefPressureMolarDensity	Reference (absolute) pressure for molar density Reference (absolute) pressure for molar density (required when AGA8 calculation method (HCH_Method) is Gross Method 1).	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	0.001	280
2122	MoleFractionN2Method2	Nitrogen gas component The nitrogen gas component is calculated only when AGA8 method selector (HCH_Method) is Gross Method 1. It is assigned value of (N2InUse) for Gross Method 2, and is not calculated for other AGA8 methods.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1
2124	MoleFractionCO2	Carbon dioxide gas component Carbon dioxide gas component mole fraction.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1
2126	MoleFractionH2	Hydrogen gas component Hydrogen gas component mole fraction.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2128	MoleFractionCO	Carbon monoxide gas component Carbon monoxide gas component mole fraction.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1
2130	Viscosity	Natural gas mixture dynamic viscosity Natural gas mixture dynamic viscosity. Only required for JuniorSonic meters when specified flow profile correction factor (SpecCorrectionFactor) is calculated.	RW	Y	Y		float	Pa.s	cPoise	float32	Pa.s		0.000012	0	0.00005
2132	WallRoughness	Pipe wall roughness Pipe wall roughness. Only required for JuniorSonic meters when specified flow profile correction factor (SpecCorrectionFactor) is calculated.	RW	Y	Y	Y	float	m	ft	float32	m		0.00000762	0	0.0001
2134	SpecFlowTemperature	Specified (fixed) flow-condition temperature Specifies the flow-condition temperature used in calculations when the enable temperature input (EnableTemperatureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	deg C	deg F	float32	K		273.15	143.15	473.15
2136	SpecFlowPressure	Specified (fixed) flow-condition pressure Specifies the flow-condition pressure used in calculations when the enable pressure input (EnablePressureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	MPa	psi	float32	MPa		0.10156	0	280
2138	LinearExpansionCoef	Linear expansion coefficient Linear expansion coefficient. This is used to calculate the temperature expansion correction factor (when the correction is enabled via the enable temperature expansion correction (EnableExpCorrTemp)).	RW	Y	Y	Y	float	1/deg C	1/deg F	float32	1/K		0.0000115	0.00001	0.000018
2140	RefTempLinearExpCoef	Reference temperature for linear expansion Reference temperature for linear expansion. This is used to calculate the temperature expansion correction factor (when the correction is enabled via the enable temperature expansion correction (EnableExpCorrTemp)).	RW	Y	Y	Y	float	deg C	deg F	float32	K		293.15	143.15	473.15
2142	PipeOutsideDiameter	Pipe outside diameter Pipe outside diameter. This is used to calculate the pressure expansion correction factor (when the correction is enabled via the enable pressure expansion correction (EnableExpCorrPress)).	RW	Y	Y	Y	float	m	ft	float32	m		2	0	3
2144	YoungsModulus	Young's Modulus value (tensile stress to tensile strain ratio) Young's Modulus value (tensile stress to tensile strain ratio). This is used to calculate the strain per unit stress (StrainPerUnitStress) when expansion correction (EnableExpCorrPress) is enabled.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		202000	137895	310264
2146	PoissonsRatio	Poisson's Ratio value (absolute ratio of lateral strain to axial strain) Poisson's Ratio value (absolute ratio of lateral strain to axial strain). This is used to calculate the strain per unit stress (StrainPerUnitStress) when expansion correction (EnableExpCorrPress) is enabled.	RW	Y	Y	Y	float	-	-	float32	-		0.3	0.2	0.4
2201	IsGasCompositionValidationEnabled	Enables gas properties validation When set to Enabled, the meter will validate in-use gas properties as per the configured the AGA8 method (HCH_Method). When the AGA8 method is either configured as "GERG-2008" or "Detail Method", the meter will validate in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse) post-normalization to check if the individual gas components mole fraction are within limits as per the configured AGA8 method and the total unnormalized in-use gas composition mole percentage of all the gas components is within the range of 85% to 115%. When the AGA8 method is "Gross Method 1" or "Gross Method 2", the meter will validate the in-use specific gravity (SpecificGravityInUse) is within the range of 0.2 to 0.8. When the AGA8 method is "Gross Method 1", the meter will validate the in-use heating value (HeatingValueInUse) is within the range of 50 kJ/cubic dm to 15 kJ/cubic dm.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
2202	EnableTemperatureInput	Flow-condition temperature input selector Selects the flow-condition temperature input. When set to "Live", the flow-condition temperature is read from an analog input signal. When set to "Fixed", the flow-condition temperature is specified (fixed) via the SpecFlowTemperature data point, via a Modbus register or via the HART Command-134. An external source can update the flow-condition temperature through Modbus either by writing to the ISO 17089 Modbus register (34052) or by writing to a non-ISO 17089 Modbus register. When set to "Transmitter Head 1", the flow-condition temperature is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition temperature input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition temperature is used for temperature expansion correction (if enabled), AGA8 calculations (if enabled) and AGA10 calculations (if enabled). This value cannot be set to "None" if temperature expansion correction (EnableExpCorrTemp) is enabled or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
2203	EnablePressureInput	Flow-condition pressure input selector Selects the flow-condition pressure input. When set to "Live", the flow-condition pressure is read from an analog input signal. When set to "Fixed", the flow-condition pressure is specified (fixed) via the SpecFlowPressure data point, via a Modbus register or via the HART Command-132. An external source can update the flow-condition pressure through Modbus either by writing to the ISO 17089 Modbus register (34050) or by writing to a non-ISO 17089 Modbus register. The flow-condition pressure written via the ISO 17089 Modbus register is always absolute pressure. When set to "Transmitter Head 1", the flow-condition pressure is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition pressure input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition pressure is used for pressure expansion correction (if enabled). This value cannot be set to "None" if pressure expansion correction is enabled (EnableExpCorrPress) or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
2204	CommRspDlyPortA	Comm Port A response delay Communication Port A response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		int	ms	ms	uint8	ms		0	0	100
2205	CommRspDlyPortB	Comm Port B response delay Communication Port B response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		int	ms	ms	uint8	ms		0	0	100
2206	ContractHour	Hour of day to log daily record in 24-hour format Hour of day to log the daily record. This is expressed using 24-hour format (military time): midnight is 0 hours, noon is 12 hours, 11PM is 23 hours.	RW	Y	Y	Y	int	hr	hr	uint8	-		0	0	23
2207	Reserved		R				int								
2208	Reserved		R				int								
2210	EnableExpCorrTemp	Enable temperature expansion correction Enables volumetric flow rate temperature expansion correction when set to TRUE (1). This requires the flow-condition temperature to be "Fixed" or "Live" or "Transmitter Head 1" (EnableTemperatureInput and SpecFlowTemperature) and the pipe material linear expansion coefficient with reference temperature (LinearExpansionCoef and RefTempLinearExpCoef) to be specified.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2211	EnableExpCorrPress	Enable pressure expansion correction Enables volumetric flow rate pressure expansion correction when set to TRUE (1). This requires the flow-condition pressure to be "Fixed" or "Live" or "Transmitter Head 1" (EnablePressureInput and SpecFlowPressure) and the pipe outside diameter (PipeOutsideDiameter), Young's Modulus (YoungsModulus) and Poisson's Ratio (PoissonsRatio) to be specified.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
2300	IsLocalDisplayAvail	Local display is available When TRUE (1) the system has detected the presence of the local display.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
2301	IsLocalDisplayEnableTest	Test mode for local display When set TRUE (1) the local display will perform a series of tests to exercise all the segments of the display. This value will automatically return to FALSE (0) when the test is complete.	RW				int	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
2302	LocalDisplayScrollDelay	Scroll delay time for local display The time interval in seconds used to change which item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) is shown on the local display.	RW	Y	Y	Y	int	sec	sec	uint8	sec		5	1	100
2303	LocalDisplayFlowRateTimeUnit	Local display time units The time units used by the local display, if applicable, to display the current item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	second (0) hour (1) day (2)	1	0	2
2304	LocalDisplayVolUnitUS	Local display U.S. Customary volume unit The volumetric units used by the local display, if applicable, to display the current item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) when the units system (UnitsSystem) is selected to U.S. Customary (0). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	Cubic feet (0) Thousand cubic feet (3)	0	0	3
2305	LocalDisplayVolUnitMetric	Local display metric volume unit The volumetric units used by the local display, if applicable, to display the current item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) when the units system (UnitsSystem) is selected to Metric (1). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	Cubic meters (0) Thousand cubic meters (2)	0	0	2
2306	LocalDisplayItem1	Local display item 1 This selects the first value to be shown on the local display. Other display items (LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	1	0	32
2307	LocalDisplayItem2	Local display item 2 This selects the second value to be shown on the local display. Other display items (LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	6	0	32

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2308	LocalDisplayItem3	Local display item 3 This selects the third value to be shown on the local display. Other display items (LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	14	0	32
2309	LocalDisplayItem4	Local display item 4 This selects the fourth value to be shown on the local display. Other display items (LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
2310	LocalDisplayItem5	Local display item 5 This selects the fifth value to be shown on the local display. Other display items (LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2311	LocalDisplayItem6	Local display item 6 This selects the sixth value to be shown on the local display. Other display items (LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
2312	LocalDisplayItem7	Local display item 7 This selects the seventh value to be shown on the local display. Other display items (LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
2313	LocalDisplayItem8	Local display item 8 This selects the eighth value to be shown on the local display. Other display items (LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2314	LocalDisplayItem9	Local display item 9 This selects the ninth value to be shown on the local display. Other display items (LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
2315	LocalDisplayItem10	Local display item 10 This selects the tenth value to be shown on the local display. Other display items (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
2316	LocalDisplaySquawkMode	Local display squawk mode When squawk mode is set to Squawk On (1) the local display will display the pattern O-O-O-O until squawk mode is set to Squawk Off (0). When squawk mode is set to Squawk Once (2) the local display will display the pattern O-O-O-O for 60 seconds.	RW	Y			int	-	-	uint8	-	Squawk Off (0) Squawk On (1) Squawk Once (2)	0	0	2
2317	LocalDisplayMode	Local display mode When set to "Uncorrected volume only", the local display alternately shows the forward flow-condition volume (PosVolFlow) and the reverse flow-condition volume (NegVolFlow) in m3 or ft3/gal depending on the units system (UnitsSystem). The non-resettable running totals will be displayed as multiplier of 10 or 100 (depending upon the meter size) and only 7 least significant digits will be displayed. When set to "Scroll items 1-10", the local display will display items configured by local display items 1-10 (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10). In both modes, items will be updated on the local display using the scroll delay time interval (LocalDisplayScrollDelay).	RW	Y	Y	Y	int	-	-	uint8	-	Scroll items 1-10 (0) Uncorrected volume only (1)	0	0	1
2500	FlowDirection	Flow direction Flow direction indicator.	R				int	-	-	boolean	-	Reverse (FALSE) Forward (TRUE)			
2501	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2502	QMeterValidity	Uncorrected flow-condition volumetric flow rate invalid The volumetric flow rate (no expansion correction) is invalid. The meter is either not in measurement mode (i.e. no chords acquired) or the number of operating chords is below the minimum number required (MinChord) or the diagnostic chord speed of sound is out of range (IsDiagnosticSndSpdRangeErr) or, for a measurement chord, the in-use chord length does not match the calculated chord length (IsChordLengthMismatched). Recommended Actions: 1. From the alarm list, determine which chords are failed and resolve these alarm(s) first. Resolving the chord failures will clear this alarm. 2. If the diagnostic chord speed of sound out of range error is active then resolving it will clear this alarm. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative. See also: IsAcqMode, IsTooFewOperChords, IsDiagnosticSndSpdDetectionFeatureActive	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2503	QFlowValidity	Flow-condition volumetric flow rate invalid The meter either has not collected enough information from the chords to make an accurate measurement or the pressure and/or temperature are invalid and the meter is performing pressure or temperature expansion corrections on the meter's internal diameter. This is an alarm condition that shows the validity of the flow-condition volumetric flow rate (QFlow). The flow-condition volumetric flow rate (QFlow) becomes invalid if the uncorrected flow-condition volumetric flow rate validity (QMeterValidity), temperature expansion correction validity (ExpCorrTempValidity), pressure expansion correction validity (ExpCorrPressValidity), and/or flow profile correction validity (FlowProfileCorrValidity) is invalid. Recommended Actions: 1. If the pressure expansion correction validity alarm is present, correcting it may clear this alarm. 2. If the temperature expansion correction validity alarm is present, correcting it may clear this alarm. 3. If the uncorrected flow-condition volumetric flow rate validity alarm is present, correcting it may clear this alarm. 4. If the flow profile correction validity alarm is present, correcting it may clear this alarm. 5. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2504	QBaseValidity	Base-condition volumetric flow rate invalid AGA8 base-condition volumetric flow rate (QBase) is invalid if the flow-condition volumetric flow rate is invalid (QFlowValidity), the in-use gas properties are invalid (AreGasPropertiesInvalidInUse), the flow-condition pressure is invalid (PressureValidity) and/or the flow-condition temperature is invalid (TemperatureValidity). Recommended Actions: 1. Verify that the in-use gas properties, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2505	TemperatureValidity	Flow temperature invalid Temperature is invalid if the flow-condition temperature (FlowTemperature) is outside the limits defined by the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). Temperature is invalid if the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Temperature is invalid if the meter is configured to receive the flow-condition temperature value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34052) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the temperature sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog temperature device, verify that the temperature sensor is properly wired to connector TB2-B pins 3 & 4 (ANALOG IN TT- & TT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write temperature to the meter, verify that it is properly writing the fixed flow temperature (SpecFlowTemperature) in the proper units. If flow-condition temperature value is updated through the ISO 17089 Modbus register, then the temperature unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed temperature in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter, make sure that the Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if the flow-condition temperature is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the temperature of the process fluid to within alarm limits. 2. If using an analog temperature device and input reading is 0, check if IsAI1Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or it is damaged. Reinstall or replace I/O board if this value is 0. 3. If using an analog temperature device, verify that the temperature sensor is working properly. 4. If using an analog temperature device, recheck the wiring and switch settings as noted above under First Time Setup Issues.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2506	PressureValidity	Flow pressure invalid Pressure is invalid if the flow pressure (FlowPressure) is outside the limits defined by the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). Pressure is invalid if the meter is configured to read the flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Pressure is invalid if the meter is configured to receive the flow-condition pressure value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34050) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the pressure sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog pressure device, verify that the pressure sensor is properly wired to the connector TB2-B pins 1 & 2 (ANALOG IN PT- & PT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write pressure to the meter, verify that it is properly writing to fixed flow pressure (SpecFlowPressure) in the proper units. If flow-condition pressure value is updated through the ISO 17089 Modbus register, then the pressure unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed pressure in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if flow-condition pressure is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the pressure of the process fluid to within alarm limits. 2. If using an analog pressure device and the input reading is 0, check if IsAI2Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or is damaged. Reinstall or replace the board if this value is 0. 3. If using an analog pressure device, verify that the pressure sensor is working properly. 4. If using an analog pressure device, recheck wiring and switch settings as noted above under First Time Setup Issues. 5. If the external source is writing values to the fixed flow pressure (SpecFlowPressure), verify that the external source is still writing valid	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2507	AGA8BaseCalcValidity	AGA8 base-condition calculation invalid AGA8 base-condition calculations are invalid if the in-use gas composition, specific gravity and/or heating value are invalid (AreGasPropertiesInvalidInUse) or the AGA8 base calculation status (AGA8BaseCalcStatus) is a non-zero value. Recommended Actions: 1. Verify that the in-use gas properties are valid. If invalid, resolve issue which is causing the in-use gas properties invalid and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2508	AGA8FlowCalcValidity	AGA8 flow-condition calculation invalid AGA8 flow-condition calculations are invalid if the AGA8 base-condition calculations are invalid (AGA8BaseCalcValidity), the flow-condition pressure is invalid (PressureValidity), the flow-condition temperature is invalid (TemperatureValidity) and/or the AGA8 flow calculation status (AGA8FlowCalcStatus) is a non-zero value. Recommended Actions: 1. Verify that the AGA8 base-condition calculations, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2509	ExpCorrTempValidity	Temperature expansion correction invalid This indicates the validity of the temperature expansion correction equation used to correct the internal diameter of the meter for changes in temperature.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2510	ExpCorrPressValidity	Pressure expansion correction invalid This indicates the validity of the pressure expansion correction equation used to correct the internal diameter of the meter for changes in pressure.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2511	FlowProfileCorrValidity	Flow profile correction invalid Flow profile correction factor (CorrectionFactor) is invalid if the AGA8 flow-condition calculations (AGA8FlowCalcValidity) and uncorrected flow-condition volumetric flow rate (QMeterValidity) are invalid. Recommended Actions: 1. Verify that AGA8 flow-condition calculations and uncorrected flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
2512	Reserved		R				int								
2513	Reserved		R				int								
2514	MeterStatusLevel	Overall meter status indication This indicates the highest meter status, green (0), yellow(1) or red (2) currently in the meter.	R				int	-	-	uint8	-	Green (0) Yellow (1) Red (2)			
2515	IsQFlowInvalid	Flow-condition volumetric flow rate invalid This indicates when the flow-condition volumetric flow rate (QFlow) is invalid. See also: QFlowValidity	R				int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			
2516	IsQBaseInvalid	Base-condition volumetric flow rate invalid This indicates when the base-condition volumetric flow rate (QBase) is invalid. See also: QBaseValidity	R				int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2517	IsMassRateInvalid	Mass flow rate invalid This indicates when the mass flow rate (MassRate) is invalid. See also: MassRateValidity	R				int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			
2540	Reserved		R				long								
2542	PosVolUncorr	Forward uncorrected volume Accumulation of uncorrected volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
2544	PosVolUncorr	Forward uncorrected volume Accumulation of uncorrected volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
2546	NegVolUncorr	Reverse uncorrected volume Accumulation of uncorrected volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
2548	NegVolUncorr	Reverse uncorrected volume Accumulation of uncorrected volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
2550	PosVolFlow	Forward flow-condition volume Accumulation of flow-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of forward flow-condition volume when flow rate is valid (PosVolFlowAct) and forward flow-condition volume when flow rate is invalid (PosVolFlowErr) is equal to forward flow-condition volume. Due to truncating values to be read as integers, the summed value and forward flow-condition volume may differ by one.	R	Y			long	m3	ft3	uint64	m3				
2552	PosVolFlow	Forward flow-condition volume Accumulation of flow-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of forward flow-condition volume when flow rate is valid (PosVolFlowAct) and forward flow-condition volume when flow rate is invalid (PosVolFlowErr) is equal to forward flow-condition volume. Due to truncating values to be read as integers, the summed value and forward flow-condition volume may differ by one.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
2554	NegVolFlow	Reverse flow-condition volume Accumulation of flow-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of reverse flow-condition volume when flow rate is valid (NegVolFlowAct) and reverse flow-condition volume when flow rate is invalid (NegVolFlowErr) is equal to reverse flow-condition volume. Due to truncating values to be read as integers, the summed value and reverse flow-condition volume may differ by one.	R	Y			long	m3	ft3	uint64	m3				
2556	NegVolFlow	Reverse flow-condition volume Accumulation of flow-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of reverse flow-condition volume when flow rate is valid (NegVolFlowAct) and reverse flow-condition volume when flow rate is invalid (NegVolFlowErr) is equal to reverse flow-condition volume. Due to truncating values to be read as integers, the summed value and reverse flow-condition volume may differ by one.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
2558	PosVolBase	Forward base-condition volume Accumulation of base-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
2560	PosVolBase	Forward base-condition volume Accumulation of base-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
2562	NegVolBase	Reverse base-condition volume Accumulation of base-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
2564	NegVolBase	Reverse base-condition volume Accumulation of base-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2582	DidColdStart	Meter cold started, latched until acknowledged The meter has performed a cold start. The meter configuration has reset to default values, meter archive logs are erased, user database is reset, and Smart Meter Verification reports are deleted. The meter is not configured correctly to measure flow. The user database has been reset to a single user "administrator" with the privilege to perform user management and default password is "Administrator-<CPUBdSerialNumber>". The default password is based on CPU Module serial number (CPUBdSerialNumber) mentioned on the label on the CPU Module. Recommended Actions: 1. If the cold start occurred unexpectedly, i.e. not due to firmware upgrade/downgrade or user-initiated in meter reset mode, we recommend replacing the CPU Module. Contact your local area Emerson Flow service representative. 2. If the cold start occurred after a firmware upgrade or is done using MeterLink™ to cold start the CPU Module, you must fully re-configure the meter from a previously saved configuration using Edit/Compare Configuration in MeterLink™ and reconfigure the meter's users using Manage Users in MeterLink™. 3. The alarm must be acknowledged to clear it from the list of alarms. 4. If the issue is unresolved, contact your local area Emerson Flow service representative.	RW	Y	Y		long	-	-	boolean	-	Cold start cleared (FALSE) Cold start indicated (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
2584	DataQlty	Flow data quality Flow data quality indicator. This is a bitfield consisting of multiple Boolean data point values and indicates the meter is operating at less than optimal performance.	R	*	*	*	long	-	-	bitfield	-	0 IsHardFailedA (NV) 1 IsHardFailedB (NV) 2 IsHardFailedC (NV) 3 IsHardFailedD (NV) 4 IsSndVelCompErr (NV) 16 IsTooFewOperChords (NV) 17 IsMeterVelAboveMaxLmt (NV)			
2586	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	MkII time pulses	MkII time pulses	uint64	MkIII time pulses				
2588	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	number of rollovers in MkII time pulses (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in MkII time pulses (multiply by 1,000,000,000 to add to accumulator)	uint64	MkIII time pulses				
2590	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	MkIII time pulses	MkIII time pulses	uint64	MkIII time pulses				
2600	FlowTemperature	Flow-condition temperature If flow-condition temperature input selector (EnableTemperatureInput) is "Fixed", flow-condition temperature = specified (fixed) flow-condition temperature (SpecFlowTemperature) when written via a Modbus register or via the HART Command-132 or via DB API protocol. Otherwise, if flow-condition temperature input selector is "Live", flow-condition temperature = average of live flow-condition temperature (LiveFlowTemperature) values for the past five seconds. If flow-condition temperature input selector is "Transmitter Head 1", flow-condition temperature is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress).	R	Y			float	deg C	deg F	float32	K				
2602	FlowPressure	Flow-condition pressure This is either gage or absolute pressure depending upon input pressure absolute/gage selector (InputPressureUnit). If flow-condition pressure input selector (EnablePressureInput) is "Fixed", flow-condition pressure = specified (fixed) flow-condition pressure (SpecFlowPressure) when written via a non-ISO 17089 Modbus register or via the HART Command-132 or via DB API protocol. When the flow-condition absolute pressure is written via the ISO 17089 Modbus register and the input pressure absolute/gage selector is set to "Gage", flow-condition pressure = specified (fixed) flow-condition pressure - Atmospheric pressure (AtmosphericPress). If flow-condition pressure input selector is "Live", flow-condition pressure = average of live flow-condition pressure (LiveFlowPressure) values for the past five seconds. If flow-condition pressure input selector is "Transmitter Head 1", flow-condition pressure is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress).	R	Y			float	MPa	psi	float32	MPa				
2604	ZFlow	AGA8 flow-condition gas mixture compressibility AGA8 flow-condition gas mixture compressibility is used for calculating the base-condition (corrected) volumetric flow rate (QBase). When AGA8 calculation method (HCH_Method) is set to Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017) it is calculated using flow-condition temperature (FlowTemperature) and molar density (dFlow). When AGA8 calculation method (HCH_Method) is "External", it is equal to the specified (fixed) flow-condition gas compressibility (SpecZFlow).	R				float	-	-	float32	-				
2606	ZBase	AGA8 base-condition gas mixture compressibility The AGA8 base-condition gas mixture compressibility is used for calculating the base-condition (corrected) volumetric flow rate (QBase). When AGA8 calculation method (HCH_Method) is set to Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017) it is calculated using base-condition temperature (TBase) and molar density (dBase). When AGA8 calculation method (HCH_Method) is "External", it is equal to the specified (fixed) base-condition gas compressibility (SpecZBase).	R				float	-	-	float32	-				
2608	dFlow	AGA8 gas mixture flow-condition molar density AGA8 gas mixture flow-condition molar density is calculated using flow-condition pressure (AbsFlowPressure) and flow-condition temperature (FlowTemperature).	R				float	g-mol/dm3	lbm-mol/ft3	float32	g-mol/dm3				
2610	dBase	AGA8 gas mixture base-condition molar density AGA8 gas mixture base-condition molar density is calculated using base-condition pressure (PBase) and base-condition temperature (TBase).	R				float	g-mol/dm3	lbm-mol/ft3	float32	g-mol/dm3				
2612	RhoMixFlow	AGA8 gas mixture flow-condition mass density AGA8 gas mixture flow-condition mass density is used for calculating Reynolds Number (ReynoldsNumber) (required when calculating the flow profile correction factor on single and dual-path meters). When AGA8 calculation method (HCH_Method) is set to Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017) it is the product of molar mass (Mr) and molar density (dFlow). When AGA8 calculation method (HCH_Method) is "External", then it is equal to the specified (fixed) flow-condition mass density (SpecRhoMixFlow).	R				float	kg/m3	lbm/ft3	float32	kg/m3				
2614	ReynoldsNumber	Reynolds Number (measure of turbulence) The Reynolds Number is the ratio of inertial forces to viscous forces. A low values indicates laminar flow while a high value indicates turbulent flow.	R				float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2616	CorrectionFactor	Flow profile correction factor Flow profile correction factor (for single and dual-path meters only) either manually entered (SpecCorrectionFactor) or calculated by the meter.	R				float	-	-	float32	-				
2618	AGA8FlowToBaseConversion	AGA8-calculated flow- to base-condition conversion factor AGA8-calculated flow- to base-condition conversion factor is calculated as AbsFlowPressure (AbsFlowPressure) / PBase (PBase) * TBase (TBase) / FlowTemperature (FlowTemperature) * Zbase (ZBase) / Zflow (ZFlow). This is used for calculating base-condition (corrected) volumetric flow rate (QBase) from the flow-condition volumetric flow rate (QFlow).	R				float	-	-	float32	-				
2620	QCutOff	Volumetric flow rate threshold below which the flow rate is considered zero The volumetric flow rate below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. This value is computed by multiplying the flow velocity low cutoff (ZeroCut) by the meter inside pipe area (PipeArea). When the flow rate is above this threshold, the cutoff indicator (IsFlowAboveCutoff) is TRUE (1).	R				float	volume/time	volume/time	float32	m3/hr				
2622	QMeter	Volumetric flow rate (no expansion correction) Volumetric flow rate (no expansion correction). Computed as average flow (AvgFlow) times pipe area (PipeArea).	R				float	volume/time	volume/time	float32	m3/hr				
2624	QFlow	Volumetric flow rate at flow condition Flow-condition volumetric flow rate, corrected for flow-condition expansion (QExpCorr) and flow profile correction factor (CorrectionFactor).	R				float	volume/time	volume/time	float32	m3/hr				
2626	QBase	Volumetric flow rate at base condition The base-condition volumetric flow rate. QBase = Qflow (QFlow) * AGA8FlowToBaseConversion (AGA8FlowToBaseConversion)	R				float	volume/time	volume/time	float32	m3/hr				
2628	Freq1ChnlA	Frequency Output 1A value Frequency Output 1 channel A value.	R				float	Hz	Hz	float32	Hz				
2630	Freq2ChnlA	Frequency Output 2A value Frequency Output 2 channel A value.	R				float	Hz	Hz	float32	Hz				
2632	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
2634	Freq1KFactor	Frequency Output 1 pair K-Factor Frequency Output 1 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
2636	AbsFlowPressure	Flow-condition absolute pressure Flow-condition absolute pressure. If input pressure absolute/gage selector (InputPressureUnit) is "Gage", flow-condition absolute pressure = flow-condition pressure (FlowPressure) + specified atmospheric pressure (AtmosphericPress). Otherwise, if input pressure absolute/gage selector (InputPressureUnit) is "Absolute", flow-condition absolute pressure = flow-condition pressure (FlowPressure).	R				float	MPa	psi	float32	MPa				
2638	CurrHourFlowTime	Current hour's flow time Amount of time during the current hour that flow is above the cutoff value.	R	Y			float	min	min	float32	min				
2640	CurrDayFlowTime	Current day's flow time Amount of time during the current day that flow is above the cutoff value. The start of the day is defined by the 'ContractHour' data point.	R	Y			float	min	min	float32	min				
2642	StrainPerUnitStress	Calculated strain per unit stress due to pressure Calculated strain per unit stress due to pressure. This is calculated if pressure expansion correction (ExpCorrPressure) is enabled via the Enable for pressure expansion correction (EnableExpCorrPress).	R				float	1/MPa	1/psi	float32	1/MPa				
2644	ExpCorrPressure	Pressure expansion correction factor Pressure expansion correction factor. If pressure expansion correction is enabled via the Enable for pressure expansion correction (EnableExpCorrPress), then this value, is computed as (1.0 + (3.0 x strain per unit stress (StrainPerUnitStress) x (absolute flow pressure (AbsFlowPressure) - reference pressure (RefPressExpCoef)))), otherwise this value is unity (1.0) Along with temperature expansion correction factor (ExpCorrTemperature), this value is used to compute the corrected flow (QExpCorr) from the uncorrected flow (QMeter).	R				float	-	-	float32	-				
2646	ExpCorrTemperature	Temperature expansion correction factor in three dimensions The temperature expansion correction factor used to correct volumes. If temperature expansion correction is enabled (EnableExpCorrTemp), then this value is calculated, otherwise it is set to 1. This correction factor is computed from the linear expansion coefficient (LinearExpansionCoef), the reference temperature (RefTempLinearExpCoef) and the flow temperature (FlowTemperature) as: (1 + 3 * linear expansion coefficient * (flow temperature - reference temperature)) Typically, this correction factor is applied to the volumetric flows (QExpCorr and those derived from it, QFlow and QBase).	R				float	-	-	float32	-				
2648	QExpCorr	Expansion corrected (flow-condition) vol flow Expansion corrected (flow-condition) volumetric flow rate, the volumetric flow rate with no expansion correction (QMeter) with pressure expansion correction (ExpCorrPressure) and temperature expansion correction (ExpCorrTemperature) applied.	R				float	volume/time	volume/time	float32	m3/hr				
2650	RhoAir	AGA8 air mass density at the specified Gr reference (T ,P) AGA8 (Gross Method 1 and 2 Base) air mass density at the specified Gr reference (T, P).	R				float	kg/m3	lbm/ft3	float32	kg/m3				
2652	HNGERG	AGA8 (Gross Method 1) molar gross ideal gas heating value at (298.15K,0.101325MPa) AGA8 (Gross Method 1 and 2 Base) molar gross ideal gas heating value at (298.15K,0.101325MPa).	R				float	kJ/g-mol	Btu/lbm-mol	float32	kJ/g-mol				
2654	Mr	AGA8 gas mixture molar mass AGA8 gas mixture base-condition molar mass.	R				float	kg/kg-mol	lbm/lbm-mol	float32	kg/kg-mol				
2656	MoleFractionCH	AGA8 equivalent hydrocarbon gas component AGA8 (Gross Method 1 and 2 Base) equivalent hydrocarbon gas component.	R				float	mole fraction	mole fraction	float32	mole fraction				
2658	MoleFractionN2Method1	AGA8 (Gross Method 1) nitrogen gas component AGA8 (Gross Method 1 and 2 Base) calculated nitrogen gas component.	R				float	mole fraction	mole fraction	float32	mole fraction				
2660	HCH	AGA8 equivalent hydrocarbon molar gross heating value AGA8 (Gross Method 1 and 2 Base) equivalent hydrocarbon molar gross heating value.	R				float	kJ/g-mol	Btu/lbm-mol	float32	kJ/g-mol				
2662	MrCH	AGA8 equivalent hydrocarbon molar mass AGA8 (Gross Method 1 and 2 Base) equivalent hydrocarbon molar mass.	R				float	kg/kg-mol	lbm/lbm-mol	float32	kg/kg-mol				
2664	B-CH-CH_Flow	AGA8 flow-condition binary CH-CH interaction coefficient AGA8 flow-condition binary CH-CH interaction coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2666	BmixFlow	AGA8 gas mixture flow-condition second virial coefficient AGA8 gas mixture flow-condition second virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				
2668	CmixFlow	AGA8 gas mixture flow-condition third virial coefficient AGA8 gas mixture flow-condition third virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm6/g-mol2	ft6/lbm-mol2	float32	dm6/g-mol2				
2670	B-CH-CH_Base	AGA8 base-condition binary CH-CH interaction coefficient AGA8 base-condition binary CH-CH interaction coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				
2672	BmixBase	AGA8 gas mixture base-condition second virial coefficient AGA8 gas mixture base-condition second virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				
2674	CmixBase	AGA8 gas mixture base-condition third virial coefficient AGA8 gas mixture base-condition third virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm6/g-mol2	ft6/lbm-mol2	float32	dm6/g-mol2				
2676	RefPressExpCoef	Pressure expansion correction reference coefficient Reference coefficient used to compute pressure expansion correction (ExpCorrPressure). Normally this is one atmosphere.	R	Y	Y	Y	float	MPa	psi	float32	MPa		0.101325	-3.40E+38	3.40E+38
2678	Qt	Transitional volumetric flow rate as stamped on the physical nameplate of the meter Transitional volumetric flow rate as set by the user or at the factory.	R	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	-3.40E+38	3.40E+38
2700	LiveFlowTemperature	Live flow-condition temperature This is the live flow temperature calculated from analog input 1 (AI1Input) and applying the calibration coefficients (LiveFlowTemperatureOffset and LiveFlowTemperatureGain). The flow-condition temperature (FlowTemperature) can be set to this value depending on the selector (EnableTemperatureInput). This value is logged in the alarm log depending on the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). The connectors for this input are designated as ANALOG IN TT- and TT+.	R	Y			float	deg C	deg F	float32	K				
2702	LiveFlowPressure	Live flow-condition pressure This is the live flow pressure calculated from analog input 2 (AI2Input) and applying the calibration coefficients (LiveFlowPressureOffset and LiveFlowPressureGain). The flow-condition pressure (FlowPressure) can be set to this value depending on the selector (EnablePressureInput). This value is logged in the alarm log depending on the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). The connectors for this input are designated as ANALOG IN PT- and PT+.	R	Y			float	MPa	psi	float32	MPa				
2800	LiveFlowTemperatureOffset	Live flow-condition temperature calibration offset value Live flow-condition temperature calibration offset value. The calibrated live temperature is calculated by multiplying the raw live temperature by the live flow-condition temperature calibration gain value (LiveFlowTemperatureGain) and then adding this offset. This value is applied to the temperature in Kelvin. Due to temperature conversion factors, use the MeterLink™ to set this parameter. MODIFYING THIS POINT VIA MODBUS IS NOT RECOMMENDED.	RW	Y	Y	Y	float	deg C	deg F	float32	K		0	-273.15	473.15
2802	LiveFlowTemperatureGain	Live flow-condition temperature calibration gain value Live flow-condition temperature calibration gain value. The calibrated live temperature is calculated by multiplying the raw live temperature by this gain and then adding the live flow-condition temperature calibration offset value (LiveFlowTemperatureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
2804	LiveFlowPressureOffset	Live flow-condition pressure calibration offset value Live flow-condition pressure calibration offset value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by the live flow-condition pressure calibration gain value (LiveFlowPressureGain) and then adding this offset.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	-280	280
2806	LiveFlowPressureGain	Live flow-condition pressure calibration gain value Live flow-condition pressure calibration gain value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by this gain and then adding the live flow-condition pressure calibration offset value (LiveFlowPressureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
2810	GainLowLmt	Minimum gain limit The minimum gain applied to the received signal. On power-up, this value is set to the minimum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)		25	0	3.40E+38
2812	GainHighLmt	Maximum gain limit The maximum gain applied to the received signal. On power-up, this value is set to the maximum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)		49881.6	0	3.40E+38
2814	GainA1	Gain when transducer A1 is receiving a signal Gain when transducer A1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
2816	GainA2	Gain when transducer A2 is receiving a signal Gain when transducer A2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
2818	GainB1	Gain when transducer B1 is receiving a signal Gain when transducer B1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
2820	GainB2	Gain when transducer B2 is receiving a signal Gain when transducer B2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
2822	GainC1	Gain when transducer C1 is receiving a signal Gain when transducer C1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
2824	GainC2	Gain when transducer C2 is receiving a signal Gain when transducer C2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2826	GainD1	Gain when transducer D1 is receiving a signal Gain when transducer D1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
2828	GainD2	Gain when transducer D2 is receiving a signal Gain when transducer D2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
2830	GainLowLmt	Minimum gain limit The minimum gain applied to the received signal. On power-up, this value is set to the minimum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)		25	0	3.40E+38
2832	GainHighLmt	Maximum gain limit The maximum gain applied to the received signal. On power-up, this value is set to the maximum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)		49881.6	0	3.40E+38
2834	GainA1	Gain when transducer A1 is receiving a signal Gain when transducer A1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2836	GainA2	Gain when transducer A2 is receiving a signal Gain when transducer A2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2838	GainB1	Gain when transducer B1 is receiving a signal Gain when transducer B1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2840	GainB2	Gain when transducer B2 is receiving a signal Gain when transducer B2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2842	GainC1	Gain when transducer C1 is receiving a signal Gain when transducer C1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2844	GainC2	Gain when transducer C2 is receiving a signal Gain when transducer C2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2846	GainD1	Gain when transducer D1 is receiving a signal Gain when transducer D1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2848	GainD2	Gain when transducer D2 is receiving a signal Gain when transducer D2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
2953	SystemStatus	General system status General system status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	1 AreSwComponentsIncompatible (NV) 2 DidPowerFail (NV, Cnfg) 3 IsAcqModuleIncompatible (NV) 4 IsXdcrFiringSyncError (NV) 5 IsEstimatedFlowVelocityInUse (NV) 6 DidWarmStart (NV, Cnfg) 7 IsColocMeterQFlowRangeErr (NV) 8 IsTooFewOperChords (NV) 9 IsMeterVelAboveMaxLmt (NV) 10 IsBlockageDetected (NV) 11 IsBoreBuildupDetected (NV) 12 IsLiquidDetected (NV) 13 IsAbnormalProfileDetected (NV) 14 IsReverseFlowDetected (NV) 15 WatchDogReset (NV, Cnfg)			
2954	StatusA	Chord A status Chord A status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseA (NV) 1 IsSNRTooLowA (NV) 2 DidTmDevChkFailA (NV) 4 DidDltTmChkFailA (NV) 5 IsXdcrMaintenanceRequiredA (NV, Cnfg) 6 IsStackingIncompleteA (NV) 7 IsChordLengthMismatchedA (NV) 8 IsSigClippedA (NV) 9 IsSigQltyBadA (NV) 10 IsSigDistortedA (NV) 11 IsPeakSwitchDetectedA (NV) 12 IsMeasSndSpdRangeA (NV) 13 IsBatchInactiveA (NV) 14 IsFailedForBatchA (NV) 15 IsAcqMode (NV)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2955	StatusB	Chord B status Chord B status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseB (NV) 1 IsSNRTooLowB (NV) 2 DidTmDevChkFailB (NV) 4 DidDltTmChkFailB (NV) 5 IsXdcrMaintenanceRequiredB (NV, Cnfg) 6 IsStackingIncompleteB (NV) 7 IsChordLengthMismatchedB (NV) 8 IsSigClippedB (NV) 9 IsSigQltyBadB (NV) 10 IsSigDistortedB (NV) 11 IsPeakSwitchDetectedB (NV) 12 IsMeasSndSpdRangeB (NV) 13 IsBatchInactiveB (NV) 14 IsFailedForBatchB (NV) 15 IsAcqMode (NV)			
2956	StatusC	Chord C status Chord C status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseC (NV) 1 IsSNRTooLowC (NV) 2 DidTmDevChkFailC (NV) 4 DidDltTmChkFailC (NV) 5 IsXdcrMaintenanceRequiredC (NV, Cnfg) 6 IsStackingIncompleteC (NV) 7 IsChordLengthMismatchedC (NV) 8 IsSigClippedC (NV) 9 IsSigQltyBadC (NV) 10 IsSigDistortedC (NV) 11 IsPeakSwitchDetectedC (NV) 12 IsMeasSndSpdRangeC (NV) 13 IsBatchInactiveC (NV) 14 IsFailedForBatchC (NV) 15 IsAcqMode (NV)			
2957	StatusD	Chord D status Chord D status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseD (NV) 1 IsSNRTooLowD (NV) 2 DidTmDevChkFailD (NV) 4 DidDltTmChkFailD (NV) 5 IsXdcrMaintenanceRequiredD (NV, Cnfg) 6 IsStackingIncompleteD (NV) 7 IsChordLengthMismatchedD (NV) 8 IsSigClippedD (NV) 9 IsSigQltyBadD (NV) 10 IsSigDistortedD (NV) 11 IsPeakSwitchDetectedD (NV) 12 IsMeasSndSpdRangeD (NV) 13 IsBatchInactiveD (NV) 14 IsFailedForBatchD (NV) 15 IsAcqMode (NV)			
2959	AGA8BaseCalcStatus	AGA8 base-condition calculation status This alarm indicates an error when AGA8 calculations are invalid. This indicates an alarm if the AGA8 base-condition calculation is invalid. AGA8 base-condition becomes invalid if AreGasPropertiesInvalidInUse is set to invalid or this alarm has a non zero value. Value Description -1 AGA8 calculations not performed (neither internally nor externally). 0 Calculations successful. 1 (Gross Method 1 only) H_CH could not be calculated due to conflicting user inputs. 2 Bmix could not be calculated due to an attempt to take the square root of a negative number. 3 H_CH could not be calculated as the number of iterations for the selected gross method exceeded the limit. 4 The virial coefficient for either the equivalent hydrocarbon or carbon dioxide is negative; the natural gas mixture third virial coefficient was not calculated. 5 The molar density was not bounded. 6 The iterative algorithm to estimate the molar density did not converge. 7 Not used. 8 Not used. 9 Not used. 10 Division by zero error during air mass density calculation. 11 (Gross Method 1 only) Division by zero error during HN_GERG calculation. 12 (Gross Methods 1 and 2) Division by zero or square root of negative number error during compressibility calculation. 13 (Gross Method 1 only) Division by zero error during H_CH calculation. 14 (Gross Method 1 only) Division by zero error during calculation of compressibility estimate at density reference condition. 15 Division by zero error during calculation of new compressibility estimate at specific gravity reference condition. 16 Division by zero error during calculation of ratio for determining H_CH calculation iterative loop exit. 17 (Gross Method 2 only) Division by zero error during the calculation of the equivalent hydrocarbon molar mass. 18 Division by zero error during calculation of the mixture molar mass. 19 Division by zero error during calculation of the new density estimate. 20 Division by zero error during calculation of the density estimate. 21 Not used. 22 Not used. 23 (Detail Method only) Division by zero error during coefficient B calculation. 24 (Detail Method only) Division by zero error during molar density calculation. 25 (Detail Method only) Division by zero or square root of negative number error during compressibility calculation. 26 Gas properties are invalid. 27 Not Used. 28 (Detail and GERG-2008) Gas component(s) is/are outside AGA specified gas component range.	R				int	-	-	int32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
2960	AGA8FlowCalcStatus	AGA8 flow-condition calculation status AGA8 flow-condition calculation status. See AGA8BaseCalcValidity. Value Description -1 AGA8 calculations not performed (neither internally nor externally). 0 Calculations successful. 1 (Gross Method 1 only) H_CH could not be calculated due to conflicting user inputs. 2 Bmix could not be calculated due to an attempt to take the square root of a negative number. 3 H_CH could not be calculated as the number of iterations for the selected gross method exceeded the limit. 4 The virial coefficient for either the equivalent hydrocarbon or carbon dioxide is negative; the natural gas mixture third virial coefficient was not calculated. 5 The molar density was not bounded. 6 The iterative algorithm to estimate the molar density did not converge. 7 Not used. 8 Not used. 9 Not used. 10 Division by zero error during air mass density calculation. 11 (Gross Method 1 only) Division by zero error during HN_GERG calculation. 12 (Gross Methods 1 and 2) Division by zero or square root of negative number error during compressibility calculation. 13 (Gross Method 1 only) Division by zero error during H_CH calculation. 14 (Gross Method 1 only) Division by zero error during calculation of compressibility estimate at density reference condition. 15 Division by zero error during calculation of new compressibility estimate at specific gravity reference condition. 16 Division by zero error during calculation of ratio for determining H_CH calculation iterative loop exit. 17 (Gross Method 2 only) Division by zero error during the calculation of the equivalent hydrocarbon molar mass. 18 Division by zero error during calculation of the mixture molar mass. 19 Division by zero error during calculation of the new density estimate. 20 Division by zero error during calculation of the density estimate. 21 Not used. 22 Not used. 23 (Detail Method only) Division by zero error during coefficient B calculation. 24 (Detail Method only) Division by zero error during molar density calculation. 25 (Detail Method only) Division by zero or square root of negative number error during compressibility calculation. 26 Flow-condition pressure, temperature and/or gas properties are/is invalid. 27 Flow-condition calculations were not performed due to a base-condition calculation error/not performed. 28 (Detail and GERG-2008) Gas component(s) is/are outside AGA specified gas component range 29 Failed to read flow-condition pressure, temperature and/or gas properties from Transmitter Head 1	R				int	-	-	int32	-				
2961	HARTIsQBaseGood	HART corrected flow rate calculated indicator This is used internally in determining the HART device variable status for the base-condition volumetric flow rate (QBase).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
2962	HARTIsEnergyRateGood	HART energy rate calculated indicator This is used internally in determining the HART device variable status for the energy flow rate (EnergyRate).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
2963	HARTIsMassRateGood	HART mass rate calculated indicator This is used internally in determining the HART device variable status for the mass flow rate (MassRate).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
2964	HARTIsTemperatureGood	HART temperature calculated indicator This is used internally in determining the HART device variable status for the flow temperature (FlowTemperature).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
2965	HARTIsPressureGood	HART pressure calculated indicator This is used internally in determining the HART device variable status for the flow pressure (FlowPressure).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
2966	HARTConfigChangeCounter	HART configuration change counter HART configuration change counter maintains the count of how many times HART config data points changed. When a block of data comes for write which consists of one or more configuration data points, configuration change counter will increment once.	R	Y			int	-	-	uint16	-				
2967	HARTDidPrimaryConfigChange	HART primary master configuration changed HART primary master configuration changed. It is set to TRUE when configuration writable via HART is modified. It is reset to FALSE when command 38 is issued by primary master and received configuration changed counter matches the device configuration change counter.	R	Y			int	-	-	boolean	-	HART Primary Config Change reset (FALSE) HART Primary Config Change set (TRUE)			
2968	HARTDidSecondaryConfigChange	HART secondary master configuration changed HART secondary master configuration changed. It is set to TRUE when configuration writable via HART is modified. It is reset to FALSE when command 38 is issued by secondary master and received configuration changed counter matches the device configuration change counter.	R	Y			int	-	-	boolean	-	HART Secondary Config Change reset (FALSE) HART Secondary Config Change set (TRUE)			
2969	HARTIsMaintenanceReq	HART maintenance required This indicates (to a HART master) whether or not the device requires maintenance.	R				int	-	-	boolean	-	Maintenance not required (FALSE) Maintenance required (TRUE)			
2970	HARTIsDeviceVarAlert	HART device status alert This indicates that, when one or more HART device variables are invalid. The host should identify the device variables causing this to be set using device variable calculated indicator status.	R				int	-	-	boolean	-	Not (FALSE) Yes (TRUE)			
2971	HARTLoopCurrentMode	HART loop current mode It determines whether current signaling is being used by field device. Only HART can disable or enable the loop current mode, loop current is disabled when polling address is set to non-zero (i.e. field device is in multi-drop).	R	Y			int	-	-	uint8	-	Disabled (0) Enabled (1)			
2972	HARTDidPowerFailPrimary	HART primary master power fail status This indicates the power fail status to the primary master. It is set to TRUE when the device is power cycled or reset.	R				int	-	-	boolean	-	Did not fail (FALSE) Did fail (TRUE)			
2973	HARTDidPowerFailSecondary	HART secondary master power fail status Indicate the power fail status to the secondary master. It is set to TRUE when the device is power cycled or reset.	R				int	-	-	boolean	-	Did not fail (FALSE) Did fail (TRUE)			
2998	OptIOModule2Type	Slot 2 Optional I/O Module type Optional I/O Module type present in slot 2 of the electronics backplane. If meter does not have a second slot then module type is Slot not present (255).	R				long	-	-	uint8	-	None (0) RS-232 (1) RS-485 (2) Expansion I/O (3) Slot not present (255)			
3000	CPUBdSwIntVer	CPU Module firmware version number as integer CPU Module firmware version number (CPUBdSwVer) (read as an integer for Modbus compatibility).	R				long	-	-	uint32	-				
3002	XdcrIntBdRevNum	Transducer interface board revision number The revision number of the transducer interface board. Along with the DSP board (DSPBdRevNum), the transducer interface board is one of the two boards in the Acquisition Module.	R				long	-	-	uint16	-				
3004	DeviceNumber	Meter device number Changing this value requires warm-starting the meter. This value should only be changed at the factory or when replacing a CPU Module in the field.	RW	Y	Y	Y	long	-	-	uint16	-	3414 - Four-path SeniorSonic (3414) 3412 - Dual-path JuniorSonic (3412) 3411 - Single-path JuniorSonic (3411) 3418 - Eight-path (3418)	3414	3411	3418

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
3006	CPUBdSerialNumber	CPU Module serial number The CPU Module serial number is on a label on the CPU Module. Its minimum expected value is 0018000.	R				long	-	-	uint32	-				
3008	CPUBdRevNum	CPU Module revision number The CPU Module hardware revision. The CPU Module and the I/O board (IOBdType) make up the CPU Module.	R				long	-	-	uint16	-				
3010	CPUBdFPGAVer	CPU Module FPGA version The CPU Module FPGA (field-programmable gate array) version that correlates to the firmware version number (CPUBdSwVer).	R				long	-	-	uint16	-				
3012	DSPBdRevNum	DSP Board revision number The revision number of the DSP board. Along with the transducer interface board (XdcrIntBdRevNum), the DSP board is one of the two boards in the Acquisition Module.	R	Y			long	-	-	uint16	-				
3014	AcquisitionBdFPGAVer	Acquisition Module FPGA version The Acquisition Module FPGA (field-programmable gate array) version that correlates to the firmware version number (CPUBdSwVer).	R				long	-	-	uint16	-				
3016	DatabaseConfigVersion	Database configuration version Sequentially numbered major changes to the database. Normally incremented only when structural changes are performed such as adding or removal of fields. Minor changes such as adding records (database points) are indicated by the build number (DatabaseBuildNumber). When taken together the version and the build number (DatabaseBuildNumber) uniquely describe a particular version of the database. This is often described using a decimal point to separate the major and minor numbers as XXX.YYY where XXX is the version and YYY is the build number (DatabaseBuildNumber). When the version is changed the meter will cold start.	R				long	-	-	uint16	-				
3018	IOBdType	I/O board type number Type number of the I/O board. The I/O board and the CPU (CPUBdRevNum) make up the CPU Module.	R	Y			long	-	-	uint16	-				
3020	DatabaseBuildNumber	Database configuration build number Sequentially numbered revisions between major changes to the database (DatabaseConfigVersion).	R				long	-	-	uint8	-				
3022	AcqBdSwIntVer	Acquisition Module firmware version number as integer Acquisition Module firmware version number (read as an integer for Modbus compatibility).	R				long	-	-	uint32	-				
3024	OptIOModule1Type	Slot 1 Optional I/O Module type Optional I/O Module type present in slot 1 of the electronics backplane.	R				long	-	-	uint8	-	None (0) RS-232 (1) RS-485 (2) Expansion I/O (3)			
3026	ElectronicsPlatform	Electronics platform on which the meter is running Electronics platform on which the meter is running.	R				long	-	-	uint8	-	Mark III (0) 3410 Series (1)			
3028	ChordalConfig	Chordal configuration The arrangement of the chords on meters with four or more sets of transducers. The chord arrangement is determined by the X dimensions (XA, XB, XC and XD). Meter with fewer than four sets of transducers, as defined by the device number (DeviceNumber), are set to a chordal configuration of N/A (0).	R	Y			long	-	-	uint8	-	N/A (0) Dual-X (1) BG (2)			
3030	HARTQFlowUpdateTime	HART flow-condition volumetric flow rate update time The flow-condition volumetric flow rate (QFlow) timestamp. It updates every time the flow-condition volumetric flow rate (QFlow) is updated and status is good within 24 hours. timestamp is set to 0 if it is not updated within 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3032	HARTQBaseUpdateTime	HART base-condition volumetric flow rate update time The base-condition volumetric flow rate (QBase) timestamp. It updates every time the base-condition volumetric flow rate (QBase) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3034	HARTAvgFlowUpdateTime	HART average flow velocity update time The Average flow velocity (AvgFlow) timestamp. It updates every time the average flow velocity (AvgFlow) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3036	HARTAvgSndVelUpdateTime	HART average speed of sound update time The Average speed of sound (AvgSndVel) timestamp. It updates every time the average speed of sound (AvgSndVel) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3038	HARTEnergyRateUpdateTime	HART energy rate update time The Energy rate (EnergyRate) timestamp. It updates every time the energy rate (EnergyRate) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3040	HARTMassRateUpdateTime	HART mass rate update time The Mass rate (MassRate) timestamp. It updates every time the mass rate (MassRate) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3042	HARTPressureUpdateTime	HART flow pressure update time The Flow pressure (FlowPressure) timestamp. It updates every time the flow pressure (FlowPressure) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3044	HARTTemperatureUpdateTime	HART flow temperature update time The Flow Temperature (FlowTemperature) timestamp. It updates every time the flow Temperature (FlowTemperature) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3046	HARTAO1OutputUpdateTime	HART analog output 1 update time The Analog Output 1 current value (AO1Output) timestamp. It updates every time the analog output 1 current value (AO1Output) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3048	HARTPercentRangeUpdateTime	HART percent range update time The percent range (HARTPercentRange) timestamp. It updates every time the HART percent range (HARTPercentRange) is calculated and status is good within 24 hours. Timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
3150	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	sec	sec	float32	sec				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
3152	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	hr	hr	float32	sec				
3154	AvgBatchTimeHours	Average batch time Average batch time. The average is computed over the previous 8 batches.	R				float	hr	hr	float32	hr				
3156	Freq1FeedbackStatus	Frequency Output 1 pair feedback status Frequency Output 1 pair feedback status.	R				float	-	-	uint8	-	Forward (0) Reverse (1)			
3158	Freq1FeedbackPulseCnt	Frequency Output 1 pair feedback pulse count Frequency Output 1 pair feedback pulse count.	R				float	MkIII time pulses	MkIII time pulses	uint16	MkIII time pulses				
3160	Freq1InvKFactor	Frequency Output 1 pair inverse K-Factor Frequency Output 1 pair inverse K-Factor.	R				float	m3/pulse	ft3/pulse	float32	m3/pulse				
3162	Freq1FeedbackVol	Frequency Output 1 pair feedback volume Frequency Output 1 pair feedback volume.	R				float	m3	ft3	float32	m3				
3164	Freq1FeedbackPrevDesiredVol	Frequency Output 1 pair previous desired volume Frequency Output 1 pair previous desired volume.	R				float	m3	ft3	float32	m3				
3166	Freq1FeedbackVolErr	Frequency Output 1 pair feedback volume error Frequency Output 1 pair feedback volume error.	R				float	m3	ft3	float32	m3				
3168	Freq1FeedbackDesiredVol	Frequency Output 1 pair desired volume Frequency Output 1 pair desired volume.	R				float	m3	ft3	float32	m3				
3170	Freq1TTLVFRErr	Frequency Output 1 pair total volumetric flow rate error Frequency Output 1 pair total volumetric flow rate error.	R				float	volume/time	volume/time	float32	m3/hr				
3172	Freq1VFRErrComp	Frequency Output 1 pair volumetric flow rate error compensation Frequency Output 1 pair volumetric flow rate error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
3174	Freq1AbsVFR	Frequency Output 1 pair absolute volumetric flow rate Frequency Output 1 pair absolute volumetric flow rate. This is the absolute value of the volumetric flow rate represented by the Frequency Output 1 pair and does not include any feedback error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
3176	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
4000	ZeroCut	Flow velocity below which the flow rate is considered zero This value is used along with the pipe area (PipeArea) to compute the volumetric flow cutoff (QCutOff) below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. Also, when the average weighted flow velocity (AvgWtdFlowVel) is below this threshold the flow direction (FlowDirection) will not change. The flow analysis lower limit (FlowAnalysisLowFlowLmt) may not be set lower than this value.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0.1	0	1
4002	SSMax	Maximum speed of sound Maximum speed of sound. This is used to define the area to search for a signal when in acquisition mode. The minimum (SSMin) and this maximum speed of sound may need to be adjusted to prevent problems acquiring the signal.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		450	150	1500
4004	SSMin	Minimum speed of sound Minimum speed of sound. This is used to define the area to search for a signal when in acquisition mode and is also used in emission rate determination. This minimum and the maximum speed of sound (SSMax) may need to be adjusted to prevent problems acquiring the signal.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		300	150	1500
4006	EmRateDesired	Desired transducer firing (emission) rate The desired emission rate or time between the firing of two transducers in sequence based on the firing order (FireSeq). The actual emission rate used (EmRateActual) will not be less than the meter's calculated minimum based on the meter's geometry (pipe diameter (PipeDiam)), distance between transducers (LA, LB, LC, LD), axial distance between transducers (XA, XB, XC, XD), the minimum speed of sound (SSMin) and the physical characteristics of the transducers themselves. The actual emission rate used may also be impacted by stacking (StackEmRateActual). A value of (0) ensures the use of fastest available rate determined by the meter.	RW	Y	Y	Y	float	ms	ms	float32	ms		0	0	64
4008	SampInterval	Sampling (rate) interval. Changing this value requires re-booting the meter The duration in nanoseconds of the signal sampling period. It is also used to compute the system delay (SystemDelay). Usually adjusted by setting the transducer type (SetXdcrType). A sample interval of 800 ns requires a standard Acquisition Module. A sample interval less than 800 ns requires a High Frequency Acquisition Module.	RW	Y	Y	Y	float	ns	ns	float32	ns		800	400	800
4010	XdcrFreq	Transducer frequency The output frequency of the transducers. Usually adjusted by setting the transducer type (SetXdcrType). A transducer frequency of 125 KHz requires a standard Acquisition Module. A transducer frequency higher than 125 KHz requires a High Frequency Acquisition Module.	RW	Y	Y	Y	float	KHz	KHz	float32	KHz		125	125	250
4012	MinPctGood	Minimum percentage of good measurements for working chord The minimum percentage of good measurements for a working chord. A chord with a percentage of good measurements less than this threshold is considered failed and its corresponding IsFailedForBatchA, IsFailedForBatchB, IsFailedForBatchC, IsFailedForBatchD is set to TRUE (1). The percentage of good measurements for a chord may vary slightly from the individual path good measurements (PctGoodA1, PctGoodA2, PctGoodB1, PctGoodB2, PctGoodC1, PctGoodC2, PctGoodD1, PctGoodD2) since both the upstream and downstream paths must be good at the same time for a chord to be considered good.	RW	Y	Y	Y	float	%	%	uint8	%		65	0	90
4014	MinHoldTime	Minimum sampling hold time The minimum sampling hold time limit. This is the minimum amount of time the meter waits after firing a transducer before sampling the receiving transducer's signal. This value should only be changed at the factory or under the direction of Emerson Flow Support. After a firmware upgrade, this value may be automatically adjusted to be within the required limits.	RW	Y	Y	Y	float	us	us	float32	us		208	208	32000
4016	Pk1Pct	Parameter used to locate the signal start The percentage of the maximum signal amplitude used as a threshold to find the first peak which is then used to determine the starting position of the sampled waveform. If conditions exist that make the start of the signal difficult to detect (peak switching) this level may be adjusted to get a stable signal.	RW	Y	Y	Y	float	%	%	uint8	%		60	40	100
4018	MinSigQlty	Minimum acceptable signal quality The minimum acceptable signal quality based on signal and noise energies. When either path in a chord's signal quality (as measured by signal to noise ratios) is below this threshold, the chord's signal quality status, IsSigQltyBadA, IsSigQltyBadB, IsSigQltyBadC, IsSigQltyBadD is set to TRUE (1).	RW	Y	Y	Y	float	-	-	uint8	-		13	5	30
4020	DltChk	Maximum delta time check parameter The maximum amount of time allowed for delta times (the difference between the up stream and down stream signal transit time). Usually adjusted by setting the transducer type (SetXdcrType). It is converted to sample interval units (DltChkSI) internally for use by the meter. When a chord's delta check value exceeds this limit, the chord's time check error status, DidDltTmChkFailA, DidDltTmChkFailB, DidDltTmChkFailC, DidDltTmChkFailD is set to TRUE (1).	RW	Y	Y	Y	float	us	us	float32	us		5.6	2.8	32

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4022	SpecBatchUpdtPeriod	Specified batch update period (may be overridden if stacking is selected) Specifies the minimum batch update period when there is no stacking (StackSize). The "Rapid" update period can be selected only when there is no bandpass filtering (Filter) and may cause greater uncertainty in the measured flow rate.	RW	Y	Y	Y	float	ms	ms	uint16	ms	Standard - 1000 ms (1000) Rapid - 250 ms (250)	1000	250	1000
4024	NegSpan	Minimum negative pulse width The minimum time the signal must remain negative adjacent to a zero crossing. Usually adjusted by setting the transducer type (SetXdcrType). It is converted to sample interval units (NegSpanSI) internally for use by the meter. This parameter is used to detect distorted waveforms and incorrect measurements. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		2.4	1	10
4026	PosSpan	Minimum positive pulse width The minimum time the signal must remain positive adjacent to a zero crossing. It is converted to sample interval units (PosSpanSI) internally for use by the meter. Usually adjusted by setting the transducer type (SetXdcrType). This parameter is used to detect distorted waveforms and incorrect measurements. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		3.2	1	10
4028	TmDevLow1	Transit time standard deviation threshold for measurement quality check The minimum standard deviation value of the transit time for which the quality check (TmDevFctr1) is evaluated. Paths with times closer to the mean are assumed to be valid without further evaluation. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		2	0	10
4032	CRange	Maximum percentage chord speed of sound deviation Maximum percentage chord speed of sound deviation. If a chord's speed of sound measurement relative to the average speed of sound is above this threshold, IsMeasSndSpdRangeA, IsMeasSndSpdRangeB, IsMeasSndSpdRangeC, IsMeasSndSpdRangeD, is set to TRUE (1).	RW	Y	Y	Y	float	%	%	float32	%		0.5	0	10
4038	Pk1Wdth	Maximum selected peak pulse width The maximum time between zero crossings (one half cycle) used as the distance to search for the next peak value. This value is converted internally to sample intervals for use (PkPlsWdthSI). Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		5.6	1	10
4040	TmDevFctr1	Measurement Quality check deviation factor Measurement Quality check transit time standard deviation factor. When a path's transit time is more than this number of standard deviations from the path's median transit time for the batch, the individual measurement is flagged as bad and the corresponding chord's DidTmDevChkFailA, DidTmDevChkFailB, DidTmDevChkFailC, DidTmDevChkFailD are set to TRUE (1). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		2	1	100
4048	StackEmRateDesired	Desired stacking transducer firing (emission) rate The desired emission rate or time between firing of the same transducer when stacking is turned on, that is the stack size (StackSize) is not equal to (1). The actual emission rate used (StackEmRateActual) will not be less than the meter's calculated minimum based on the meter's geometry (pipe diameter (PipeDiam)), distance between transducers (LA, LB, LC, LD), axial distance between transducers (XA, XB, XC, XD), the minimum speed of sound (SSMin) and the physical characteristics of the transducers themselves. This value may impact the overall transducer to transducer emission rate selected by the emission rate desired (EmRateDesired). A value of (0) ensures the use of fastest available rate determined by the meter.	RW	Y	Y	Y	float	ms	ms	float32	ms		0	0	64
4050	TampLo	Tracking target normalized amplitude low limit The lower limit or floor for the magnitude (absolute value of) the default (Tamp) and the individual path (TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1, TampD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		30	0	100
4052	TspfLo	Tracking target Pf distance low limit The lower limit or floor for the default (Tspf) and the individual path (TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2) computed values. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		8	0	37
4054	TspeLo	Tracking target Pe distance low limit The lower limit or floor for the default (Tspe) and the individual path (TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		-8	-25	25
4056	Tspf	Default tracking target Pf distance The default for the targeted SPF which is the time in sample intervals (SI) or distance between the first motion (Pf) and the signal the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TspfLo) and (TspfHi).	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		15	0	37
4058	Tspe	Default tracking target Pe distance The default for the targeted SPE which is the time in sample intervals (SI) or distance between the first energy position (Pe) and the signal the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TspeLo) and (TspeHi).	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		8	-25	25
4060	Tamp	Default tracking target normalized amplitude The default for the targeted Amp which is the value of the peak following the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1, TampD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TampLo) and (TampHi).	RW	Y	Y	Y	float	%	%	int8	%		-70	-100	100
4062	TspfSen	Tracking target Pf sensitivity The sensitivity applied to the comparison of the individual peaks SPF to the paths targeted SPF, TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2. The sensitivity is used to generate similar magnitudes to the SPE and Amp comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		10	6	37
4064	TspeSen	Tracking target Pe sensitivity The sensitivity applied to the comparison of the individual peaks SPE to the paths targeted SPE, TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2. The sensitivity is used to generate similar magnitudes to the SPF and Amp comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		18	6	37
4066	TampSen	Tracking target normalized amplitude sensitivity The sensitivity applied to the comparison of the individual peaks Amp to the paths targeted Amp, TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1. The sensitivity is used to generate similar magnitudes to the SPE and SPF comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		30	5	100

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4068	TspfWt	Tracking target Pf weighting factor The weighting applied to the score generated by TspfSen when summed with TspeWt * TspeSen score and TampWt * TampSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		2	0	3
4070	TspeWt	Tracking target Pe weighting factor The weighting applied to the score generated by TspeSen when summed with TspfWt * TspfSen score and TampWt * TampSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		0	0	3
4072	TampWt	Tracking target normalized amplitude weighting factor The weighting applied to the score generated by TampSen when summed with TspeWt * TspeSen score and TspfWt * TspfSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		0.5	0	3
4074	TspeLmt	Tracking target abs(Pe-Pf) limit The Tspf and Tspe calculations are not performed if the distance (in SI) between Pe and Pf exceed this amount. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint16	sample intervals		25	0	30
4076	TampHi	Tracking target normalized amplitude high limit The upper limit or ceiling for the magnitude (absolute value of) the default (Tamp) and the individual path (TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		100	0	100
4078	TspfHi	Tracking target Pf distance high limit The upper limit or ceiling for the default (Tspf) and the individual path (TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2) computed values. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		25	0	37
4080	TspeHi	Tracking target Pe distance high limit The upper limit or ceiling for the default (Tspe) and the individual path (TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		20	-25	25
4084	FwdA0	Dry calibration forward flow A0 coefficient The forward flow A0 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
4086	FwdA1	Dry calibration forward flow A1 coefficient The forward flow A1 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4088	FwdA2	Dry calibration forward flow A2 coefficient The forward flow A2 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
4090	FwdA3	Dry calibration forward flow A3 coefficient The forward flow A3 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
4092	RevA0	Dry calibration reverse flow A0 coefficient The forward flow A0 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
4094	RevA1	Dry calibration reverse flow A1 coefficient The reverse flow A1 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4096	RevA2	Dry calibration reverse flow A2 coefficient The reverse flow A2 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
4098	RevA3	Dry calibration reverse flow A3 coefficient The reverse flow A3 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
4102	PipeDiam	Pipe inside diameter The pipe inside diameter used to calculate the pipe area (PipeArea) and port angle (PortAngle).	RW	Y	Y	Y	float	m	in	float32	m		0.1524	0.0254	2
4104	XA	Chord A "X" dimension Chord A "X" dimension (component of LA in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.1778	0	2
4106	XB	Chord B "X" dimension Chord B "X" dimension (component of LB in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.28575	0	2
4108	XC	Chord C "X" dimension Chord C "X" dimension (component of LC in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.28575	0	2
4110	XD	Chord D "X" dimension Chord D "X" dimension (component of LD in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.1778	0	2
4112	LA	Chord A length ("L" dimension) The distance between the transducer faces on chord A. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
4114	LB	Chord B length ("L" dimension) The distance between the transducer faces on chord B. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5
4116	LC	Chord C length ("L" dimension) The distance between the transducer faces on chord C. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5
4118	LD	Chord D length ("L" dimension) The distance between the transducer faces on chord D. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
4132	AvgDlyA	Chord A average delay time The chord-specific delay for chord A primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4134	AvgDlyB	Chord B average delay time The chord-specific delay for chord B primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
4136	AvgDlyC	Chord C average delay time The chord-specific delay for chord C primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
4138	AvgDlyD	Chord D average delay time The chord-specific delay for chord D primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
4140	DltDlyA	Chord A difference in upstream and downstream delay times The adjustment to the chord A delta times (the individual times used for DltTmA (DltTmA)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
4142	DltDlyB	Chord B difference in upstream and downstream delay times The adjustment to the chord B delta times (the individual times used for DltTmB (DltTmB)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
4144	DltDlyC	Chord C difference in upstream and downstream delay times The adjustment to the chord C delta times (the individual times used for DltTmC (DltTmC)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
4146	DltDlyD	Chord D difference in upstream and downstream delay times The adjustment to the chord D delta times (the individual times used for DltTmD (DltTmD)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
4148	SystemDelay	System delay time The portion of the signal transit time due to the physical characteristics of the electronics. It is computed as seven times the sample interval (SampInterval) plus an electronics delay constant. It is used in conjunction with the chord specific delay times (AvgDlyA, AvgDlyB, AvgDlyC, AvgDlyD).	R	Y			float	us	us	float32	us				
4150	IsConfigProtected	Indicates the state of the write protect switch This indicates the state of the write protect switch (CPU Module switch position 3). When CPU Module switch position 3 is in the "ON" position, data points protected by the switch (Write Protected by Switch=Yes) cannot be written to the meter and this data point is TRUE (1). This is also applied to write protecting HART parameters.	R	Y			int	-	-	boolean	-	Configuration not protected (FALSE) Configuration protected (TRUE)			
4151	DhcpServerEnabledStatus	Is the DHCP Server enabled Shows the current status of the DHCP server switch (CPU Module switch position 2). When the switch is in the "ON" position, the meter has IP address 192.168.135.100 and is enabled to act as a DHCP server for DHCP clients connected to the Ethernet port. A maximum of 10 DHCP clients can connect to the meter and the range of client IP addresses assigned is 192.168.135.35 to 192.168.135.44. This can be used for direct or stand alone local network connections between the meter and client PCs.	R				int	-	-	boolean	-	DHCP disabled (FALSE) DHCP enabled (TRUE)			
4152	IsWarmStartReq	Meter warm start (restart) required The meter configuration has changed and requires a restart for the change to take effect. Recommended Actions: 1. If you are unaware of changes made to the meter's configuration, collect the Audit log using Archive Logs in MeterLink™ to review the configuration changes. If the changes are valid, momentarily remove power from the meter to allow it to restart which will clear this alarm. 2. If the Audit log shows no changes, contact your local area Emerson Flow service representative for assistance.	R				int	-	-	boolean	-	No warm start required (FALSE) Warm start required (TRUE)			
4153	DidResetUsers	User database reset, latched until acknowledged The user database has been reset to a single user "administrator" with the privilege to perform user management and default password as "Administrator-<CPUBdSerialNumber>". The default password is based on CPU Module serial number (CPUBdSerialNumber) mentioned on a label on the CPU Module. Recommended Actions: 1. Reconfigure the meter's users. It is recommended that the default Administrator password should be changed. Other users can be reconfigured manually or imported from a previously exported encrypted user database file. 2. The alarm must be acknowledged to clear it from the list of alarms. 3. If facing any user management related issue, then contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Reset users cleared (FALSE) Reset users indicated (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4156	IsPortAAvail	Communication port A available Communication port A available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4157	IsPortBAvail	Communication port B available Communication port B available indicator based on the optional I/O Module (OptIOModule1Type) configuration.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4158	IsPortCAvail	Communication port C available Communication port C available indicator based on the optional I/O Module (OptIOModule2Type) configuration.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4160	IsEth1Avail	Ethernet port 1 available Ethernet port 1 available indicator based on the CPU Module's I/O Board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4161	MaxConnDBAPI	Maximum number of DB API connections This is the upper limit to the number of DB API connections.	RW	Y	Y		int	-	-	uint8	-		10	10	40
4162	Reserved		R				int								
4163	Reserved		R				int								
4164	Reserved		R				int								
4165	Reserved		R				int								
4166	Reserved		R				int								
4167	IsFODO1Avail	Frequency/Digital Output 1 available Frequency/Digital Output 1 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 1 source selector (FODO1Source) and the output levels by the Frequency/Digital Output 1 mode selector (FODO1Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4168	IsFODO2Avail	Frequency/Digital Output 2 available Frequency/Digital Output 2 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 2 source selector (FODO2Source) and the output levels by the Frequency/Digital Output 2 mode selector (FODO2Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4169	IsFODO3Avail	Frequency/Digital Output 3 available Frequency/Digital Output 3 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 3 source selector (FODO3Source) and the output levels by the Frequency/Digital Output 3 mode selector (FODO3Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4171	IsDI1Avail	Digital Input 1 available Digital Input 1 available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4172	IsAO1Avail	Analog Output 1 available Analog Output 1 available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4173	IsAI1Avail	Analog Input 1 (temperature) available Analog Input 1, live flow-condition temperature (LiveFlowTemperature), available indicator based on the CPU Module's I/O board revision. The connectors for this input are designated as ANALOG IN TT- and TT+.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4174	IsAI2Avail	Analog Input 2 (pressure) available Analog Input 2, live flow-condition pressure (LiveFlowPressure), available indicator based on the CPU Module's I/O board revision. The connectors for this input are designated as ANALOG IN PT- and PT+.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4175	IsAI3Avail	Analog input 3 available Analog input 3 available indicator based on the Optional I/O Module (OptIOModule1Type, OptIOModule2Type) configuration. The connectors for this input are designated as ANALOG IN AI3- and AI3+.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4176	IsFODO4Avail	Frequency/Digital Output 4 available Frequency/Digital Output 4 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 4 source selector (FODO4Source) and the output levels by the Frequency/Digital Output 4 mode selector (FODO4Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4177	IsFODO5Avail	Frequency/Digital Output 5 available Frequency/Digital Output 5 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 5 source selector (FODO5Source) and the output levels by the Frequency/Digital Output 5 mode selector (FODO5Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4178	IsFODO6Avail	Frequency/Digital Output 6 available Frequency/Digital Output 6 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 6 source selector (FODO6Source) and the output levels by the Frequency/Digital Output 6 mode selector (FODO6Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
4179	DidWarmStart	Meter warm started, latched until acknowledged The meter has warm started due to a Program Download, configuration data point change requiring meter warm start or due to a user-initiated meter warm start (DoWarmStart). The Audit log in the meter will indicate the meter reset time (MeterResetTime). Recommended Actions: 1. If this is due to Program Download, configuration change requiring meter warm start or user-initiated meter warm start just acknowledge this alarm. 2. The alarm must be acknowledged to clear it from the list of alarms. 3. If this was an unexpected restart of the meter, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Did not warm start or warm start acknowledged (FALSE) Did warm start (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4180	DidColdStart	Meter cold started, latched until acknowledged The meter has performed a cold start. The meter configuration has reset to default values, meter archive logs are erased, user database is reset, and Smart Meter Verification reports are deleted. The meter is not configured correctly to measure flow. The user database has been reset to a single user "administrator" with the privilege to perform user management and default password is "Administrator-<CPUBdSerialNumber>". The default password is based on CPU Module serial number (CPUBdSerialNumber) mentioned on the label on the CPU Module. Recommended Actions: 1. If the cold start occurred unexpectedly, i.e. not due to firmware upgrade/downgrade or user-initiated in meter reset mode, we recommend replacing the CPU Module. Contact your local area Emerson Flow service representative. 2. If the cold start occurred after a firmware upgrade or is done using MeterLink™ to cold start the CPU Module, you must fully re-configure the meter from a previously saved configuration using Edit/Compare Configuration in MeterLink™ and reconfigure the meter's users using Manage Users in MeterLink™. 3. The alarm must be acknowledged to clear it from the list of alarms. 4. If the issue is unresolved, contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Cold start cleared (FALSE) Cold start indicated (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4181	DidPowerFail	Power failure, latched until acknowledged The meter has had power removed for a period of time. The Audit log in the meter will indicate the meter reset time (MeterResetTime). Recommended Actions: 1. If this was a known power fail of the meter, simply acknowledge this alarm. 2. If this was an unexpected power failure, verify the integrity of the power to the meter and make sure that the voltage level is in the range of 11-36 VDC at the meter. A long cable distance between power source and meter can induce a significant voltage drop at the meter. 3. The alarm must be acknowledged to clear it from the list of alarms. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Did not fail or failure acknowledged (FALSE) Did fail (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4182	DidCnfgChksumChg	Configuration changed, latched until acknowledged The configuration checksum value (CnfgChksumValue) has changed. This indicates that one or more parameters have been modified in the meter's configuration. The timestamp of the most recent change is in the configuration checksum date (CnfgChksumDate). Recommended Actions: 1. Collect an Audit log using MeterLink™ to see what configuration parameters changed and when they changed. 2. The alarm must be acknowledged to clear it from the list of alarms.	RW	Y	Y		int	-	-	boolean	-	Unchanged or change acknowledged (FALSE) Changed (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4183	IsCorePresent	Diagnostic core file generated, latched until acknowledged A diagnostic core file has been generated which may indicate a problem with the meter. Recommended Actions: 1. The alarm must be acknowledged to clear it from the list of alarms. 2. Collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	No diagnostic file (FALSE) Diagnostic file present (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4184	Reserved		R				int								
4185	WatchDogReset	Watchdog reset, latched until acknowledged The software watchdog initiated a meter warm start. The watchdog keeps track of the performance of all metrology processes in the meter to ensure reliable measurement. When a process stops responding, the watchdog forces the meter to restart. The Audit log in the meter will indicate the meter reset time (MeterResetTime). Recommended Actions: 1. Collect a complete Archive Log using MeterLink™ and contact your local area Emerson Flow service representative. 2. The alarm must be acknowledged to clear it from the list of alarms.	RW	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
4186	Reserved		R				int								
4187	Reserved		R				int								
4190	AlarmTurnOffHysterisisCount	Alarm log hysteresis filter number of occurrences Alarm log repetitive alarm filter count. This point, along with alarm log hysteresis filter time span (AlarmTurnOffHysterisisTimeSpan), is used to prevent the alarm log from filling up in the event of a very repetitive alarm (such as the flow temperature fluctuating around one of its alarm limits). If a data point being monitored for the alarm log has this number of alarms within a specified length of time (AlarmTurnOffHysterisisTimeSpan), then alarming is turned off for that point until no new alarms are received for that point within the specified length of time.	RW	Y	Y		int	-	-	uint16	-		4	2	20
4191	AlarmTurnOffHysterisisTimeSpan	Alarm log hysteresis filter time span Alarm log repetitive alarm filter time. This point, along with alarm log hysteresis filter number of occurrences (AlarmTurnOffHysterisisCount), is used to prevent the alarm log from filling up in the event of a very repetitive alarm (such as the flow temperature fluctuating around one of its alarm limits). If a data point being monitored for the alarm log has alarm log hysteresis filter number of occurrences (AlarmTurnOffHysterisisCount) alarms within this specified length of time, then alarming is turned off for that point until no new alarms are received for that point for this length of time.	RW	Y	Y		int	sec	sec	uint16	sec		600	1	3600
4192	BatchSize	Sequences between gain/hold time/tracking updates Number of completed firing sequences between updating the signal gain, hold time and tracking values. The default value is 20 firing sequences (minimum is 5 and maximum is 120).	RW	Y	Y	Y	int	-	-	uint8	-		20	5	120
4193	BatchPercentSmoothing	Batch smoothing factor: specifies percentage total data to be taken from previous data Batch smoothing factor. This is used to "smooth" the velocity measurement by averaging "new" and "old" data. This specifies the percentage of a batch's total data to be taken from previous batch period(s). When set to zero, then only new data will be used for a batch update. For example, if the batch smoothing factor is set to 20% and there are 32 new data sequences (BatchNewSeq), then 8 sequences from the most recent batch(es) (BatchOldSeq) will also be used for the current batch (8=20% of (32+8)).	RW	Y	Y		int	-	-	uint8	%	0 (0) 20 (20) 40 (40) 60 (60) 80 (80)	0	0	80
4194	MaxNoDataBatches	Maximum number of consecutive batches without new data Maximum number of consecutive batches without new data before no data received by batch System log is generated. This can be caused if the Acquisition Module is disconnected or not communicating with the CPU Module (IsAcqModuleError).	RW	Y	Y	Y	int	-	-	uint8	-		20	1	255
4195	PropUpdtBatches	Number of consecutive batches without chord failures required for updating chord proportions Number of consecutive batches without chord failures required for updating chord proportions. It is computed from the time that must elapse without chord failures required for updating chord proportions (PropUpdtSeconds) divided by the batch update period (BatchUpdatePeriod).	R	Y			int	-	-	uint16	-				
4196	NumVals	Chord proportion update factor Chord proportion update factor. This controls how quickly the chord proportions change relative to the current velocity proportion values. The lower the factor, the more quickly the proportions change.	RW	Y	Y	Y	int	-	-	uint16	-		10	1	1000
4197	SpecBatchUpdtPeriod	Specified batch update period (may be overridden if stacking is selected) Specifies the minimum batch update period when there is no stacking (StackSize). The "Rapid" update period can be selected only when there is no bandpass filtering (Filter) and may cause greater uncertainty in the measured flow rate.	RW	Y	Y	Y	int	ms	ms	uint16	ms	Standard - 1000 ms (1000) Rapid - 250 ms (250)	1000	250	1000
4198	Reserved		R				int								
4199	DoUpdtTrigDeltaVols	Trigger for updating "triggered" delta volumes Trigger for updating "triggered" delta volumes. When set to TRUE (1), the triggered delta volume points, TrigDeltaPosVolFlow, TrigDeltaNegVolFlow, TrigDeltaPosVolBase, TrigDeltaNegVolBase, TrigPrevPosVolFlow, TrigPrevNegVolFlow, TrigPrevPosVolBase and TrigPrevNegVolBase are updated with the appropriate volume since the previous trigger. The meter clears this point to FALSE (0) when the triggered delta volume points have been updated.	RW				int	-	-	boolean	-	Do not update (FALSE) Do update (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4200	DitherEnable	Enables dithering (progressive jitter after each transducer firing) Turns dithering on when set to TRUE (1) which minutely alters the firing time to prevent problems associated with resonance from building up.	RW	Y	Y	Y	int	-	-	uint8	-	Disable (0) Enable (1)	1	0	1
4201	AsyncEnable	Enables asynchronous firing sequences (progressive jitter after each firing sequence) Enables asynchronous firing sequences (progressive jitter after each firing sequence).	RW	Y		Y	int	-	-	uint8	-	Disable (0) Enable (1)	0	0	1
4202	DampEnable	Enables firing transducer dampening Enables firing transducer dampening.	RW	Y		Y	int	-	-	uint8	-	Disable (0) Enable (1)	0	0	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4203	DoUpdtPathDiag	Signal processing diagnostic data (path tracking) update control When set to TRUE (1), signal processing diagnostic data (path tracking information) is updated. The diagnostic data include following data points: Maximum signal quality value (MsqvA1..MsqvD2) Maximum signal quality position (MsqpA1..MsqpD2) Critical point value (PfvA1..PfvD2) Selected peak zero crossing position (P1A1..P1D2) Selected peak width (PwA1..PwD2) Energy arrival position (QpefA1..QpefD2) Critical point position (PfA1..PfD2) Peak 1 zero crossing position (Pp1A1..Pp1D2) Peak 2 zero crossing position (Pp2A1..Pp2D2) Peak 3 zero crossing position (Pp3A1..Pp3D2) Peak 4 zero crossing position (Pp4A1..Pp4D2) Peak 1 normalized amplitude (Ap1A1..Ap1D2) Peak 2 normalized amplitude (Ap2A1..Ap2D2) Peak 3 normalized amplitude (Ap3A1..Ap3D2) Peak 4 normalized amplitude (Ap4A1..Ap4D2) Peak 1 score (Pf1A1..Pf1D2) Peak 2 score (Pf2A1..Pf2D2) Peak 3 score (Pf3A1..Pf3D2) Peak 4 score (Pf4A1..Pf4D2) Peak 5 score (Pf5A1..Pf5D2) Selected peak (SelPkA1..SelPkD2) Energy arrival position (QpefA1..QpefD2)	RW				int	-	-	boolean	-	Do not update diagnostic data (FALSE) Do update diagnostic data (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4208	IsAuditLogFixedDataPointsEnabled	Enables or disables audit log for fixed value configuration data points When set to TRUE (1), audit logging of fixed value configuration data point is enabled. Enables audit logging of MoleFractionNHeptane, MoleFractionH2S, MoleFractionArgon, MoleFractionN2Method2, MoleFractionCO2, MoleFractionH2, MoleFractionCO, MoleFractionMethane, MoleFractionNNonane, MoleFractionNOctane, MoleFractionHelium, MoleFractionWater, MoleFractionEthane, MoleFractionPropane, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNDecane, MoleFractionOxygen, MeasVolGrossHeatingVal, SpecZFlow, SpecZBase, SpecificGravity, SpecFlowPressure, SpecFlowTemperature and SpecRhoMixFlow.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4209	DoWarmStart	Forces the system to perform a warm-start This selection forces the system to perform a warm-start. A warm start differs from a cold start (DidColdStart) in that the nonvolatile configuration points retain their values. A warm start is required (IsWarmStartReq) when changes are made to the transducer characteristics, sample rates, the device number . See also: XdcrFreq SetXdcrType XdcrNumDriveCycles SampInterval SampPerCycle DeviceNumber ColocMeterMode IsDiagnosticChordEnabled	RW				int	-	-	boolean	-	Do not warm start (FALSE) Do warm start (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4210	RTCSecondsSinceEpochSet	Used to set the system time This is used to set the system time in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970 local time) within the range from the firmware release date to midnight January 19, 2038. Use the real-time clock read data point (RTCSecondsSinceEpochRead) to read the system time. When the system time is set then the meter's real-time clock is also updated. The system time might be adjusted for the following reasons: 1. Clock drift (the system time is different from the required time). 2. The meter is installed in a time zone that is different from the meter manufacturer's time zone or if a replacement CPU Module is installed in a time zone that is different from the meter manufacturer's time zone. 3. Adjustments for the start and end of daylight saving time. (This may cause two hourly logs to be generated with the same timestamp or may cause hourly logs for an hour to be skipped.)	RW				long	sec	sec	int32	Epoch sec		1041400800	1041400800	2147472000
4230	IsClkInvalid	Clock is not set correctly The meter's real-time clock is set to a date in the past. Recommended Actions: 1. The real-time clock has a power backup of about 2 weeks. If the meter has been without power for more than 2 weeks, the real-time clock will first stop updating and later reset back to January 1, 2000. If this is the issue, use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. If this does not correct the problem, the real-time clock or its backup power source may be damaged, and the CPU Module should be replaced. 2. The real-time clock has been set to a date that is older than the CPU Module's firmware, i.e. a date in the past. Use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. 3. Contact your local area Emerson Flow service representative for assistance in getting a replacement CPU Module.	R				long	-	-	boolean	-	Clock is valid (FALSE) Clock is invalid (TRUE)			
4232	RTCSecondsSinceEpochRead	System time (read-only) This is used to read the system time in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970 local time). Use the real-time clock set data point (RTCSecondsSinceEpochSet) to set the system time.	R	Y			long	sec	sec	int32	Epoch sec				
4234	MeterResetTime	Time of the last meter reset Time of the last meter reset in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970) due to power failure (DidPowerFail), meter warm start (DidWarmStart) or software watchdog reset (WatchDogReset).	R	Y			long	sec	sec	int32	Epoch sec				
4236	CnfgChksumDate	Configuration checksum date Configuration checksum date. This is the date and time of the last configuration change in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970).	R	Y			long	sec	sec	int32	Epoch sec				
4238	CnfgChksumValue	Configuration checksum value This is the checksum of the meter's configuration. All non-STRING write-protected data points are included in the checksum. The timestamp of the most recent change is in configuration checksum date (CnfgChksumDate).	R	Y			long	-	-	uint32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4240	BaudPortA	Communication Port A baud rate The baud rate used for serial port A.	RW	Y	Y		long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	19200	1200	115200
4242	ModbusIDPortA	Comm Port A Modbus address The Modbus address used by communication Port A. The Modbus address is also used as a basis for the meter's IP address in the form 172.16.17.ModbusID when the meter is running a PPP server on the serial port.	RW	Y	Y		long	-	-	uint8	-		32	1	247
4244	CommRspDlyPortA	Comm Port A response delay Communication Port A response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		long	ms	ms	uint8	ms		0	0	100
4246	CommTimeoutPortA	Comm Port A communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		long	sec	sec	uint8	sec		4	0	255
4248	Reserved		R				long								
4250	IsHWFlowControlEnabledPortA	Enables comm port A hardware flow control When TRUE (1), enables communication Port A hardware flow control (RTS/CTS).	RW	Y	Y		long	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4252	RTSOffDelayPortA	Comm Port A handshaking RTS off delay time Communication Port A handshaking RTS off delay time. The meter will hold RTS active for this amount of time after sending the reply.	RW	Y	Y		long	ms	ms	uint16	ms		0	0	1000
4254	RTSOnDelayPortA	Comm Port A handshaking RTS on delay time Communication Port A handshaking RTS on delay time. The meter will activate RTS for this amount of time before sending out the message.	RW	Y	Y		long	ms	ms	uint16	ms		0	0	1000
4256	CommTCPTimeoutPortA	Inactivity timeout for PPP connections, port A Specifies the inactivity timeout (no TCP/IP packets) before the meter automatically disconnects a PPP connection (direct serial or modem connection) on Port A.	RW	Y	Y		long	sec	sec	uint8	sec		15	1	60
4258	DriverSelectionPortA	Hardware protocol on Port A Hardware protocol on Port A.	RW	Y	Y		long	-	-	uint8	-	RS-232 (0) RS-485 half-duplex (1) RS-485 full-duplex (2)	0	0	2
4260	SetPortAToOverride	Comm Port A parameter override indicator Set to TRUE (1) when the CPU Module's switch position 1 is moved from "OFF" to "ON" position. The meter automatically sets Port A to an override configuration (hardware protocol RS-232, baud rate 19200, Modbus address 32). Port A's normal configuration is restored after 2 minutes unless a PPP connection, established while override mode is in progress, in which case Port A's normal configuration is restored after the PPP connection ends. The Port A override mode is effective regardless of the Port A's configuration as master or slave.	R	Y			long	-	-	boolean	-	Use normal parameters (FALSE) Use override parameters (TRUE)			
4262	CommTCPMaxDatagramSizePortA	Max datagram size port A The maximum MTU and MRU bytes in a datagram on serial port A.	RW	Y	Y		long	-	-	uint16	-		576	128	16384
4264	ReadWriteModePortA	Serial port A read and write mode Indicate serial port A access level. When Read-write mode (0) is set, all valid read and write request will be performed. When Read-only mode (1) is set, all valid read requests will be performed and all write requests will be rejected. The serial port can be configured to allow PPP protocol only or to allow Modbus and PPP protocols (ProtocolPortA).	RW	Y	Y	Y	long	-	-	uint8	-	Read-write mode (0) Read-only mode (1)	0	0	1
4270	BaudPortB	Communication Port B baud rate The baud rate used for serial port B.	RW	Y	Y		long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	19200	1200	115200
4272	ModbusIDPortB	Comm Port B Modbus address The Modbus address used by communication Port B. The Modbus address is also used as a basis for the meter's IP address in the form 172.16.17.ModbusID when the meter is running a PPP server on the serial port.	RW	Y	Y		long	-	-	uint8	-		32	1	247
4274	CommRspDlyPortB	Comm Port B response delay Communication Port B response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		long	ms	ms	uint8	ms		0	0	100
4276	CommTimeoutPortB	Comm Port B communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		long	sec	sec	uint8	sec		4	0	255
4278	Reserved		R				long								
4280	Reserved		R				long								
4282	Reserved		R				long								
4284	Reserved		R				long								
4286	Reserved		R				long								
4288	CommTCPTimeoutPortB	Inactivity timeout for PPP connections, port B Specifies the inactivity timeout (no TCP/IP packets) before the meter automatically disconnects a PPP connection (direct serial or modem connection) on Port B.	RW	Y	Y		long	sec	sec	uint8	sec		15	1	60
4290	CommTCPMaxDatagramSizePortB	Max datagram size port B The maximum MTU and MRU bytes in a datagram on serial port B.	RW	Y	Y		long	-	-	uint16	-		576	128	16384
4292	Reserved		R				long								
4294	ReadWriteModePortB	Serial port B read and write mode Indicate serial port B access level. When Read-write mode (0) is set, all valid read and write request will be performed. When Read-only mode (1) is set, all valid read requests will be performed and all write requests will be rejected. The serial port can be configured to allow PPP protocol only or to allow Modbus and PPP protocols (ProtocolPortB).	RW	Y	Y	Y	long	-	-	uint8	-	Read-write mode (0) Read-only mode (1)	0	0	1
4298	CommTCPMaxDatagramSizePortC	Max datagram size port C The maximum MTU and MRU bytes in a datagram on serial port C.	RW	Y	Y		long	-	-	uint16	-		576	128	16384

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4300	BaudPortC	Communication Port C Slave mode baud rate The baud rate used for serial port C.	RW	Y	Y		long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	19200	1200	115200
4302	ModbusIDPortC	Comm Port C Slave mode Modbus address The Modbus address used by communication Port C. The Modbus address is also used as a basis for the meter's IP address in the form 172.16.17.ModbusID when the meter is running a PPP server on the serial port.	RW	Y	Y		long	-	-	uint8	-		32	1	247
4304	CommRspDlyPortC	Comm Port C response delay Communication Port C response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		long	ms	ms	uint8	ms		0	0	100
4306	CommTimeoutPortC	Comm Port C communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		long	sec	sec	uint8	sec		4	0	255
4308	Reserved		R				long								
4310	ReadWriteModePortC	Serial port C read and write mode Indicate serial port C access level. When Read-write mode (0) is set, all valid read and write request will be performed. When Read-only mode (1) is set, all valid read requests will be performed and all write requests will be rejected. The serial port can be configured to allow PPP protocol only or to allow Modbus and PPP protocols (ProtocolPortC).	RW	Y	Y	Y	long	-	-	uint8	-	Read-write mode (0) Read-only mode (1)	0	0	1
4312	Reserved		R				long								
4314	Reserved		R				long								
4316	CommTCPTimeoutPortC	Inactivity timeout for PPP connections, port C Specifies the inactivity timeout (no TCP/IP packets) before the meter automatically disconnects a PPP connection (direct serial or modem connection) on Port C.	RW	Y	Y		long	sec	sec	uint8	sec		15	1	60
4318	Eth1AltModbusPort	Alternate TCP port used for Modbus TCP The TCP/IP port used for Modbus TCP in addition to port 502. The alternate port cannot be set to any of the reserved or well-known ports 1, 7, 20, 21, 23, 42, 53, 67, 68, 502, 10000, 10001, 10002, 10003, 11000 or 11001. The alternate port cannot be set equal to HTTP server port (HTTPServerPort) or FTP server control port (FTPServerControlPort). If the alternate port is changed while there are open connections on it, then the connections shall be closed. The alternate port cannot be set to zero when Modbus TCP alternate port slave read and write mode (Eth1AltModbusReadWriteMode) is set to a non-zero value.	RW	Y	Y		long	-	-	uint32	-		0	0	65535
4320	Eth1ModbusID	Ethernet port Modbus address The Modbus address for Modbus TCP/IP on the Ethernet port. This is the "unit identifier" that is used if the Modbus TCP/IP network has a bridge to a serial Modbus network.	RW	Y	Y		long	-	-	uint8	-		255	1	255
4322	PropUpdtBatches	Number of consecutive batches without chord failures required for updating chord proportions Number of consecutive batches without chord failures required for updating chord proportions. It is computed from the time that must elapse without chord failures required for updating chord proportions (PropUpdtSeconds) divided by the batch update period (BatchUpdatePeriod).	R	Y			long	-	-	uint16	-				
4324	PropUpdtSeconds	Time that must elapse without chord failures required for updating chord proportions The number of seconds that must elapse without any chord failures before changes to the chord proportion bins for velocity estimation will occur ((IsPropUpdtActive) set to TRUE). This time is converted to the number of equivalent batch cycles (PropUpdtBatches) for comparison to the number of consecutive batches without chord failures (CurrPropUpdateBatches). This also specifies the number of seconds that must elapse while transducer maintenance is suspected (IsXdcrMaintenanceSuspectedA..IsXdcrMaintenanceSuspectedD) before the transducer maintenance required alarm is activated ((IsXdcrMaintenanceRequired) is set to TRUE).	RW	Y	Y	Y	long	sec	sec	uint16	sec		3600	10	3600
4326	PropUpdtSecondsOverride	Override time required for updating chord proportions When enabled, the number of failure free seconds required (PropUpdtSeconds) is overridden such that chord proportion bins shall be updated (IsPropUpdtActive) whenever the number of consecutive batches without chord failures (CurrPropUpdateBatches) is greater than 24. The purpose of this override is to allow testing of chord proportions before the required time has elapsed since the last chord failure (PropUpdtSeconds). This should only be enabled under the direction of Emerson Flow Support.	RW			Y	long	-	-	uint16	-		0	0	65535
4328	DriverSelectionPortB	Hardware protocol on Port B Hardware protocol on Port B. This configuration is ignored when RS-232 or RS-485 Module is connected and needed when Expansion I/O Module is connected.	RW	Y	Y		long	-	-	uint8	-	RS-232 (0) RS-485 half-duplex (1)	0	0	1
4330	DriverSelectionPortC	Hardware protocol on Port C Hardware protocol on Port C. This configuration is ignored when RS-232 or RS-485 Module is connected and needed when Expansion I/O Module is connected.	RW	Y	Y		long	-	-	uint8	-	RS-232 (0) RS-485 half-duplex (1)	0	0	1
4332	HTTPServerPort	TCP port used for HTTP server The TCP/IP port used by the HTTP server. The port cannot be set to any of the reserved or well-known ports 1, 7, 20, 21, 23, 42, 53, 67, 68, 502, 10000, 10001, 10002, 10003, 11000, or 11001. Also the HTTP port cannot be set equal to Modbus TCP alternate port (Eth1AltModbusPort) or FTP server control port (FTPServerControlPort). The HTTP server restarts when the port number is changed. The HTTP server terminates if the port is set to zero.	RW	Y	Y	Y	long	-	-	uint16	-		80	0	65535
4334	FTPServerControlPort	FTP server control port The port on which the FTP server listens for client connection requests. The port cannot be set to any of the reserved or well-known ports 1, 7, 20, 23, 42, 53, 67, 68, 502, 10000, 10001, 10002, 10003, 11000, or 11001. Also, the port cannot be set equal to Modbus TCP alternate port (Eth1AltModbusPort) or HTTP server port (HTTPServerPort). The FTP server restarts when the port is changed. The FTP server terminates if the port is set to zero.	RW	Y	Y	Y	long	-	-	uint16	-		21	0	65535
4336	ISOModbusProcessDataTimeout	ISO 17089 Modbus process data timeout Sets ISO 17089 Modbus process data timeout value. When process data values, flow-condition absolute pressure (AbsFlowPressure) and flow-condition temperature (FlowTemperature), are written via ISO 17089 Modbus registers then a timer loaded with this value monitors loss of communication with the Modbus client. After first write to ISO 17089 process data Modbus register, if the meter doesn't receive process data value updates before timer expires then the flow-condition pressure validity (PressureValidity) and the flow-condition temperature validity (TemperatureValidity) are set to FALSE (0). The timer is reloaded when update is received. Setting value as 0 disables the timer and clears the flow-condition pressure validity alarm (PressureInvalid) and the flow-condition temperature validity alarm (TemperatureInvalid) alarm if those are active due to loss of communication with the Modbus client.	RW	Y	Y		long	min	min	uint8	min		0	0	60

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4360	Freq1Content	Frequency Output 1 pair content Selects the data to be represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)) to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
4362	Freq1Dir	Selects the flow direction represented by the Frequency Output 1 pair (Freq1A, Freq1B) Selects the flow direction represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
4364	Freq1MaxFrequency	Frequency Output 1 pair maximum (full-scale) frequency Selects the Frequency Output 1 pair maximum (full-scale) frequency used in determining the K-factor and inverse K-factor.	RW	Y	Y	Y	float	Hz	Hz	uint16	Hz	1000 (1000) 5000 (5000)	1000	1000	5000
4366	Freq1FullScaleVolFlowRate	Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when Frequency Output 1 pair content (Freq1Content) is set to a volumetric flow rate.	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
4368	Freq1MinVel	Frequency Output 1 pair velocity corresponding to zero frequency Specifies the Frequency Output 1 pair velocity corresponding to the minimum frequency (0 Hz) when the Frequency Output 1 pair content (Freq1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
4370	Freq1MaxVel	Frequency Output 1 pair velocity corresponding to the maximum frequency Specifies the Frequency Output 1 pair velocity corresponding to the maximum frequency selected (Freq1MaxFrequency) when the Frequency Output 1 pair content (Freq1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500
4372	Freq1BPhase	Frequency Output 1B phase relative to 1A Selects the Frequency Output 1 pair channel B phase relative to the channel A phase based on the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Lag forward, Lead reverse (0) Lead forward, Lag reverse (1)	0	0	1
4374	IsFreq1BZeroedOnErr	Frequency Output 1B forced to zero when invalid control When TRUE (1), forces the Frequency Output 1 channel B frequency to zero when the frequency pair's data is invalid.	RW	Y	Y	Y	float	-	-	boolean	-	Not forced to zero on error (FALSE) Forced to zero on error (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4376	Freq1FeedbackCorrectionPcnt	Frequency Output 1 pair volume feedback percentage Specifies the Frequency Output 1 pair percentage of error (determined by frequency feedback) to adjust for per batch. This only applies when the frequency pair content is selected to be a rate.	RW	Y	Y	Y	float	%	%	uint8	%		1	0	100
4378	IsFreq1EnableTest	Frequency Output 1 pair test enable Frequency Output 1 is in test mode which means the pulses output do not reflect the process flow through the meter. Test mode allows the connection from this output to a flow computer to be verified. When the frequency output is in test mode, the frequency outputs are fixed at the percentage of full scale specified by the test mode output percentage configuration point (Freq1TestModeOutputPercent). If a frequency pair remains in test mode for the length of time configured by the normal mode timeout (NonNormalModeTimeout), the test mode is automatically exited and the frequency output returns to normal operation. Recommended Actions: 1. Use the Meter Outputs screen in MeterLink™ to disable the test mode for Frequency Output 1 to clear this alarm and return the meter back to its normal mode of operation. 2. Unless MeterLink™ or another application through Modbus is re-enabling the test mode, the output will revert back to the normal mode of operation in a user configured timeout period (NonNormalModeTimeout) which can be up to 30 minutes.	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4380	Freq1TestModeOutputPercent	Frequency Output 1 pair test mode percentage of full-scale Specifies the Frequency Output 1 pair test mode percentage of full-scale. This specifies the frequency (as a percentage of the full-scale frequency (Freq1MaxFrequency)) to force Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB) when in the frequency test mode (IsFreq1EnableTest).	RW				float	%	%	uint8	%		50	0	150
4382	Freq1FullScaleEnergyRate	Frequency Output 1 pair energy rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair energy rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when the Frequency Output 1 pair content (Freq1Content) is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38
4384	Freq1FullScaleMassRate	Frequency Output 1 pair mass rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair mass rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when the Frequency Output 1 pair content (Freq1Content) is set to mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
4388	DO1AContent	Digital Output 1A content selector Selects the content (Freq1 Validity (0), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 1A to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq1 Validity is Freq1DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr). Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 1 validity (0) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	0	0	4
4390	DO1AIsInvPolarity	Digital Output 1A polarity control Selects the Digital Output 1A polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the Digital Output 1A content selector (DO1AContent)). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4392	DO1ATestVal	Digital Output 1A test mode value Specifies the value (state) of Digital Output 1A when in the test mode (DO1PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
4394	DO1BContent	Digital Output 1B content selector Selects the content (Freq1 Validity (0), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 1B to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq1 Validity is Freq1DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr) Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 1 validity (0) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	2	0	4

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4396	DO1BIsInvPolarity	Digital Output 1B polarity control Selects the Digital Output 1B polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the Digital Output 1B content selector (DO1BContent)). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4398	DO1BTestVal	Digital Output 1B test mode value Specifies the value (state) of Digital Output 1B when in the test mode (DO1PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
4400	DO1PairTestEnable	Enables test mode for Digital Output 1 pair Used to enable the test mode for Digital Output 1 pair (DO1A and DO1B). When set to TRUE (1), the test mode is enabled and digital outputs 1A and 1B are set to the levels specified by DO1A test mode value (DO1ATestVal) and DO1B test mode value (DO1BTestVal). When this point is set to TRUE (1), the digital output pair remains in the test mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the test mode is explicitly exited by setting this point to FALSE (0).	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4402	DI1IsInvPolarity	Digital Input 1 polarity control This value sets the polarity of Digital Input 1 (DI1). A TRUE (1) value is normal polarity (default). A FALSE (0) value is inverted polarity.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4404	IsDI1UsedForCal	Determines digital input 1 functionality Specifies whether digital input 1 (DI1) is used for general purpose when set to FALSE (0) or for synchronizing calibration when set to TRUE (1). If used for calibration, the polarity is determined by the IsDI1ForCalActiveLow data point and the gating edge is determined by the IsDI1ForCalStateGated data point.	RW				float	-	-	boolean	-	General purpose (FALSE) Used for calibration (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4406	IsDI1ForCalActiveLow	Determines digital input 1 polarity for calibration use This point specifies the polarity for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. See also IsDI1ForCalStateGated.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate active high (FALSE) Digital Input 1 calibrate active low (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4408	IsDI1ForCalStateGated	Determines digital input 1 gating for calibration use This point specifies the calibration gating for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. When FALSE (0), the calibration is started/stopped via an inactive->active edge; when TRUE (1), the calibration is started via an inactive->active state change and stopped via an active->inactive state change. The active edge/state is specified via IsDI1ForCalActiveLow.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate edge gated (FALSE) Digital Input 1 calibrate state gated (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4410	Freq2Content	Frequency Output 2 pair content Selects the data to be represented by the Frequency Output 2 pair (Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB)) to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
4412	Freq2Dir	Selects the flow direction represented by the Frequency Output 2 pair (Freq2A, Freq2B) Selects the flow direction represented by the Frequency Output 2 pair (Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
4414	Freq2MaxFrequency	Frequency Output 2 pair maximum (full-scale) frequency Selects the Frequency Output 2 pair maximum (full-scale) frequency used in determining the K-factor and inverse K-factor.	RW	Y	Y	Y	float	Hz	Hz	uint16	Hz	1000 (1000) 5000 (5000)	1000	1000	5000
4416	Freq2FullScaleVolFlowRate	Frequency Output 2 pair volumetric flow rate corresponding to the maximum frequency Specifies the Frequency Output 2 pair volumetric flow rate corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to a volumetric flow rate.	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
4418	Freq1MinVel	Frequency Output 1 pair velocity corresponding to zero frequency Specifies the Frequency Output 1 pair velocity corresponding to the minimum frequency (0 Hz) when the Frequency Output 1 pair content (Freq1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
4420	Freq2MaxVel	Frequency Output 2 pair velocity corresponding to the maximum frequency Specifies the Frequency Output 2 pair velocity corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500
4422	Freq2BPhase	Frequency Output 2B phase relative to 2A Selects the Frequency Output 2 pair channel B phase relative to the channel A phase based on the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Lag forward, Lead reverse (0) Lead forward, Lag reverse (1)	0	0	1
4424	IsFreq2BZeroedOnErr	Frequency Output 2B forced to zero when invalid control When TRUE (1), forces the Frequency Output 2 channel B frequency to zero when the frequency pair's data is invalid.	RW	Y	Y	Y	float	-	-	boolean	-	Not forced to zero on error (FALSE) Forced to zero on error (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4426	Freq2FeedbackCorrectionPcnt	Frequency Output 2 pair volume feedback percentage Specifies the Frequency Output 2 pair percentage of error (determined by frequency feedback) to adjust for per batch. This only applies when the frequency pair content is selected to be a rate.	RW	Y	Y	Y	float	%	%	uint8	%		1	0	100
4428	IsFreq2EnableTest	Frequency Output 2 pair test enable Frequency Output 2 is in test mode which means the pulses output do not reflect the process flow through the meter. Test mode allows the connection from this output to a flow computer to be verified. When the frequency output is in test mode, the frequency outputs are fixed at the percentage of full scale specified by the test mode output percentage configuration point (Freq2TestModeOutputPercent). If a frequency pair remains in test mode for the length of time configured by the normal mode timeout (NonNormalModeTimeout), the test mode is automatically exited and the frequency output returns to normal operation. Recommended Actions: 1. Use the Meter Outputs screen in MeterLink™ to disable the test mode for Frequency Output 2 to clear this alarm and return the meter back to its normal mode of operation. 2. Unless MeterLink™ or another application through Modbus is re-enabling the test mode, the output will revert back to the normal mode of operation in a user configured timeout period (NonNormalModeTimeout) which can be up to 30 minutes.	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4430	Freq2TestModeOutputPercent	Frequency Output 2 pair test mode percentage of full-scale Specifies the Frequency Output 2 pair test mode percentage of full-scale. This specifies the frequency (as a percentage of the full-scale frequency (Freq2MaxFrequency)) to force Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB) when in the frequency test mode (IsFreq2EnableTest).	RW				float	%	%	uint8	%		50	0	150
4432	Freq2FullScaleEnergyRate	Frequency Output 2 pair energy rate corresponding to the maximum frequency Specifies the Frequency Output 2 pair energy rate corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4434	Freq2FullScaleMassRate	Frequency Output 2 pair mass rate corresponding to the maximum frequency Specifies the Frequency Output 2 pair mass rate corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
4438	DO2AContent	Digital Output 2A content selector Selects the content (Freq2 Validity (1), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 2A to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq2 Validity is Freq2DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr) Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 2 validity (1) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	1	1	4
4440	DO2AIsInvPolarity	Digital Output 2A polarity control Selects the Digital Output 2A polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the content DO2AContent). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4442	DO2ATestVal	Digital Output 2A test mode value Specifies the value (state) of Digital Output 2A when in the test mode (DO2PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
4444	DO2BContent	Digital Output 2B content selector Selects the content (Freq2 Validity (1), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 2B to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq2 Validity is Freq2DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr) Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 2 validity (1) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	2	1	4
4446	DO2BIsInvPolarity	Digital Output 2B polarity control Selects the Digital Output 2B polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the content selected via the Digital Output 2B content (DO2BContent) data point). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4448	DO2BTestVal	Digital Output 2B test mode value Specifies the value (state) of Digital Output 2B when in the test mode (DO2PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
4450	DO2PairTestEnable	Enables test mode for Digital Output 2 pair Used to enable the test mode for Digital Output 2 pair (DO2A and DO2B). When set to TRUE, the test mode is enabled and digital outputs 2A and 2B are set to the levels specified by DO2A test mode value (DO2ATestVal) and DO2B test mode value (DO2BTestVal). When this point is set to TRUE (1), the digital output pair remains in the test mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the test mode is explicitly exited by setting this point to FALSE (0).	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4452	DI1IsInvPolarity	Digital Input 1 polarity control This value sets the polarity of Digital Input 1 (DI1). A TRUE (1) value is normal polarity (default). A FALSE (0) value is inverted polarity.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4454	IsDI1UsedForCal	Determines digital input 1 functionality Specifies whether digital input 1 (DI1) is used for general purpose when set to FALSE (0) or for synchronizing calibration when set to TRUE (1). If used for calibration, the polarity is determined by the IsDI1ForCalActiveLow data point and the gating edge is determined by the IsDI1ForCalStateGated data point.	RW				float	-	-	boolean	-	General purpose (FALSE) Used for calibration (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4456	IsDI1ForCalActiveLow	Determines digital input 1 polarity for calibration use This point specifies the polarity for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. See also IsDI1ForCalStateGated.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate active high (FALSE) Digital Input 1 calibrate active low (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4458	IsDI1ForCalStateGated	Determines digital input 1 gating for calibration use This point specifies the calibration gating for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. When FALSE (0), the calibration is started/stopped via an inactive->active edge; when TRUE (1), the calibration is started via an inactive->active state change and stopped via an active->inactive state change. The active edge/state is specified via IsDI1ForCalActiveLow.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate edge gated (FALSE) Digital Input 1 calibrate state gated (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
4460	FlowDirection	Flow direction Flow direction indicator.	R				float	-	-	boolean	-	Reverse (FALSE) Forward (TRUE)			
4462	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
4466	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
4468	Freq1ChnlA	Frequency Output 1A value Frequency Output 1 channel A value.	R				float	Hz	Hz	float32	Hz				
4470	Freq1ChnlB	Frequency Output 1B value Frequency Output 1 channel B value.	R				float	Hz	Hz	float32	Hz				
4472	Freq1KFactor	Frequency Output 1 pair K-Factor Frequency Output 1 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
4474	Freq1InvKFactor	Frequency Output 1 pair inverse K-Factor Frequency Output 1 pair inverse K-Factor.	R				float	m3/pulse	ft3/pulse	float32	m3/pulse				
4476	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	sec	sec	float32	sec				
4478	AvgBatchTimeHours	Average batch time Average batch time. The average is computed over the previous 8 batches.	R				float	hr	hr	float32	hr				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4480	Freq1FeedbackStatus	Frequency Output 1 pair feedback status Frequency Output 1 pair feedback status.	R				float	-	-	uint8	-	Forward (0) Reverse (1)			
4482	Freq1FeedbackPulseCnt	Frequency Output 1 pair feedback pulse count Frequency Output 1 pair feedback pulse count.	R				float	MkIII time pulses	MkIII time pulses	uint16	MkIII time pulses				
4484	Freq1FeedbackVol	Frequency Output 1 pair feedback volume Frequency Output 1 pair feedback volume.	R				float	m3	ft3	float32	m3				
4486	Freq1FeedbackPrevDesiredVol	Frequency Output 1 pair previous desired volume Frequency Output 1 pair previous desired volume.	R				float	m3	ft3	float32	m3				
4488	Freq1FeedbackVolErr	Frequency Output 1 pair feedback volume error Frequency Output 1 pair feedback volume error.	R				float	m3	ft3	float32	m3				
4490	Freq1FeedbackDesiredVol	Frequency Output 1 pair desired volume Frequency Output 1 pair desired volume.	R				float	m3	ft3	float32	m3				
4492	Freq1TTLVFRErr	Frequency Output 1 pair total volumetric flow rate error Frequency Output 1 pair total volumetric flow rate error.	R				float	volume/time	volume/time	float32	m3/hr				
4494	Freq1VFRErrComp	Frequency Output 1 pair volumetric flow rate error compensation Frequency Output 1 pair volumetric flow rate error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
4496	Freq1AbsVFR	Frequency Output 1 pair absolute volumetric flow rate Frequency Output 1 pair absolute volumetric flow rate. This is the absolute value of the volumetric flow rate represented by the Frequency Output 1 pair and does not include any feedback error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
4498	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
4500	DO1A	Digital Output 1A value Digital Output 1A value. This value is based on the selected content (DO1AContent) and polarity (DO1AIsInvPolarity).	R				float	-	-	uint8	-				
4502	DO1B	Digital Output 1B value Digital Output 1B value. This value is based on the selected content (DO1BContent) and polarity (DO1BIsInvPolarity).	R				float	-	-	uint8	-				
4504	DI1	Digital Input 1 value Digital Input 1 value.	R				float	-	-	boolean	-				
4506	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
4510	FlowDirection	Flow direction Flow direction indicator.	R				float	-	-	boolean	-	Reverse (FALSE) Forward (TRUE)			
4512	Freq2OutputVFR	Frequency Output 2 pair output volumetric flow rate Frequency Output 2 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
4516	Freq2DataValidity	Frequency Output 2 data invalid The parameter which the Frequency Output 2 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 2 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
4518	Freq2ChnlA	Frequency Output 2A value Frequency Output 2 channel A value.	R				float	Hz	Hz	float32	Hz				
4520	Freq2ChnlB	Frequency Output 2B value Frequency Output 2 channel B value.	R				float	Hz	Hz	float32	Hz				
4522	Freq2KFactor	Frequency Output 2 pair K-Factor Frequency Output 2 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
4524	Freq2InvKFactor	Frequency Output 2 pair inverse K-Factor Frequency Output 2 pair inverse K-Factor.	R				float	m3/pulse	ft3/pulse	float32	m3/pulse				
4526	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	sec	sec	float32	sec				
4528	AvgBatchTimeHours	Average batch time Average batch time. The average is computed over the previous 8 batches.	R				float	hr	hr	float32	hr				
4530	Freq2FeedbackStatus	Frequency Output 2 pair feedback status Frequency Output 2 pair feedback status.	R				float	-	-	uint8	-	Forward (0) Reverse (1)			
4532	Freq2FeedbackPulseCnt	Frequency Output 2 pair feedback pulse count Frequency Output 2 pair feedback pulse count.	R				float	MkIII time pulses	MkIII time pulses	uint16	MkIII time pulses				
4534	Freq2FeedbackVol	Frequency Output 2 pair feedback volume Frequency Output 2 pair feedback volume.	R				float	m3	ft3	float32	m3				
4536	Freq2FeedbackPrevDesiredVol	Frequency Output 2 pair previous desired volume Frequency Output 2 pair previous desired volume.	R				float	m3	ft3	float32	m3				
4538	Freq2FeedbackVolErr	Frequency Output 2 pair feedback volume error Frequency Output 2 pair feedback volume error.	R				float	m3	ft3	float32	m3				
4540	Freq2FeedbackDesiredVol	Frequency Output 2 pair desired volume Frequency Output 2 pair desired volume.	R				float	m3	ft3	float32	m3				
4542	Freq2TTLVFRErr	Frequency Output 2 pair total volumetric flow rate error Frequency Output 2 pair total volumetric flow rate error.	R				float	volume/time	volume/time	float32	m3/hr				
4544	Freq2VFRErrComp	Frequency Output 2 pair volumetric flow rate error compensation Frequency Output 2 pair volumetric flow rate error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
4546	Freq2AbsVFR	Frequency Output 2 pair absolute volumetric flow rate Frequency Output 2 pair absolute volumetric flow rate. This is the absolute value of the volumetric flow rate represented by the Frequency Output 2 pair and does not include any feedback error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
4548	Freq2OutputVFR	Frequency Output 2 pair output volumetric flow rate Frequency Output 2 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4550	DO2A	Digital Output 2A value Digital Output 2A value. This value is based on the selected content (DO2AContent) and polarity (DO2AIsInvPolarity).	R				float	-	-	uint8	-				
4552	DO2B	Digital Output 2B value Digital Output 2B value. This value is based on the selected content (DO2BContent) and polarity (DO2BIsInvPolarity).	R				float	-	-	uint8	-				
4554	DI1	Digital Input 1 value Digital Input 1 value.	R				float	-	-	boolean	-				
4556	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
4560	DoOverwriteUnreadAlarmLog	Old unread alarm log records can be overwritten by new records when TRUE Old (unread) alarm log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4561	DoOverwriteUnreadAuditLog	Old unread audit log records can be overwritten by new records when TRUE Old (unread) audit log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4562	DoOverwriteUnreadHourlyLog	Old unread hourly log records can be overwritten by new records when TRUE Old (unread) hourly log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4563	DoOverwriteUnreadDailyLog	Old unread daily log records can be overwritten by new records when TRUE Old (unread) daily log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4564	DoOverwriteUnreadSystemLog	Old unread system log records can be overwritten by new records when TRUE Old (unread) system log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
4566	C6PlusHexaneFrac	C6+ Hexane gas component mole fraction C6+ Hexane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0.47466	0	1
4568	C6PlusHeptaneFrac	C6+ Heptane gas component mole fraction C6+ Heptane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0.3534	0	1
4570	C6PlusOctaneFrac	C6+ Octane gas component mole fraction C6+ Octane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0.17194	0	1
4572	C6PlusNonaneFrac	C6+ Nonane gas component mole fraction C6+ Nonane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0	0	1
4574	C6PlusDecaneFrac	C6+ Decane gas component mole fraction C6+ Decane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0	0	1
4576	MeasVolGrossHeatingVal	Volumetric gross heating value Volumetric gross heating value (required when AGA8 calculation method (HCH_Method) is "Gross Method 1"). These gas property values are either fixed (heating value and its reference temperature are user specified) or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1". Reading the gas property data from a GC requires the interface to GC to be enabled (IsOptionalGCInterfaceEnabled) and the GC communication port (GCSerialPort) to be configured. See also RefTemperatureHV. Gas property data can be read from Transmitter Head 1 of a Dual-Configuration meter only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter.	RW	Y	Y		float	kJ/dm3	Btu/ft3	float32	kJ/dm3		38.6022	15	50
4578	SpecificGravity	Gas specific gravity (relative density) Gas specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either "Gross Method 1" or "Gross Method 2"). Specific gravity value is either a fixed (user specified) value or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1".	RW	Y	Y		float	-	-	float32	-		0.581078	0	2
4580	MoleFractionMethane	Methane gas component Methane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4582	MoleFractionN2Method2	Nitrogen gas component The nitrogen gas component is calculated only when AGA8 method selector (HCH_Method) is Gross Method 1. It is assigned value of (N2InUse) for Gross Method 2, and is not calculated for other AGA8 methods.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4584	MoleFractionCO2	Carbon dioxide gas component Carbon dioxide gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4586	MoleFractionEthane	Ethane gas component Ethane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4588	MoleFractionPropane	Propane gas component Propane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4590	MoleFractionWater	Water gas component Water gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4592	MoleFractionH2S	Hydrogen sulfide gas component Hydrogen sulphide gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4594	MoleFractionH2	Hydrogen gas component Hydrogen gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4596	MoleFractionCO	Carbon monoxide gas component Carbon monoxide gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4598	MoleFractionOxygen	Oxygen gas component Oxygen gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4600	MoleFractionIsoButane	Isobutane gas component Isobutane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4602	MoleFractionNButane	N-Butane gas component N-Butane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4604	MoleFractionIsoPentane	Isopentane gas component Isopentane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4606	MoleFractionNPentane	N-Pentane gas component N-Pentane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4608	MoleFractionNHexane	N-Hexane gas component N-Hexane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4610	MoleFractionNHeptane	N-Heptane gas component N-Heptane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4612	MoleFractionNOctane	N-Octane gas component N-Octane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4614	MoleFractionNNonane	N-Nonane gas component N-Nonane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4616	MoleFractionNDecane	N-Decane gas component N-Decane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4618	MoleFractionHelium	Helium gas component Helium gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4620	MoleFractionArgon	Argon gas component Argon gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
4630	CalMethod	Flow calibration method selector Selects the flow calibration method to apply to the velocity measurement. If set to "None" then the flow calibration has the same value as the dry calibration. If set to "Polynomial Coefficients" then the "C" calibration coefficients are applied (FwdC0, FwdC1, FwdC2, FwdC3, RevC0, RevC1, RevC2 and RevC3). If set to "Piecewise Linear" then the piecewise linearization flow rate and meter factor parameters (FwdFlwRt1..FwdFlwRt12, RevFlwRt1..RevFlwRt12, FwdMtrFctr1..FwdMtrFctr12 and RevMtrFctr1..RevMtrFctr12) are used to calculate the meter factor to be applied, readable via piecewise linearization meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	-	-	uint8	-	None (0) Polynomial (1) Piecewise linear (2)	0	0	2
4632	FwdC0	Flow calibration forward flow C0 coefficient The forward flow C0 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
4634	FwdC1	Flow calibration forward flow C1 coefficient The forward flow C1 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4636	FwdC2	Flow calibration forward flow C2 coefficient The forward flow C2 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
4638	FwdC3	Flow calibration forward flow C3 coefficient The forward flow C3 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
4640	RevC0	Flow calibration reverse flow C0 coefficient The reverse flow C0 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
4642	RevC1	Flow calibration reverse flow C1 coefficient The reverse flow C1 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4644	RevC2	Flow calibration reverse flow C2 coefficient The reverse flow C2 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
4646	RevC3	Flow calibration reverse flow C3 coefficient The reverse flow C3 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
4660	FwdFlwRt1	Piecewise linearization fwd vol flow rate 1 The first and highest forward flow rate used for piecewise linearization. It is paired with forward meter factor 1 (FwdMtrFctr1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero. Flow rates above this point will simply apply forward meter factor 1 (FwdMtrFctr1) as the linear meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4662	FwdMtrFctr1	Piecewise linearization forward meter factor 1 The first forward meter factor used for piecewise linearization. It is paired with forward flow rate 1 (FwdFlwRt1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4664	FwdFlwRt2	Piecewise linearization fwd vol flow rate 2 The second forward flow rate used for piecewise linearization. It is paired with forward meter factor 2 (FwdMtrFctr2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4666	FwdMtrFctr2	Piecewise linearization forward meter factor 2 The second forward meter factor used for piecewise linearization. It is paired with forward flow rate 2 (FwdFlwRt2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4668	FwdFlwRt3	Piecewise linearization fwd vol flow rate 3 The third forward flow rate used for piecewise linearization. It is paired with forward meter factor 3 (FwdMtrFctr3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4670	FwdMtrFctr3	Piecewise linearization forward meter factor 3 The third forward meter factor used for piecewise linearization. It is paired with forward flow rate 3 (FwdFlwRt3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4672	FwdFlwRt4	Piecewise linearization fwd vol flow rate 4 The fourth forward flow rate used for piecewise linearization. It is paired with forward meter factor 4 (FwdMtrFctr4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4674	FwdMtrFctr4	Piecewise linearization forward meter factor 4 The fourth forward meter factor used for piecewise linearization. It is paired with forward flow rate 4 (FwdFlwRt4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4676	FwdFlwRt5	Piecewise linearization fwd vol flow rate 5 The fifth forward flow rate used for piecewise linearization. It is paired with forward meter factor 5 (FwdMtrFctr5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4678	FwdMtrFctr5	Piecewise linearization forward meter factor 5 The fifth forward meter factor used for piecewise linearization. It is paired with forward flow rate 5 (FwdFlwRt5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4680	FwdFlwRt6	Piecewise linearization fwd vol flow rate 6 The sixth forward flow rate used for piecewise linearization. It is paired with forward meter factor 6 (FwdMtrFctr6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4682	FwdMtrFctr6	Piecewise linearization forward meter factor 6 The sixth forward meter factor used for piecewise linearization. It is paired with forward flow rate 6 (FwdFlwRt6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4684	FwdFlwRt7	Piecewise linearization fwd vol flow rate 7 The seventh forward flow rate used for piecewise linearization. It is paired with forward meter factor 7 (FwdMtrFctr7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4686	FwdMtrFctr7	Piecewise linearization forward meter factor 7 The seventh forward meter factor used for piecewise linearization. It is paired with forward flow rate 7 (FwdFlwRt7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4688	FwdFlwRt8	Piecewise linearization fwd vol flow rate 8 The eighth forward flow rate used for piecewise linearization. It is paired with forward meter factor 8 (FwdMtrFctr8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4690	FwdMtrFctr8	Piecewise linearization forward meter factor 8 The eighth forward meter factor used for piecewise linearization. It is paired with forward flow rate 8 (FwdFlwRt8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4692	FwdFlwRt9	Piecewise linearization fwd vol flow rate 9 The ninth forward flow rate used for piecewise linearization. It is paired with forward meter factor 9 (FwdMtrFctr9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4694	FwdMtrFctr9	Piecewise linearization forward meter factor 9 The ninth forward meter factor used for piecewise linearization. It is paired with forward flow rate 9 (FwdFlwRt9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4696	FwdFlwRt10	Piecewise linearization fwd vol flow rate 10 The tenth forward flow rate used for piecewise linearization. It is paired with forward meter factor 10 (FwdMtrFctr10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4698	FwdMtrFctr10	Piecewise linearization forward meter factor 10 The tenth forward meter factor used for piecewise linearization. It is paired with forward flow rate 10 (FwdFlwRt10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4700	FwdFlwRt11	Piecewise linearization fwd vol flow rate 11 The eleventh forward flow rate used for piecewise linearization. It is paired with forward meter factor 11 (FwdMtrFctr11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4702	FwdMtrFctr11	Piecewise linearization forward meter factor 11 The eleventh forward meter factor used for piecewise linearization. It is paired with forward flow rate 11 (FwdFlwRt11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4704	FwdFlwRt12	Piecewise linearization fwd vol flow rate 12 The twelfth and lowest forward flow rate used for piecewise linearization. It is paired with forward meter factor 12 (FwdMtrFctr12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4706	FwdMtrFctr12	Piecewise linearization forward meter factor 12 The twelfth forward meter factor used for piecewise linearization. It is paired with forward flow rate 12 (FwdFlwRt12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4720	RevFlwRt1	Piecewise linearization rev vol flow rate 1 The first and highest reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 1 (RevMtrFctr1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero. Flow rates above this point will simply apply reverse meter factor 1 (RevMtrFctr1) as the linear meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4722	RevMtrFctr1	Piecewise linearization reverse meter factor 1 The first reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 1 (RevFlwRt1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4724	RevFlwRt2	Piecewise linearization rev vol flow rate 2 The second reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 2 (RevMtrFctr2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4726	RevMtrFctr2	Piecewise linearization reverse meter factor 2 The second reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 2 (RevFlwRt2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4728	RevFlwRt3	Piecewise linearization rev vol flow rate 3 The third reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 3 (RevMtrFctr3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4730	RevMtrFctr3	Piecewise linearization reverse meter factor 3 The third reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 3 (RevFlwRt3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4732	RevFlwRt4	Piecewise linearization rev vol flow rate 4 The fourth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 4 (RevMtrFctr4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4734	RevMtrFctr4	Piecewise linearization reverse meter factor 4 The fourth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 4 (RevFlwRt4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4736	RevFlwRt5	Piecewise linearization rev vol flow rate 5 The fifth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 5 (RevMtrFctr5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4738	RevMtrFctr5	Piecewise linearization reverse meter factor 5 The fifth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 5 (RevFlwRt5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4740	RevFlwRt6	Piecewise linearization rev vol flow rate 6 The sixth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 6 (RevMtrFctr6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4742	RevMtrFctr6	Piecewise linearization reverse meter factor 6 The sixth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 6 (RevFlwRt6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4744	RevFlwRt7	Piecewise linearization rev vol flow rate 7 The seventh reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 7 (RevMtrFctr7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4746	RevMtrFctr7	Piecewise linearization reverse meter factor 7 The seventh reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 7 (RevFlwRt7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4748	RevFlwRt8	Piecewise linearization rev vol flow rate 8 The eighth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 8 (RevMtrFctr8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4750	RevMtrFctr8	Piecewise linearization reverse meter factor 8 The eighth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 8 (RevFlwRt8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4752	RevFlwRt9	Piecewise linearization rev vol flow rate 9 The ninth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 9 (RevMtrFctr9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4754	RevMtrFctr9	Piecewise linearization reverse meter factor 9 The ninth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 9 (RevFlwRt9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4756	RevFlwRt10	Piecewise linearization rev vol flow rate 10 The tenth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 10 (RevMtrFctr10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4758	RevMtrFctr10	Piecewise linearization reverse meter factor 10 The tenth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 10 (RevFlwRt10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4760	RevFlwRt11	Piecewise linearization rev vol flow rate 11 The eleventh reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 11 (RevMtrFctr11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4762	RevMtrFctr11	Piecewise linearization reverse meter factor 11 The eleventh reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 11 (RevFlwRt11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4764	RevFlwRt12	Piecewise linearization rev vol flow rate 12 The twelfth and lowest reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 12 (RevMtrFctr12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
4766	RevMtrFctr12	Piecewise linearization reverse meter factor 12 The twelfth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 12 (RevFlwRt12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
4780	Reserved		R				float								
4782	Reserved		R				float								
4784	Reserved		R				float								
4786	Reserved		R				float								
4788	Reserved		R				float								
4790	Reserved		R				float								
4792	Reserved		R				float								
4794	Reserved		R				float								
4796	Reserved		R				float								
4798	Reserved		R				float								
4800	Reserved		R				float								
4802	Reserved		R				float								
4804	Reserved		R				float								
4806	Reserved		R				float								
4808	Reserved		R				float								
4810	Reserved		R				float								
4812	Reserved		R				float								
4814	Reserved		R				float								
4816	Reserved		R				float								
4818	Reserved		R				float								
4820	Reserved		R				float								
4822	Reserved		R				float								
4824	Reserved		R				float								
4826	Reserved		R				float								
4828	Reserved		R				float								
4830	Reserved		R				float								
4832	Reserved		R				float								
4834	Reserved		R				float								
4836	Reserved		R				float								
4838	Reserved		R				float								
4840	Reserved		R				float								
4842	Reserved		R				float								
4844	Reserved		R				float								
4846	Reserved		R				float								
4848	Reserved		R				float								
4850	Reserved		R				float								
4852	Reserved		R				float								
4854	Reserved		R				float								
4856	Reserved		R				float								
4860	AI1Input	Analog input 1 (temperature) current value Analog input 1 (temperature) current value, represents live flow-condition temperature (LiveFlowTemperature).	R				float	ma	ma	float32	ma				
4862	AI2Input	Analog input 2 (pressure) current value Analog input 2 (pressure) current value, represents live flow-condition pressure (LiveFlowPressure).	R				float	ma	ma	float32	ma				
4864	AI3Input	Analog input 3 current value Analog input 3 current value, available when Expansion I/O Module is connected.	R				float	ma	ma	float32	ma				
4880	Reserved		R				float								
4882	Reserved		R				float								
4884	Reserved		R				float								
4886	Reserved		R				float								
4888	Reserved		R				float								
4890	Reserved		R				float								
4892	Reserved		R				float								
4894	Reserved		R				float								
4896	Reserved		R				float								
4898	Reserved		R				float								
4900	Reserved		R				float								
4902	Reserved		R				float								
4904	Reserved		R				float								
4906	Reserved		R				float								
4908	Reserved		R				float								
4910	Reserved		R				float								
4912	Reserved		R				float								
4914	Reserved		R				float								

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
4916	Reserved		R				float								
4918	Reserved		R				float								
4920	Reserved		R				float								
4922	Reserved		R				float								
4924	Reserved		R				float								
4926	Reserved		R				float								
4928	Reserved		R				float								
4930	Reserved		R				float								
4932	Reserved		R				float								
4934	Reserved		R				float								
4936	Reserved		R				float								
4938	Reserved		R				float								
4940	Reserved		R				float								
4942	Reserved		R				float								
4944	Reserved		R				float								
4946	Reserved		R				float								
4948	Reserved		R				float								
4950	Reserved		R				float								
4952	Reserved		R				float								
4954	Reserved		R				float								
4956	Reserved		R				float								
4980	IsFwdPropADfltBin1	Fwd chord A bin 1 default proportion indicator Forward direction chord A bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
4982	FwdPropVelABin1	Proportion update fwd direction chord A bin 1 velocity Proportion update forward direction chord A bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
4984	FwdPropABin1	Fwd direction chord A bin 1 proportion Forward direction chord A bin 1 proportion.	R	Y			float	-	-	float32	-				
4986	IsFwdPropBDfltBin1	Fwd chord B bin 1 default proportion indicator Forward direction chord B bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
4988	FwdPropVelBBin1	Proportion update fwd direction chord B bin 1 velocity Proportion update forward direction chord B bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
4990	FwdPropBBin1	Fwd direction chord B bin 1 proportion Forward direction chord B bin 1 proportion.	R	Y			float	-	-	float32	-				
4992	IsFwdPropCDfltBin1	Fwd chord C bin 1 default proportion indicator Forward direction chord C bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
4994	FwdPropVelCBin1	Proportion update fwd direction chord C bin 1 velocity Proportion update forward direction chord C bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
4996	FwdPropCBin1	Fwd direction chord C bin 1 proportion Forward direction chord C bin 1 proportion.	R	Y			float	-	-	float32	-				
4998	IsFwdPropDDfltBin1	Fwd chord D bin 1 default proportion indicator Forward direction chord D bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
5000	FwdPropVelDBin1	Proportion update fwd direction chord D bin 1 velocity Proportion update forward direction chord D bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5002	FwdPropDBin1	Fwd direction chord D bin 1 proportion Forward direction chord D bin 1 proportion.	R	Y			float	-	-	float32	-				
5004	IsFwdPropADfltBin2	Fwd chord A bin 2 default proportion indicator Forward direction chord A bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5006	FwdPropVelABin2	Proportion update fwd direction chord A bin 2 velocity Proportion update forward direction chord A bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5008	FwdPropABin2	Fwd direction chord A bin 2 proportion Forward direction chord A bin 2 proportion.	R	Y			float	-	-	float32	-				
5010	IsFwdPropBDfltBin2	Fwd chord B bin 2 default proportion indicator Forward direction chord B bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5012	FwdPropVelBBin2	Proportion update fwd direction chord B bin 2 velocity Proportion update forward direction chord B bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5014	FwdPropBBin2	Fwd direction chord B bin 2 proportion Forward direction chord B bin 2 proportion.	R	Y			float	-	-	float32	-				
5016	IsFwdPropCDfltBin2	Fwd chord C bin 2 default proportion indicator Forward direction chord C bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5018	FwdPropVelCBin2	Proportion update fwd direction chord C bin 2 velocity Proportion update forward direction chord C bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5020	FwdPropCBin2	Fwd direction chord C bin 2 proportion Forward direction chord C bin 2 proportion.	R	Y			float	-	-	float32	-				
5022	IsFwdPropDDfltBin2	Fwd chord D bin 2 default proportion indicator Forward direction chord D bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5024	FwdPropVelDBin2	Proportion update fwd direction chord D bin 2 velocity Proportion update forward direction chord D bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5026	FwdPropDBin2	Fwd direction chord D bin 2 proportion Forward direction chord D bin 2 proportion.	R	Y			float	-	-	float32	-				
5028	IsFwdPropADfltBin3	Fwd chord A bin 3 default proportion indicator Forward direction chord A bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5030	FwdPropVelABin3	Proportion update fwd direction chord A bin 3 velocity Proportion update forward direction chord A bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5032	FwdPropABin3	Fwd direction chord A bin 3 proportion Forward direction chord A bin 3 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5034	IsFwdPropBDfltBin3	Fwd chord B bin 3 default proportion indicator Forward direction chord B bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5036	FwdPropVelBBin3	Proportion update fwd direction chord B bin 3 velocity Proportion update forward direction chord B bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5038	FwdPropBBin3	Fwd direction chord B bin 3 proportion Forward direction chord B bin 3 proportion.	R	Y			float	-	-	float32	-				
5040	IsFwdPropCDfltBin3	Fwd chord C bin 3 default proportion indicator Forward direction chord C bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5042	FwdPropVelCBin3	Proportion update fwd direction chord C bin 3 velocity Proportion update forward direction chord C bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5044	FwdPropCBin3	Fwd direction chord C bin 3 proportion Forward direction chord C bin 3 proportion.	R	Y			float	-	-	float32	-				
5046	IsFwdPropDDfltBin3	Fwd chord D bin 3 default proportion indicator Forward direction chord D bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5048	FwdPropVelDBin3	Proportion update fwd direction chord D bin 3 velocity Proportion update forward direction chord D bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5050	FwdPropDBin3	Fwd direction chord D bin 3 proportion Forward direction chord D bin 3 proportion.	R	Y			float	-	-	float32	-				
5052	IsFwdPropADfltBin4	Fwd chord A bin 4 default proportion indicator Forward direction chord A bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5054	FwdPropVelABin4	Proportion update fwd direction chord A bin 4 velocity Proportion update forward direction chord A bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5056	FwdPropABin4	Fwd direction chord A bin 4 proportion Forward direction chord A bin 4 proportion.	R	Y			float	-	-	float32	-				
5058	IsFwdPropBDfltBin4	Fwd chord B bin 4 default proportion indicator Forward direction chord B bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5060	FwdPropVelBBin4	Proportion update fwd direction chord B bin 4 velocity Proportion update forward direction chord B bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5062	FwdPropBBin4	Fwd direction chord B bin 4 proportion Forward direction chord B bin 4 proportion.	R	Y			float	-	-	float32	-				
5064	IsFwdPropCDfltBin4	Fwd chord C bin 4 default proportion indicator Forward direction chord C bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5066	FwdPropVelCBin4	Proportion update fwd direction chord C bin 4 velocity Proportion update forward direction chord C bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5068	FwdPropCBin4	Fwd direction chord C bin 4 proportion Forward direction chord C bin 4 proportion.	R	Y			float	-	-	float32	-				
5070	IsFwdPropDDfltBin4	Fwd chord D bin 4 default proportion indicator Forward direction chord D bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5072	FwdPropVelDBin4	Proportion update fwd direction chord D bin 4 velocity Proportion update forward direction chord D bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5074	FwdPropDBin4	Fwd direction chord D bin 4 proportion Forward direction chord D bin 4 proportion.	R	Y			float	-	-	float32	-				
5076	IsFwdPropADfltBin5	Fwd chord A bin 5 default proportion indicator Forward direction chord A bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5078	FwdPropVelABin5	Proportion update fwd direction chord A bin 5 velocity Proportion update forward direction chord A bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5080	FwdPropABin5	Fwd direction chord A bin 5 proportion Forward direction chord A bin 5 proportion.	R	Y			float	-	-	float32	-				
5082	IsFwdPropBDfltBin5	Fwd chord B bin 5 default proportion indicator Forward direction chord B bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5084	FwdPropVelBBin5	Proportion update fwd direction chord B bin 5 velocity Proportion update forward direction chord B bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5086	FwdPropBBin5	Fwd direction chord B bin 5 proportion Forward direction chord B bin 5 proportion.	R	Y			float	-	-	float32	-				
5088	IsFwdPropCDfltBin5	Fwd chord C bin 5 default proportion indicator Forward direction chord C bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5090	FwdPropVelCBin5	Proportion update fwd direction chord C bin 5 velocity Proportion update forward direction chord C bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5092	FwdPropCBin5	Fwd direction chord C bin 5 proportion Forward direction chord C bin 5 proportion.	R	Y			float	-	-	float32	-				
5094	IsFwdPropDDfltBin5	Fwd chord D bin 5 default proportion indicator Forward direction chord D bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5096	FwdPropVelDBin5	Proportion update fwd direction chord D bin 5 velocity Proportion update forward direction chord D bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5098	FwdPropDBin5	Fwd direction chord D bin 5 proportion Forward direction chord D bin 5 proportion.	R	Y			float	-	-	float32	-				
5100	IsFwdPropADfltBin6	Fwd chord A bin 6 default proportion indicator Forward direction chord A bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5102	FwdPropVelABin6	Proportion update fwd direction chord A bin 6 velocity Proportion update forward direction chord A bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5104	FwdPropABin6	Fwd direction chord A bin 6 proportion Forward direction chord A bin 6 proportion.	R	Y			float	-	-	float32	-				
5106	IsFwdPropBDfltBin6	Fwd chord B bin 6 default proportion indicator Forward direction chord B bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5108	FwdPropVelBBin6	Proportion update fwd direction chord B bin 6 velocity Proportion update forward direction chord B bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5110	FwdPropBBin6	Fwd direction chord B bin 6 proportion Forward direction chord B bin 6 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5112	IsFwdPropCDfltBin6	Fwd chord C bin 6 default proportion indicator Forward direction chord C bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5114	FwdPropVelCBin6	Proportion update fwd direction chord C bin 6 velocity Proportion update forward direction chord C bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5116	FwdPropCBin6	Fwd direction chord C bin 6 proportion Forward direction chord C bin 6 proportion.	R	Y			float	-	-	float32	-				
5118	IsFwdPropDDfltBin6	Fwd chord D bin 6 default proportion indicator Forward direction chord D bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5120	FwdPropVelDBin6	Proportion update fwd direction chord D bin 6 velocity Proportion update forward direction chord D bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5122	FwdPropDBin6	Fwd direction chord D bin 6 proportion Forward direction chord D bin 6 proportion.	R	Y			float	-	-	float32	-				
5124	IsFwdPropADfltBin7	Fwd chord A bin 7 default proportion indicator Forward direction chord A bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5126	FwdPropVelABin7	Proportion update fwd direction chord A bin 7 velocity Proportion update forward direction chord A bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5128	FwdPropABin7	Fwd direction chord A bin 7 proportion Forward direction chord A bin 7 proportion.	R	Y			float	-	-	float32	-				
5130	IsFwdPropBDfltBin7	Fwd chord B bin 7 default proportion indicator Forward direction chord B bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5132	FwdPropVelBBin7	Proportion update fwd direction chord B bin 7 velocity Proportion update forward direction chord B bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5134	FwdPropBBin7	Fwd direction chord B bin 7 proportion Forward direction chord B bin 7 proportion.	R	Y			float	-	-	float32	-				
5136	IsFwdPropCDfltBin7	Fwd chord C bin 7 default proportion indicator Forward direction chord C bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5138	FwdPropVelCBin7	Proportion update fwd direction chord C bin 7 velocity Proportion update forward direction chord C bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5140	FwdPropCBin7	Fwd direction chord C bin 7 proportion Forward direction chord C bin 7 proportion.	R	Y			float	-	-	float32	-				
5142	IsFwdPropDDfltBin7	Fwd chord D bin 7 default proportion indicator Forward direction chord D bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5144	FwdPropVelDBin7	Proportion update fwd direction chord D bin 7 velocity Proportion update forward direction chord D bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5146	FwdPropDBin7	Fwd direction chord D bin 7 proportion Forward direction chord D bin 7 proportion.	R	Y			float	-	-	float32	-				
5148	IsFwdPropADfltBin8	Fwd chord A bin 8 default proportion indicator Forward direction chord A bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5150	FwdPropVelABin8	Proportion update fwd direction chord A bin 8 velocity Proportion update forward direction chord A bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5152	FwdPropABin8	Fwd direction chord A bin 8 proportion Forward direction chord A bin 8 proportion.	R	Y			float	-	-	float32	-				
5154	IsFwdPropBDfltBin8	Fwd chord B bin 8 default proportion indicator Forward direction chord B bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5156	FwdPropVelBBin8	Proportion update fwd direction chord B bin 8 velocity Proportion update forward direction chord B bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5158	FwdPropBBin8	Fwd direction chord B bin 8 proportion Forward direction chord B bin 8 proportion.	R	Y			float	-	-	float32	-				
5160	IsFwdPropCDfltBin8	Fwd chord C bin 8 default proportion indicator Forward direction chord C bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5162	FwdPropVelCBin8	Proportion update fwd direction chord C bin 8 velocity Proportion update forward direction chord C bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5164	FwdPropCBin8	Fwd direction chord C bin 8 proportion Forward direction chord C bin 8 proportion.	R	Y			float	-	-	float32	-				
5166	IsFwdPropDDfltBin8	Fwd chord D bin 8 default proportion indicator Forward direction chord D bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5168	FwdPropVelDBin8	Proportion update fwd direction chord D bin 8 velocity Proportion update forward direction chord D bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5170	FwdPropDBin8	Fwd direction chord D bin 8 proportion Forward direction chord D bin 8 proportion.	R	Y			float	-	-	float32	-				
5172	IsFwdPropADfltBin9	Fwd chord A bin 9 default proportion indicator Forward direction chord A bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5174	FwdPropVelABin9	Proportion update fwd direction chord A bin 9 velocity Proportion update forward direction chord A bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5176	FwdPropABin9	Fwd direction chord A bin 9 proportion Forward direction chord A bin 9 proportion.	R	Y			float	-	-	float32	-				
5178	IsFwdPropBDfltBin9	Fwd chord B bin 9 default proportion indicator Forward direction chord B bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5180	FwdPropVelBBin9	Proportion update fwd direction chord B bin 9 velocity Proportion update forward direction chord B bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5182	FwdPropBBin9	Fwd direction chord B bin 9 proportion Forward direction chord B bin 9 proportion.	R	Y			float	-	-	float32	-				
5184	IsFwdPropCDfltBin9	Fwd chord C bin 9 default proportion indicator Forward direction chord C bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5186	FwdPropVelCBin9	Proportion update fwd direction chord C bin 9 velocity Proportion update forward direction chord C bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5188	FwdPropCBin9	Fwd direction chord C bin 9 proportion Forward direction chord C bin 9 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5190	IsFwdPropDDfltBin9	Fwd chord D bin 9 default proportion indicator Forward direction chord D bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5192	FwdPropVelDBin9	Proportion update fwd direction chord D bin 9 velocity Proportion update forward direction chord D bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5194	FwdPropDBin9	Fwd direction chord D bin 9 proportion Forward direction chord D bin 9 proportion.	R	Y			float	-	-	float32	-				
5196	IsFwdPropADfltBin10	Fwd chord A bin 10 default proportion indicator Forward direction chord A bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5198	FwdPropVelABin10	Proportion update fwd direction chord A bin 10 velocity Proportion update forward direction chord A bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5200	FwdPropABin10	Fwd direction chord A bin 10 proportion Forward direction chord A bin 10 proportion.	R	Y			float	-	-	float32	-				
5202	IsFwdPropBDfltBin10	Fwd chord B bin 10 default proportion indicator Forward direction chord B bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5204	FwdPropVelBBin10	Proportion update fwd direction chord B bin 10 velocity Proportion update forward direction chord B bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5206	FwdPropBBin10	Fwd direction chord B bin 10 proportion Forward direction chord B bin 10 proportion.	R	Y			float	-	-	float32	-				
5208	IsFwdPropCDfltBin10	Fwd chord C bin 10 default proportion indicator Forward direction chord C bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5210	FwdPropVelCBin10	Proportion update fwd direction chord C bin 10 velocity Proportion update forward direction chord C bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5212	FwdPropCBin10	Fwd direction chord C bin 10 proportion Forward direction chord C bin 10 proportion.	R	Y			float	-	-	float32	-				
5214	IsFwdPropDDfltBin10	Fwd chord D bin 10 default proportion indicator Forward direction chord D bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5216	FwdPropVelDBin10	Proportion update fwd direction chord D bin 10 velocity Proportion update forward direction chord D bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5218	FwdPropDBin10	Fwd direction chord D bin 10 proportion Forward direction chord D bin 10 proportion.	R	Y			float	-	-	float32	-				
5270	IsRevPropADfltBin1	Rev chord A bin 1 default proportion indicator Reverse direction chord A bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
5272	RevPropVelABin1	Proportion update rev direction chord A bin 1 velocity Proportion update reverse direction chord A bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5274	RevPropABin1	Rev direction chord A bin 1 proportion Reverse direction chord A bin 1 proportion.	R	Y			float	-	-	float32	-				
5276	IsRevPropBDfltBin1	Rev chord B bin 1 default proportion indicator Reverse direction chord B bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
5278	RevPropVelBBin1	Proportion update rev direction chord B bin 1 velocity Proportion update reverse direction chord B bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5280	RevPropBBin1	Rev direction chord B bin 1 proportion Reverse direction chord B bin 1 proportion.	R	Y			float	-	-	float32	-				
5282	IsRevPropCDfltBin1	Rev chord C bin 1 default proportion indicator Reverse direction chord C bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
5284	RevPropVelCBin1	Proportion update rev direction chord C bin 1 velocity Proportion update reverse direction chord C bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5286	RevPropCBin1	Rev direction chord C bin 1 proportion Reverse direction chord C bin 1 proportion.	R	Y			float	-	-	float32	-				
5288	IsRevPropDDfltBin1	Rev chord D bin 1 default proportion indicator Reverse direction chord D bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
5290	RevPropVelDBin1	Proportion update rev direction chord D bin 1 velocity Proportion update reverse direction chord D bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5292	RevPropDBin1	Rev direction chord D bin 1 proportion Reverse direction chord D bin 1 proportion.	R	Y			float	-	-	float32	-				
5294	IsRevPropADfltBin2	Rev chord A bin 2 default proportion indicator Reverse direction chord A bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5296	RevPropVelABin2	Proportion update rev direction chord A bin 2 velocity Proportion update reverse direction chord A bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5298	RevPropABin2	Rev direction chord A bin 2 proportion Reverse direction chord A bin 2 proportion.	R	Y			float	-	-	float32	-				
5300	IsRevPropBDfltBin2	Rev chord B bin 2 default proportion indicator Reverse direction chord B bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5302	RevPropVelBBin2	Proportion update rev direction chord B bin 2 velocity Proportion update reverse direction chord B bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5304	RevPropBBin2	Rev direction chord B bin 2 proportion Reverse direction chord B bin 2 proportion.	R	Y			float	-	-	float32	-				
5306	IsRevPropCDfltBin2	Rev chord C bin 2 default proportion indicator Reverse direction chord C bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5308	RevPropVelCBin2	Proportion update rev direction chord C bin 2 velocity Proportion update reverse direction chord C bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5310	RevPropCBin2	Rev direction chord C bin 2 proportion Reverse direction chord C bin 2 proportion.	R	Y			float	-	-	float32	-				
5312	IsRevPropDDfltBin2	Rev chord D bin 2 default proportion indicator Reverse direction chord D bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
5314	RevPropVelDBin2	Proportion update rev direction chord D bin 2 velocity Proportion update reverse direction chord D bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5316	RevPropDBin2	Rev direction chord D bin 2 proportion Reverse direction chord D bin 2 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5318	IsRevPropADfltBin3	Rev chord A bin 3 default proportion indicator Reverse direction chord A bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5320	RevPropVelABin3	Proportion update rev direction chord A bin 3 velocity Proportion update reverse direction chord A bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5322	RevPropABin3	Rev direction chord A bin 3 proportion Reverse direction chord A bin 3 proportion.	R	Y			float	-	-	float32	-				
5324	IsRevPropBDfltBin3	Rev chord B bin 3 default proportion indicator Reverse direction chord B bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5326	RevPropVelBBin3	Proportion update rev direction chord B bin 3 velocity Proportion update reverse direction chord B bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5328	RevPropBBin3	Rev direction chord B bin 3 proportion Reverse direction chord B bin 3 proportion.	R	Y			float	-	-	float32	-				
5330	IsRevPropCDfltBin3	Rev chord C bin 3 default proportion indicator Reverse direction chord C bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5332	RevPropVelCBin3	Proportion update rev direction chord C bin 3 velocity Proportion update reverse direction chord C bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5334	RevPropCBin3	Rev direction chord C bin 3 proportion Reverse direction chord C bin 3 proportion.	R	Y			float	-	-	float32	-				
5336	IsRevPropDDfltBin3	Rev chord D bin 3 default proportion indicator Reverse direction chord D bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
5338	RevPropVelDBin3	Proportion update rev direction chord D bin 3 velocity Proportion update reverse direction chord D bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5340	RevPropDBin3	Rev direction chord D bin 3 proportion Reverse direction chord D bin 3 proportion.	R	Y			float	-	-	float32	-				
5342	IsRevPropADfltBin4	Rev chord A bin 4 default proportion indicator Reverse direction chord A bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5344	RevPropVelABin4	Proportion update rev direction chord A bin 4 velocity Proportion update reverse direction chord A bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5346	RevPropABin4	Rev direction chord A bin 4 proportion Reverse direction chord A bin 4 proportion.	R	Y			float	-	-	float32	-				
5348	IsRevPropBDfltBin4	Rev chord B bin 4 default proportion indicator Reverse direction chord B bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5350	RevPropVelBBin4	Proportion update rev direction chord B bin 4 velocity Proportion update reverse direction chord B bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5352	RevPropBBin4	Rev direction chord B bin 4 proportion Reverse direction chord B bin 4 proportion.	R	Y			float	-	-	float32	-				
5354	IsRevPropCDfltBin4	Rev chord C bin 4 default proportion indicator Reverse direction chord C bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5356	RevPropVelCBin4	Proportion update rev direction chord C bin 4 velocity Proportion update reverse direction chord C bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5358	RevPropCBin4	Rev direction chord C bin 4 proportion Reverse direction chord C bin 4 proportion.	R	Y			float	-	-	float32	-				
5360	IsRevPropDDfltBin4	Rev chord D bin 4 default proportion indicator Reverse direction chord D bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
5362	RevPropVelDBin4	Proportion update rev direction chord D bin 4 velocity Proportion update reverse direction chord D bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5364	RevPropDBin4	Rev direction chord D bin 4 proportion Reverse direction chord D bin 4 proportion.	R	Y			float	-	-	float32	-				
5366	IsRevPropADfltBin5	Rev chord A bin 5 default proportion indicator Reverse direction chord A bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5368	RevPropVelABin5	Proportion update rev direction chord A bin 5 velocity Proportion update reverse direction chord A bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5370	RevPropABin5	Rev direction chord A bin 5 proportion Reverse direction chord A bin 5 proportion.	R	Y			float	-	-	float32	-				
5372	IsRevPropBDfltBin5	Rev chord B bin 5 default proportion indicator Reverse direction chord B bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5374	RevPropVelBBin5	Proportion update rev direction chord B bin 5 velocity Proportion update reverse direction chord B bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5376	RevPropBBin5	Rev direction chord B bin 5 proportion Reverse direction chord B bin 5 proportion.	R	Y			float	-	-	float32	-				
5378	IsRevPropCDfltBin5	Rev chord C bin 5 default proportion indicator Reverse direction chord C bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5380	RevPropVelCBin5	Proportion update rev direction chord C bin 5 velocity Proportion update reverse direction chord C bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5382	RevPropCBin5	Rev direction chord C bin 5 proportion Reverse direction chord C bin 5 proportion.	R	Y			float	-	-	float32	-				
5384	IsRevPropDDfltBin5	Rev chord D bin 5 default proportion indicator Reverse direction chord D bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
5386	RevPropVelDBin5	Proportion update rev direction chord D bin 5 velocity Proportion update reverse direction chord D bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5388	RevPropDBin5	Rev direction chord D bin 5 proportion Reverse direction chord D bin 5 proportion.	R	Y			float	-	-	float32	-				
5390	IsRevPropADfltBin6	Rev chord A bin 6 default proportion indicator Reverse direction chord A bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5392	RevPropVelABin6	Proportion update rev direction chord A bin 6 velocity Proportion update reverse direction chord A bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5394	RevPropABin6	Rev direction chord A bin 6 proportion Reverse direction chord A bin 6 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5396	IsRevPropBDfltBin6	Rev chord B bin 6 default proportion indicator Reverse direction chord B bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5398	RevPropVelBBin6	Proportion update rev direction chord B bin 6 velocity Proportion update reverse direction chord B bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5400	RevPropBBin6	Rev direction chord B bin 6 proportion Reverse direction chord B bin 6 proportion.	R	Y			float	-	-	float32	-				
5402	IsRevPropCDfltBin6	Rev chord C bin 6 default proportion indicator Reverse direction chord C bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5404	RevPropVelCBin6	Proportion update rev direction chord C bin 6 velocity Proportion update reverse direction chord C bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5406	RevPropCBin6	Rev direction chord C bin 6 proportion Reverse direction chord C bin 6 proportion.	R	Y			float	-	-	float32	-				
5408	IsRevPropDDfltBin6	Rev chord D bin 6 default proportion indicator Reverse direction chord D bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
5410	RevPropVelDBin6	Proportion update rev direction chord D bin 6 velocity Proportion update reverse direction chord D bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5412	RevPropDBin6	Rev direction chord D bin 6 proportion Reverse direction chord D bin 6 proportion.	R	Y			float	-	-	float32	-				
5414	IsRevPropADfltBin7	Rev chord A bin 7 default proportion indicator Reverse direction chord A bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5416	RevPropVelABin7	Proportion update rev direction chord A bin 7 velocity Proportion update reverse direction chord A bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5418	RevPropABin7	Rev direction chord A bin 7 proportion Reverse direction chord A bin 7 proportion.	R	Y			float	-	-	float32	-				
5420	IsRevPropBDfltBin7	Rev chord B bin 7 default proportion indicator Reverse direction chord B bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5422	RevPropVelBBin7	Proportion update rev direction chord B bin 7 velocity Proportion update reverse direction chord B bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5424	RevPropBBin7	Rev direction chord B bin 7 proportion Reverse direction chord B bin 7 proportion.	R	Y			float	-	-	float32	-				
5426	IsRevPropCDfltBin7	Rev chord C bin 7 default proportion indicator Reverse direction chord C bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5428	RevPropVelCBin7	Proportion update rev direction chord C bin 7 velocity Proportion update reverse direction chord C bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5430	RevPropCBin7	Rev direction chord C bin 7 proportion Reverse direction chord C bin 7 proportion.	R	Y			float	-	-	float32	-				
5432	IsRevPropDDfltBin7	Rev chord D bin 7 default proportion indicator Reverse direction chord D bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
5434	RevPropVelDBin7	Proportion update rev direction chord D bin 7 velocity Proportion update reverse direction chord D bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5436	RevPropDBin7	Rev direction chord D bin 7 proportion Reverse direction chord D bin 7 proportion.	R	Y			float	-	-	float32	-				
5438	IsRevPropADfltBin8	Rev chord A bin 8 default proportion indicator Reverse direction chord A bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5440	RevPropVelABin8	Proportion update rev direction chord A bin 8 velocity Proportion update reverse direction chord A bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5442	RevPropABin8	Rev direction chord A bin 8 proportion Reverse direction chord A bin 8 proportion.	R	Y			float	-	-	float32	-				
5444	IsRevPropBDfltBin8	Rev chord B bin 8 default proportion indicator Reverse direction chord B bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5446	RevPropVelBBin8	Proportion update rev direction chord B bin 8 velocity Proportion update reverse direction chord B bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5448	RevPropBBin8	Rev direction chord B bin 8 proportion Reverse direction chord B bin 8 proportion.	R	Y			float	-	-	float32	-				
5450	IsRevPropCDfltBin8	Rev chord C bin 8 default proportion indicator Reverse direction chord C bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5452	RevPropVelCBin8	Proportion update rev direction chord C bin 8 velocity Proportion update reverse direction chord C bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5454	RevPropCBin8	Rev direction chord C bin 8 proportion Reverse direction chord C bin 8 proportion.	R	Y			float	-	-	float32	-				
5456	IsRevPropDDfltBin8	Rev chord D bin 8 default proportion indicator Reverse direction chord D bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
5458	RevPropVelDBin8	Proportion update rev direction chord D bin 8 velocity Proportion update reverse direction chord D bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5460	RevPropDBin8	Rev direction chord D bin 8 proportion Reverse direction chord D bin 8 proportion.	R	Y			float	-	-	float32	-				
5462	IsRevPropADfltBin9	Rev chord A bin 9 default proportion indicator Reverse direction chord A bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5464	RevPropVelABin9	Proportion update rev direction chord A bin 9 velocity Proportion update reverse direction chord A bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5466	RevPropABin9	Rev direction chord A bin 9 proportion Reverse direction chord A bin 9 proportion.	R	Y			float	-	-	float32	-				
5468	IsRevPropBDfltBin9	Rev chord B bin 9 default proportion indicator Reverse direction chord B bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5470	RevPropVelBBin9	Proportion update rev direction chord B bin 9 velocity Proportion update reverse direction chord B bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5472	RevPropBBin9	Rev direction chord B bin 9 proportion Reverse direction chord B bin 9 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5474	IsRevPropCDfltBin9	Rev chord C bin 9 default proportion indicator Reverse direction chord C bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5476	RevPropVelCBin9	Proportion update rev direction chord C bin 9 velocity Proportion update reverse direction chord C bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5478	RevPropCBin9	Rev direction chord C bin 9 proportion Reverse direction chord C bin 9 proportion.	R	Y			float	-	-	float32	-				
5480	IsRevPropDDfltBin9	Rev chord D bin 9 default proportion indicator Reverse direction chord D bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
5482	RevPropVelDBin9	Proportion update rev direction chord D bin 9 velocity Proportion update reverse direction chord D bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5484	RevPropDBin9	Rev direction chord D bin 9 proportion Reverse direction chord D bin 9 proportion.	R	Y			float	-	-	float32	-				
5486	IsRevPropADfltBin10	Rev chord A bin 10 default proportion indicator Reverse direction chord A bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5488	RevPropVelABin10	Proportion update rev direction chord A bin 10 velocity Proportion update reverse direction chord A bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5490	RevPropABin10	Rev direction chord A bin 10 proportion Reverse direction chord A bin 10 proportion.	R	Y			float	-	-	float32	-				
5492	IsRevPropBDfltBin10	Rev chord B bin 10 default proportion indicator Reverse direction chord B bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5494	RevPropVelBBin10	Proportion update rev direction chord B bin 10 velocity Proportion update reverse direction chord B bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5496	RevPropBBin10	Rev direction chord B bin 10 proportion Reverse direction chord B bin 10 proportion.	R	Y			float	-	-	float32	-				
5498	IsRevPropCDfltBin10	Rev chord C bin 10 default proportion indicator Reverse direction chord C bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5500	RevPropVelCBin10	Proportion update rev direction chord C bin 10 velocity Proportion update reverse direction chord C bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5502	RevPropCBin10	Rev direction chord C bin 10 proportion Reverse direction chord C bin 10 proportion.	R	Y			float	-	-	float32	-				
5504	IsRevPropDDfltBin10	Rev chord D bin 10 default proportion indicator Reverse direction chord D bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
5506	RevPropVelDBin10	Proportion update rev direction chord D bin 10 velocity Proportion update reverse direction chord D bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
5508	RevPropDBin10	Rev direction chord D bin 10 proportion Reverse direction chord D bin 10 proportion.	R	Y			float	-	-	float32	-				
5542	SpdSndSpread	Speed of sound path spread The difference between the maximum and minimum speeds of sound of the velocity measurement chords (SndVelA..SndVelD). It is not calculated when the average flow velocity (AvgFlow) is not between the minimum flow velocity for CRange test (SndSpdChkMinVel) and the maximum flow velocity for CRange test (SndSpdChkMaxVel).	R				float	m/s	ft/s	float32	m/s				
5544	SndVelDiffA	Chord A speed of sound difference from average speed of sound The chord A speed of sound (SndVelA) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
5546	SndVelDiffB	Chord B speed of sound difference from average speed of sound The chord B speed of sound (SndVelB) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
5548	SndVelDiffC	Chord C speed of sound difference from average speed of sound The chord C speed of sound (SndVelC) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
5550	SndVelDiffD	Chord D speed of sound difference from average speed of sound The chord D speed of sound (SndVelD) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
5552	FlowVelRatioA	Chord A flow velocity ratio Ratio of chord A flow velocity (FlowVelA) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
5554	FlowVelRatioB	Chord B flow velocity ratio Ratio of chord B flow velocity (FlowVelB) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
5556	FlowVelRatioC	Chord C flow velocity ratio Ratio of chord C flow velocity (FlowVelC) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
5558	FlowVelRatioD	Chord D flow velocity ratio Ratio of chord D flow velocity (FlowVelD) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
5560	FlowVelA	Flow velocity for chord A Chord A flow velocity.	R				float	m/s	ft/s	float32	m/s				
5562	FlowVelB	Flow velocity for chord B Chord B flow velocity.	R				float	m/s	ft/s	float32	m/s				
5564	FlowVelC	Flow velocity for chord C Chord C flow velocity.	R				float	m/s	ft/s	float32	m/s				
5566	FlowVelD	Flow velocity for chord D Chord D flow velocity.	R				float	m/s	ft/s	float32	m/s				
5568	AvgWtdFlowVel	Average weighted flow velocity (no calibration applied) Average weighted flow velocity (per batch). When all active chords are non-failed, the average weighted flow velocity is a weighted sum of the chord velocity measurements, WtA, WtB, WtC, WtD, where the chord weights are determined by the meter geometry. The diagnostic chord is not included in the average. See also FlowVelA, FlowVelB, FlowVelC, FlowVelD.	R				float	m/s	ft/s	float32	m/s				
5570	DryCalVel	Flow velocity after dry cal and before flow cal Flow velocity after application of dry-calibration coefficients (A coefficients FwdA0, FwdA1, FwdA2, FwdA3, RevA0, RevA1, RevA2 and RevA3) and before application of the flow calibration method (CalMethod) to the average weighted flow velocity (AvgWtdFlowVel).	R				float	m/s	ft/s	float32	m/s				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5572	LinearMtrFctr	Piecewise linearization meter factor Piecewise linearization meter factor. This meter factor is only applied to the flow velocity when the piecewise linearization method is selected via the calibration method (CalMethod) data point. It is computed from the piecewise velocities and the corresponding gains plus the offsets.	R				float	-	-	float32	-				
5574	AvgFlow	Average flow velocity (dry and flow calibration applied) Average flow velocity (per batch). This is the dry cal velocity (DryCalVel) with any selected flow calibration method (CalMethod) as well as the flow profile correction factor (CorrectionFactor) applied.	R				float	m/s	ft/s	float32	m/s				
5576	WtA	Chord A weight for calculating average weighted velocity Chord A weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
5578	WtB	Chord B weight for calculating average weighted velocity Chord B weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
5580	WtC	Chord C weight for calculating average weighted velocity Chord C weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
5582	WtD	Chord D weight for calculating average weighted velocity Chord D weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
5584	PortAngle	Meter port angle for speed of sound correction The meter port angle for the speed of sound port angle factor correction. The port angle is computed from chord "X" dimension (XA) and pipe ID dimension (PipeDiam). See also the speed of sound correction factor (SOSGeometryCorrFctrA, SOSGeometryCorrFctrB, SOSGeometryCorrFctrC, SOSGeometryCorrFctrD) data points.	R				float	deg	deg	float32	deg				
5586	SndVelA	Speed of sound for chord A Speed of sound for chord A including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrA).	R				float	m/s	ft/s	float32	m/s				
5588	SndVelB	Speed of sound for chord B Speed of sound for chord B including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrB).	R				float	m/s	ft/s	float32	m/s				
5590	SndVelC	Speed of sound for chord C Speed of sound for chord C including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrC).	R				float	m/s	ft/s	float32	m/s				
5592	SndVelD	Speed of sound for chord D Speed of sound for chord D including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrD).	R				float	m/s	ft/s	float32	m/s				
5594	AvgSndVel	Average speed of sound Average speed of sound (per batch) of all non-failed velocity measurement chords. The diagnostic chord's (IsDiagnosticChordEnabled) speed of sound is not included in the average.	R	Y			float	m/s	ft/s	float32	m/s				
5596	CalVol	Calibration accumulated uncorrected volume Calibration accumulated uncorrected volume. This is the accumulation of the uncorrected volume while the CalFlag data point is set to TRUE (1) or the DI1 gates the calibration with IsDI1UsedForCal as indicated by IsCalOnBatch.	R				float	m3	ft3	float32	m3				
5598	CalTime	Calibration elapsed time Calibration elapsed time. This is the elapsed time while the CalFlag data point is set to TRUE (1) or the DI1 gates the calibration with IsDI1UsedForCal as indicated by IsCalOnBatch. Note that the native units UNIT_MKIII_PULSES are counted in 1000 pulses/second while the Modbus UNIT_MKII_PULSES are counted as 1 pulse/0.1048575 seconds	R				float	MkII time pulses	MkII time pulses	float32	MkIII time pulses				
5600	AGA10SndVelStatus	Status of calculation of speed of sound from gas composition Status of optional calculation of speed of sound from gas composition. Value Description 0 Calculations successful. 1 Calculations not performed as the feature is not enabled (IsOptionalAGA10CalcEnabled). 2 Calculations not performed as the AGA8 method is not the Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017). 3 Calculations not performed as the AGA8 calculations are invalid (AGA8BaseCalcValidity, AGA8FlowCalcValidity). 4 Calculations not performed due to encountered division by zero.	R				float	-	-	uint8	-				
5602	AGA10SndVel	Speed of sound from gas mixture Speed of sound from gas mixture that is calculated when the speed of sound from gas composition calculation is enabled (IsOptionalAGA10CalcEnabled). When the AGA8 method selector (HCH_Method) is Detail then speed of sound is calculated as per AGA10, 2003 specification. When the AGA8 method selector (HCH_Method) is configured as GERG-2008 then speed of sound is calculated as per AGA8 Part 2, 2017 specification.	R				float	m/s	ft/s	float32	m/s				
5604	Symmetry	Symmetry measurement Meter measure of symmetry. This compares the upper chord velocities (FlowVelA + FlowVelB) to the lower chord velocities (FlowVelC + FlowVelD). For perfectly symmetrical flow, this value equals 1.0. See also CrossFlow and ProfileFactor. This is only applicable when meter device number (DeviceNumber) is 3414 or 3418.	R				float	-	-	float32	-				
5606	CrossFlow	Cross-flow measurement Meter measure of cross-flow. This compares the flow velocities from one side of the meter (FlowVelA + FlowVelC) to the other side (FlowVelB + FlowVelD). This value is equal to 1.0 when there is no cross-flow. See also Symmetry and ProfileFactor. This is only applicable when meter device number (DeviceNumber) is 3414 or 3418.	R				float	-	-	float32	-				
5608	TurbulenceA	Chord A turbulence measurement Meter turbulence A is the standard deviation of delta time (SDevDltTmA) as a percentage of delta time (DltTmA) for chord A. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
5610	TurbulenceB	Chord B turbulence measurement Meter turbulence B is the standard deviation of delta time (SDevDltTmB) as a percentage of delta time (DltTmB) for chord B. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
5612	TurbulenceC	Chord C turbulence measurement Meter turbulence C is the standard deviation of delta time (SDevDltTmC) as a percentage of delta time (DltTmC) for chord C. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
5614	TurbulenceD	Chord D turbulence measurement Meter turbulence D is the standard deviation of delta time (SDevDltTmD) as a percentage of delta time (DltTmD) for chord D. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
5616	ProfileFactor	Profile factor measurement The ratio of the sum of the velocities of the inner chords (FlowVelB and FlowVelC) to the sum of the velocities of the outer chords (FlowVelA and FlowVelD). This ratio is a numerical representation of the velocities taken in cross section in the direction of flow. When out of tolerance (AbnormalProfileDetectionLmt or LiquidDetectionSDevProfileFactorLmt), it may be used to diagnose abnormal flow conditions. This is only applicable when meter device number (DeviceNumber) is 3414 or 3418.	R				float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5618	SwirlAngle	Swirl angle measurement The arctangent of the ratio of the tangential velocity, computed from the individual chordal velocities (FlowVelA, FlowVelB, FlowVelC and FlowVelD) to the average flow velocity (AvgFlow). This is only applicable when meter device number (DeviceNumber) is 3414 or 3418. See also CrossFlow, Symmetry and ProfileFactor.	R				float	deg	deg	int8	deg				
5620	AccumFlowTime	Accumulated flow time Accumulated time when flow is greater than the cutoff.	R				float	sec	sec	uint32	sec				
5622	QCutOff	Volumetric flow rate threshold below which the flow rate is considered zero The volumetric flow rate below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. This value is computed by multiplying the flow velocity low cutoff (ZeroCut) by the meter inside pipe area (PipeArea). When the flow rate is above this threshold, the cutoff indicator (IsFlowAboveCutoff) is TRUE (1).	R				float	volume/time	volume/time	float32	m3/hr				
5624	QMeter	Volumetric flow rate (no expansion correction) Volumetric flow rate (no expansion correction). Computed as average flow (AvgFlow) times pipe area (PipeArea).	R				float	volume/time	volume/time	float32	m3/hr				
5626	ExpCorrPressure	Pressure expansion correction factor Pressure expansion correction factor. If pressure expansion correction is enabled via the Enable for pressure expansion correction (EnableExpCorrPress), then this value, is computed as (1.0 + (3.0 x strain per unit stress (StrainPerUnitStress) x (absolute flow pressure (AbsFlowPressure) - reference pressure (RefPressExpCoef)))), otherwise this value is unity (1.0) Along with temperature expansion correction factor (ExpCorrTemperature), this value is used to compute the corrected flow (QExpCorr) from the uncorrected flow (QMeter).	R				float	-	-	float32	-				
5628	ExpCorrTemperature	Temperature expansion correction factor in three dimensions The temperature expansion correction factor used to correct volumes. If temperature expansion correction is enabled (EnableExpCorrTemp), then this value is calculated, otherwise it is set to 1. This correction factor is computed from the linear expansion coefficient (LinearExpansionCoef), the reference temperature (RefTempLinearExpCoef) and the flow temperature (FlowTemperature) as: (1 + 3 * linear expansion coefficient * (flow temperature - reference temperature)) Typically, this correction factor is applied to the volumetric flows (QExpCorr and those derived from it, QFlow and QBase).	R				float	-	-	float32	-				
5630	QExpCorr	Expansion corrected (flow-condition) vol flow Expansion corrected (flow-condition) volumetric flow rate, the volumetric flow rate with no expansion correction (QMeter) with pressure expansion correction (ExpCorrPressure) and temperature expansion correction (ExpCorrTemperature) applied.	R				float	volume/time	volume/time	float32	m3/hr				
5632	CorrectionFactor	Flow profile correction factor Flow profile correction factor (for single and dual-path meters only) either manually entered (SpecCorrectionFactor) or calculated by the meter.	R				float	-	-	float32	-				
5634	QFlow	Volumetric flow rate at flow condition Flow-condition volumetric flow rate, corrected for flow-condition expansion (QExpCorr) and flow profile correction factor (CorrectionFactor).	R				float	volume/time	volume/time	float32	m3/hr				
5636	AGA8FlowToBaseConversion	AGA8-calculated flow- to base-condition conversion factor AGA8-calculated flow- to base-condition conversion factor is calculated as AbsFlowPressure (AbsFlowPressure) / PBase (PBase) * TBase (TBase) / FlowTemperature (FlowTemperature) * Zbase (ZBase) / Zflow (ZFlow). This is used for calculating base-condition (corrected) volumetric flow rate (QBase) from the flow-condition volumetric flow rate (QFlow).	R				float	-	-	float32	-				
5638	QBase	Volumetric flow rate at base condition The base-condition volumetric flow rate. QBase = Qflow (QFlow) * AGA8FlowToBaseConversion (AGA8FlowToBaseConversion)	R				float	volume/time	volume/time	float32	m3/hr				
5640	EnergyRate	Energy flow rate Energy rate. This is applicable when the heating value is fixed (specified) or read from a gas chromatograph. It is computed as QBase with HeatingValueInUse applied.	R				float	energy/time	energy/time	float32	MJ/hr				
5642	MassRate	Mass flow rate Mass flow rate. This is applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (AGA8 calculation method (HCH_Method) is not set to "None"). It is computed as QFlow with RhoMixFlow applied.	R				float	mass/time	mass/time	float32	kg/hr				
5644	ExpCorrTemperatureForVel	Temperature expansion correction factor in a single dimension The temperature expansion correction factor for linear measurements. If temperature expansion correction is enabled (EnableExpCorrTemp), then this value is calculated, otherwise it is set to 1. This correction factor is computed from the linear expansion coefficient (LinearExpansionCoef), the reference temperature (RefTempLinearExpCoef) and the flow temperature (FlowTemperature) as: (1 + linear expansion coefficient * (flow temperature - reference temperature)) Typically, this correction factor is applied to the speeds of sound (SndVelA, SndVelB, SndVelC, SndVelD) to correct for changes in the L distances (LA, LB, LC, LD) .	R				float	-	-	float32	-				
5650	EmRateActual	Actual transducer firing (emission) rate Actual transducer firing (emission) rate. This is the time between firing two different transducers.	R	Y			float	ms	ms	float32	ms				
5652	StackEmRateActual	Actual stacking transducer firing (emission) rate Actual stacking transducer firing (emission) rate. The meter will wait this amount of time before firing the same transducer if stacking is set to >1.	R	Y			float	ms	ms	float32	ms				
5654	BatchUpdatePeriod	Desired batch update period Desired batch update period based on the configured batch update period (SpecBatchUpdtPeriod) and stack size (StackSize). The actual duration (BatchTimeSec) will vary slightly around this value from batch to batch.	R				float	ms	ms	float32	sec				
5680	SysTemp	System temperature System temperature. The temperature is measured on the CPU Module and will read higher than the ambient due to internal heat rise. The alarm limits are system temperature low limit (SysTempLoLmt) and system temperature high limit (SysTempHiLmt). The alarm is IsElecTempOutOfRange.	R				float	deg C	deg F	float32	deg C				
5682	SysVoltage2V5	System 2.5V reading Actual voltage of the system 2.5V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage2V5LoLmt and SysVoltage2V5HiLmt.	R				float	V	V	float32	V				
5684	SysVoltage3V3	System 3.3V reading Actual voltage of the system 3.3V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage3V3LoLmt and SysVoltage3V3HiLmt.	R				float	V	V	float32	V				
5686	Reserved		R				float								

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5688	SysVoltage1V	System 1.0V reading Actual voltage of the system 1.0V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage1VLoLmt and SysVoltage1VHiLmt.	R				float	V	V	float32	V				
5690	SysVoltage1V2	System 1.2V reading Actual voltage of the system 1.2V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage1V2LoLmt and SysVoltage1V2HiLmt.	R				float	V	V	float32	V				
5692	SysTempAcqModule	System temperature - Acquisition Module The temperature is measured in the Acquisition Module will read higher than the ambient due to internal heat rise. The alarm limits are system temperature low limit (SysTempAcqModuleLoLmt) and system temperature high limit (SysTempAcqModuleHiLmt). The alarm is IsElecTempOutOfRange.	R				float	deg C	deg F	float32	deg C				
5694	SysVoltageAcqModule1V2	Acquisition Module 1.2V reading Actual voltage of the system 1.2V supply in the Acquisition Module. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage1V2LoLmt and SysVoltage1V2HiLmt.	R				float	V	V	float32	V				
5696	SysVoltageAcqModule2V5	Acquisition Module 2.5V reading Actual voltage of the system 2.5V supply in the Acquisition Module. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage2V5LoLmt and SysVoltage2V5HiLmt.	R				float	V	V	float32	V				
5698	SysVoltageAcqModule3V3	Acquisition Module 3.3V reading Actual voltage of the system 3.3V supply in the Acquisition Module. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage3V3LoLmt and SysVoltage3V3HiLmt.	R				float	V	V	float32	V				
5700	SEA1	Batch average signal energy (A1) Average batch signal energy (A1).	R				float	energy	energy	float32	energy				
5702	SEA2	Batch average signal energy (A2) Average batch signal energy (A2).	R				float	energy	energy	float32	energy				
5704	SEB1	Batch average signal energy (B1) Average batch signal energy (B1).	R				float	energy	energy	float32	energy				
5706	SEB2	Batch average signal energy (B2) Average batch signal energy (B2).	R				float	energy	energy	float32	energy				
5708	SEC1	Batch average signal energy (C1) Average batch signal energy (C1).	R				float	energy	energy	float32	energy				
5710	SEC2	Batch average signal energy (C2) Average batch signal energy (C2).	R				float	energy	energy	float32	energy				
5712	SED1	Batch average signal energy (D1) Average batch signal energy (D1).	R				float	energy	energy	float32	energy				
5714	SED2	Batch average signal energy (D2) Average batch signal energy (D2).	R				float	energy	energy	float32	energy				
5716	NEA1	Batch average noise energy (A1) Average batch noise energy (A1).	R				float	energy	energy	float32	energy				
5718	NEA2	Batch average noise energy (A2) Average batch noise energy (A2).	R				float	energy	energy	float32	energy				
5720	NEB1	Batch average noise energy (B1) Average batch noise energy (B1).	R				float	energy	energy	float32	energy				
5722	NEB2	Batch average noise energy (B2) Average batch noise energy (B2).	R				float	energy	energy	float32	energy				
5724	NEC1	Batch average noise energy (C1) Average batch noise energy (C1).	R				float	energy	energy	float32	energy				
5726	NEC2	Batch average noise energy (C2) Average batch noise energy (C2).	R				float	energy	energy	float32	energy				
5728	NED1	Batch average noise energy (D1) Average batch noise energy (D1).	R				float	energy	energy	float32	energy				
5730	NED2	Batch average noise energy (D2) Average batch noise energy (D2).	R				float	energy	energy	float32	energy				
5732	SNRA1	Average signal-to-noise ratio (A1) Average signal-to-noise ratio (A1).	R				float	dB	dB	float32	dB				
5734	SNRA2	Average signal-to-noise ratio (A2) Average signal-to-noise ratio (A2).	R				float	dB	dB	float32	dB				
5736	SNRB1	Average signal-to-noise ratio (B1) Average signal-to-noise ratio (B1).	R				float	dB	dB	float32	dB				
5738	SNRB2	Average signal-to-noise ratio (B2) Average signal-to-noise ratio (B2).	R				float	dB	dB	float32	dB				
5740	SNRC1	Average signal-to-noise ratio (C1) Average signal-to-noise ratio (C1).	R				float	dB	dB	float32	dB				
5742	SNRC2	Average signal-to-noise ratio (C2) Average signal-to-noise ratio (C2).	R				float	dB	dB	float32	dB				
5744	SNRD1	Average signal-to-noise ratio (D1) Average signal-to-noise ratio (D1).	R				float	dB	dB	float32	dB				
5746	SNRD2	Average signal-to-noise ratio (D2) Average signal-to-noise ratio (D2).	R				float	dB	dB	float32	dB				
5750	EtaStatusBA	Peak switch detection status - BA (BG meters only) Peak switch detection status - BA (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			
5752	EtaStatusCA	Peak switch detection status - CA (BG meters only) Peak switch detection status - CA (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5754	EtaStatusBD	Peak switch detection status - BD (BG meters only) Peak switch detection status - BD (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			
5756	EtaStatusCD	Peak switch detection status - CD (BG meters only) Peak switch detection status - CD (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			
5760	Reserved		R				float								
5762	Reserved		R				float								
5764	Reserved		R				float								
5766	SNRatioDB	Minimum signal-to-noise threshold in decibels Represents the conversion of the minimum signal-to-noise threshold (SNRatio) to decibels by multiplying ten times the log base ten.	R				float	dB	dB	float32	dB				
5768	EtaBA	Chord B to chord A peak switch detector value Value computed by comparing chords A and B which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusBA. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
5770	EtaCA	Chord C to chord A peak switch detector value Value computed by comparing chords A and C which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusCA. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
5772	EtaBD	Chord B to chord D peak switch detector value Value computed by comparing chords B and D which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusBD. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
5774	EtaCD	Chord C to chord D peak switch detector value Value computed by comparing chords C and D which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusCD. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
5776	XdcrMaintenanceGainRange	Gain range for transducer maintenance The maximum allowed difference between a path's gain (GainA1..GainD2) in dB from the lowest gain path. If chordal configuration (ChordalConfig) set to "BG", the gain value of inner chord path is compared with lowest path gain from the inner chords (Chord B, Chord C) and the gain value of outer chord path is compared with lowest gain from the other chords (Chord A, Chord D). If chordal configuration set to "Dual-X" or "N/A", the path gain is compared with the lowest gain path from all meter type chords. This check is used to set the chord's transducer maintenance required indicator (IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD).	RW	Y	Y	Y	float	gain (h/w)	gain (h/w)	float32	gain (dB)		20	1	40
5778	XdcrMaintenanceGainRange	Gain range for transducer maintenance The maximum allowed difference between a path's gain (GainA1..GainD2) in dB from the lowest gain path. If chordal configuration (ChordalConfig) set to "BG", the gain value of inner chord path is compared with lowest path gain from the inner chords (Chord B, Chord C) and the gain value of outer chord path is compared with lowest gain from the other chords (Chord A, Chord D). If chordal configuration set to "Dual-X" or "N/A", the path gain is compared with the lowest gain path from all meter type chords. This check is used to set the chord's transducer maintenance required indicator (IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD).	RW	Y	Y	Y	float	gain (dB)	gain (dB)	float32	gain (dB)		20	1	40
5780	XdcrMaintenanceSNRRange	SNR range for transducer maintenance The maximum allowed difference between a path's SNR (SNRA1..SNRD2) in dB from the highest SNR of any other path. If chordal configuration (ChordalConfig) set to "BG", the SNR value of inner chord path is compared with highest path SNR from the inner chords (Chord B, Chord C) and the SNR value of outer chord path is compared with highest SNR from the other chords (Chord A, Chord D). If chordal configuration set to "Dual-X" or "N/A", the path SNR is compared with the highest SNR path from all meter type chords. This check is used to set the chord's transducer maintenance required indicator (IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD).	RW	Y	Y	Y	float	dB	dB	float32	dB		20	1	3.40E+38
5800	TrigDeltaPosVolFlow	Amount of forward flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				
5802	TrigDeltaPosVolFlow	Amount of forward flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
5804	TrigDeltaNegVolFlow	Amount of reverse flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5806	TrigDeltaNegVolFlow	Amount of reverse flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
5808	TrigDeltaPosVolBase	Amount of forward base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				
5810	TrigDeltaPosVolBase	Amount of forward base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
5812	TrigDeltaNegVolBase	Amount of reverse base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				
5814	TrigDeltaNegVolBase	Amount of reverse base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
5816	TrigDeltaPosVolFlow	Amount of forward flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
5818	TrigDeltaNegVolFlow	Amount of reverse flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
5820	TrigDeltaPosVolBase	Amount of forward base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
5822	TrigDeltaNegVolBase	Amount of reverse base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
5824	PosEnergy	Forward accumulated energy Accumulation of flow energy in the forward direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	MJ	MMBtu	uint64	MJ				
5826	PosEnergy	Forward accumulated energy Accumulation of flow energy in the forward direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in MJ (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in MMBtu (multiply by 1,000,000,000 to add to accumulator)	uint64	MJ				
5828	NegEnergy	Reverse accumulated energy Accumulation of flow energy in the reverse direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	MJ	MMBtu	uint64	MJ				
5830	NegEnergy	Reverse accumulated energy Accumulation of flow energy in the reverse direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in MJ (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in MMBtu (multiply by 1,000,000,000 to add to accumulator)	uint64	MJ				
5832	PosMass	Forward accumulated mass Accumulation of flow mass in the forward direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	kg	lbm	uint64	kg				
5834	PosMass	Forward accumulated mass Accumulation of flow mass in the forward direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in kg (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in lbm (multiply by 1,000,000,000 to add to accumulator)	uint64	kg				
5836	NegMass	Reverse accumulated mass Accumulation of flow mass in the reverse direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	kg	lbm	uint64	kg				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5838	NegMass	Reverse accumulated mass Accumulation of flow mass in the reverse direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in kg (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in lbm (multiply by 1,000,000,000 to add to accumulator)	uint64	kg				
5840	AvgSoundVelLoLmt	Speed of sound lo-alarm limit The low limit for the average speed of sound range error (IsAvgSoundVelRangeErr) alarm. It is used strictly for alarming purposes and does not impact any other meter functionality. This is different from the minimum acquisition mode speed of sound (SSMin).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		300	0	1500
5842	AvgSoundVelHiLmt	Speed of sound hi-alarm limit The high limit for the average speed of sound range error (IsAvgSoundVelRangeErr) alarm. It is used strictly for alarming purposes and does not impact any other meter functionality. This is different from the maximum acquisition mode speed of sound (SSMax).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		450	0	1500
5844	SndSpdChkMinVel	Minimum flow velocity for CRange test Minimum flow velocity for performing the inter-chord speed of sound check (CRange) and calculating speed of sound path spread (SpdSndSpread).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		1	1	50
5846	SndSpdChkMaxVel	Maximum flow velocity for CRange test Maximum flow velocity for performing the inter-chord speed of sound check (CRange) and calculating speed of sound path spread (SpdSndSpread).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		30	1	50
5848	LowFlowLmt	Minimum velocity for updating chord proportions Minimum velocity for updating chord proportions. Chord proportions are not updated when the flow velocity is below this value.	RW	Y	Y	Y	float	m/s	ft/s	uint8	m/s		1	1	30
5850	Reserved		R				float								
5852	MinHoldTime	Minimum sampling hold time The minimum sampling hold time limit. This is the minimum amount of time the meter waits after firing a transducer before sampling the receiving transducer's signal. This value should only be changed at the factory or under the direction of Emerson Flow Support. After a firmware upgrade, this value may be automatically adjusted to be within the required limits.	RW	Y	Y	Y	float	us	us	float32	us		208	208	32000
5854	MaxHoldTm	Maximum sampling hold time The maximum sampling hold time limit. This is the maximum amount of time the meter waits after firing a transducer before sampling the receiving transducer's signal. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		32000	16	32000
5856	MeterMaxVel	Maximum meter velocity The maximum for the meter's average flow velocity (AvgFlow). This limit is used to generate an alarm meter velocity above maximum limit (IsMeterVelAboveMaxLmt), when the average flow velocity magnitude is above this limit. Note, however, that this limit does not affect the meter's measurement.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	1	50
5866	SwirlAngleHighLmt	Swirl angle high limit The flow swirl angle limit above the baseline (FwdBaselineSwirlAngle, RevBaselineSwirlAngle) beyond which there is increased uncertainty in flow measurement. It is set internally when the swirl angle limit (SwirlAngleLmt) is set.	R	Y			int	deg	deg	int8	deg				
5867	SwirlAngleLowLmt	Swirl angle low limit The flow swirl angle limit below the baseline (FwdBaselineSwirlAngle, RevBaselineSwirlAngle) beyond which there is increased uncertainty in flow measurement. It is set internally when the swirl angle limit (SwirlAngleLmt) is set.	R				int	deg	deg	int8	deg				
5868	SwirlAngleLmt	Swirl angle limit The flow swirl angle limit around the baseline (FwdBaselineSwirlAngle, RevBaselineSwirlAngle, SwirlAngleLowLmt, SwirlAngleHighLmt) beyond which there is increased uncertainty in flow measurement.	RW	Y	Y	Y	int	deg	deg	uint8	deg		5	0	90
5879	IsEstimatedFlowVelocityInUse	Using estimated flow velocity The meter is using non-failed chordal flow velocities and associated chord proportions to calculate the average weighted flow velocity (AvgWtdFlowVel). Recommended Actions: 1. Check that if a chord is manually set to inactive (IsBatchInactiveA, IsBatchInactiveB, IsBatchInactiveC, IsBatchInactiveD) using the Status Summary from the Meter Monitor in MeterLink™. If a chord is manually set to inactive then use Edit/Compare Configuration dialog in MeterLink™ to set chord active. 2. Check that if a chord has failed for batch (IsFailedForBatchA, IsFailedForBatchB, IsFailedForBatchC, IsFailedForBatchD) using the Status Summary from the Meter Monitor in MeterLink™. If failed, try to resolve the issue. 3. If this issue is unresolved, collect a Maintenance Log, Configuration file, and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Flow velocity estimation is in use (TRUE) Flow velocity estimation is not in use (FALSE)			
5880	IsMeterVelAboveMaxLmt	Meter velocity is above the maximum limit Velocity is above the meter maximum velocity (MeterMaxVel) limit. Recommended Actions: 1. This alarm indicates that you are running above a safe velocity limit which could damage the meter run or it could indicate that you are running above your upper calibration limit where the meter uncertainty could increase. Lower the velocity of the meter. 2. Use the Edit/Compare configuration screen in MeterLink™ to change the value of the meter maximum velocity (MeterMaxVel) if desired. It is recommended to set this either to the maximum calibrated velocity of the meter or to the maximum safe operating velocity of the meter run. The maximum safe operating velocity is typically meant to prevent erosion of the internal diameter of the pipe and to prevent damage to protrusions such as thermal wells.	R				int	-	-	boolean	-	Meter velocity not above maximum limit (FALSE) Meter velocity above maximum limit (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5881	IsAvgSoundVelRangeErr	Average speed of sound out of limits The average speed of sound (AvgSndVel) measured by the meter is outside the user determined high or low speed of sound limits (AvgSoundVelLoLmt, AvgSoundVelHiLmt). For HART applications, the HART average speed of sound out of limits alarm (AvgSndVelIsOutOfLimits) is used. Recommended Actions: 1. Compare the average speed of sound of the meter to the speed of sound calculated from gas composition. If the values match, it is recommended that you move the limits to position the average speed of sound within the limits. Use the Edit/Compare Configuration in MeterLink™ to modify AvgSoundVelHiLmt and AvgSoundVelLoLmt. 2. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	SOS within range (FALSE) SOS out of range (TRUE)			
5882	IsAcqModuleError	Acquisition Module error An Acquisition Module-related error has been detected. The CPU Module's measurement LED (MEAS) will flash green when proper communications with the Acquisition Module are restored. Recommended Actions: 1. If the CPU Module's measurement LED (MEAS) is not flashing green, check the acquisition cable between the Acquisition Module and the CPU Module. This is the cable that runs from the CPU Module up in the cylindrical enclosure down to the Acquisition Module in the lower enclosure to which all the transducer cables attach. Use a screwdriver to verify all the connections are secure. 2. If the CPU Module's measurement LED (MEAS) is still not flashing green, check the Acquisition Module error reasons (AcqModuleErrorReasons). 3. Replace the Acquisition Module. Contact your local area Emerson Flow service representative for a replacement module if a spare is not available. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	No Acquisition Module error (FALSE) Acquisition Module error detected (TRUE)			
5884	IsDailyLogFull	Daily archive log is full The daily archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadDailyLog. Recommended Actions: 1. Collect the daily archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadDailyLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
5885	IsHourlyLogFull	Hourly archive log is full The hourly archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadHourlyLog. Recommended Actions: 1. Collect the hourly archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadHourlyLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
5886	IsAuditLogFull	Audit archive log is full The audit archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadAuditLog. Recommended Actions: 1. Collect the audit archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadAuditLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
5887	IsAlarmLogFull	Alarm archive log is full The alarm archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadAlarmLog. Recommended Actions: 1. Collect the alarm archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadAlarmLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
5888	IsSystemLogFull	System archive log is full The system archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadSystemLog. Recommended Actions: 1. Collect the system archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadSystemLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
5889	IsSNRTooLow	Logical OR of SNR of active chords This alarm indicates Signal-to-noise ratio is below the minimum threshold for at least one chord. See also IsSNRTooLowA, IsSNRTooLowB, IsSNRTooLowC, IsSNRTooLowD.	R				int	-	-	boolean	-	SNR is acceptable (FALSE) SNR is too low (TRUE)			
5890	IsMeasSndSpdRange	Logical OR of active chords SOS out of range errors Logical ORing of measurement speed of sound out of range error for chords A, B, C, D. See also: IsMeasSndSpdRangeA, IsMeasSndSpdRangeB, IsMeasSndSpdRangeC, IsMeasSndSpdRangeD.	R				int	-	-	boolean	-	Chords SOS in range (FALSE) Chord SOS out of range (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5891	IsBatchDataRcvFailed	No data received by "batch" processing task This is used internally to reset the Acquisition Module when the "batch" processing task does not receive waveforms. Acquisition Module error (IsAcqModuleError) will always be present when this is set to TRUE (1).	R	Y			int	-	-	boolean	-	Batch receiving data (FALSE) Batch not receiving data (TRUE)			
5892	IsHardFailedA	Chord A hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			
5893	IsHardFailedB	Chord B hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5894	IsHardFailedC	Chord C hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			
5895	IsHardFailedD	Chord D hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			
5896	IsTooFewOperChords	Too few operating chords The number of operating chords is less than the minimum number required for a valid measurement (MinChord). Operating chords are those which are not manually set to inactive and not marked as failed. Recommended Actions: 1. Check the other alarms that indicate why a chord is hard failed (IsHardFailedA, IsHardFailedB, IsHardFailedC, IsHardFailedD). Resolving these should resolve this issue. 2. If this issue is unresolved, collect a Maintenance Log and Archive Log and contact your local area Emerson Flow service representative. See also MinChord and SystemStatus.	R				int	-	-	boolean	-	No error (FALSE) Error (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5897	IsElecTempOutOfRange	Electronics temperature is out of nominal range The temperature of the electronics is out of its nominal operating range. There are separate limits for the CPU and Acquisition Modules. For the CPU Module, the range is from the CPU temperature low limit (SysTempLoLmt) to the CPU temperature high limit (SysTempHiLmt). For the Acquisition Module, the range is from the Acquisition Module temperature low limit (SysTempAcqModuleLoLmt) to the Acquisition Module temperature high limit (SysTempAcqModuleHiLmt). Operating outside the nominal operating range could lead to a system failure. Recommended Actions: 1. Attempt to warm or cool the meter electronics housing. 2. If the electronics is mounted to the meter and the process fluid in the meter is over 65 °C, you must remote mount the electronics off from the meter body. 3. Collect a Maintenance Log using MeterLink™ while the meter is experiencing the issue, collect an Archive Log (Daily/Hourly/Alarm/Audit/System) using MeterLink™ from the meter and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Electronics temperature within range (FALSE) Electronics temperature out of range (TRUE)			
5898	IsElecVoltOutOfRange	Electronics voltage out of range The CPU Module system voltages or the Acquisition Module system voltages are out-of-range. Valid CPU Module voltages are SysVoltage1V, SysVoltage1V2, SysVoltage2V5, SysVoltage3V3 and valid Acquisition Module System voltages are SysVoltageAcqModule1V2, SysVoltageAcqModule2V5, SysVoltageAcqModule3V3. Recommended Actions: 1. Replace the CPU Module if one or more of the CPU voltages (SysVoltage1V, SysVoltage1V2, SysVoltage2V5 or SysVoltage3V3) is out-of-range. 2. Replace the Acquisition Module if one or more of the Acquisition Module voltages (SysVoltageAcqModule1V2, SysVoltageAcqModule2V5 or SysVoltageAcqModule3V3) is out-of-range. 3. If the issue is unresolved, contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	All electronics voltages within range (FALSE) One or more electronics voltages out of range (TRUE)			
5899	IsClkInvalid	Clock is not set correctly The meter's real-time clock is set to a date in the past. Recommended Actions: 1. The real-time clock has a power backup of about 2 weeks. If the meter has been without power for more than 2 weeks, the real-time clock will first stop updating and later reset back to January 1, 2000. If this is the issue, use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. If this does not correct the problem, the real-time clock or its backup power source may be damaged, and the CPU Module should be replaced. 2. The real-time clock has been set to a date that is older than the CPU Module's firmware, i.e. a date in the past. Use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. 3. Contact your local area Emerson Flow service representative for assistance in getting a replacement CPU Module.	R				int	-	-	boolean	-	Clock is valid (FALSE) Clock is invalid (TRUE)			
5900	TemperatureInvalid	Flow temperature invalid Temperature is invalid if the flow-condition temperature (FlowTemperature) is outside the limits defined by the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). Temperature is invalid if the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Temperature is invalid if the meter is configured to receive the flow-condition temperature value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34052) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the temperature sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog temperature device, verify that the temperature sensor is properly wired to connector TB2-B pins 3 & 4 (ANALOG IN TT- & TT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write temperature to the meter, verify that it is properly writing the fixed flow temperature (SpecFlowTemperature) in the proper units. If flow-condition temperature value is updated through the ISO 17089 Modbus register, then the temperature unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed temperature in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter, make sure that the Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if the flow-condition temperature is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the temperature of the process fluid to within alarm limits. 2. If using an analog temperature device and input reading is 0, check if IsAI1Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or it is damaged. Reinstall or replace I/O board if this value is 0. 3. If using an analog temperature device, verify that the temperature sensor is working properly. 4. If using an analog temperature device, recheck the wiring and switch settings as noted above under First Time Setup Issues.	R				int	-	-	boolean	-	Temperature valid (FALSE) Temperature invalid (TRUE)			

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5901	PressureInvalid	Flow pressure invalid Pressure is invalid if the flow pressure (FlowPressure) is outside the limits defined by the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). Pressure is invalid if the meter is configured to read the flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Pressure is invalid if the meter is configured to receive the flow-condition pressure value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34050) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the pressure sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog pressure device, verify that the pressure sensor is properly wired to the connector TB2-B pins 1 & 2 (ANALOG IN PT- & PT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write pressure to the meter, verify that it is properly writing to fixed flow pressure (SpecFlowPressure) in the proper units. If flow-condition pressure value is updated through the ISO 17089 Modbus register, then the pressure unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed pressure in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if flow-condition pressure is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the pressure of the process fluid to within alarm limits. 2. If using an analog pressure device and the input reading is 0, check if IsAI2Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or is damaged. Reinstall or replace the board if this value is 0. 3. If using an analog pressure device, verify that the pressure sensor is working properly. 4. If using an analog pressure device, recheck wiring and switch settings as noted above under First Time Setup Issues. 5. If the external source is writing values to the fixed flow pressure (SpecFlowPressure), verify that the external source is still writing valid	R				int	-	-	boolean	-	Pressure valid (FALSE) Pressure invalid (TRUE)			
5902	AreGasPropertiesInvalidInUse	In-use gas composition, specific gravity and/or heating value invalid The in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse), specific gravity (SpecificGravityInUse) and/or heating value (HeatingValueInUse) are invalid due to one or more of the following conditions. 1. If the gas composition validation (IsGasCompositionValidationEnabled) is enabled and the AGA8 method (HCH_Method) is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is not within the range of 85% to 115%. 2. If the gas composition validation is enabled and the AGA8 method is "Detail Method" or "GERG-2008" and the in-use gas composition mole percentage post-normalization is outside range specified by GERG-2008 "intermediate quality range" when the AGA8 method is "GERG-2008" and AGA10 "expanded range" when the AGA8 method is "Detail Method". 3. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" or "Gross Method 2" and the in-use specific gravity is not within the range of 0.2 to 0.8. 4. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" and the in-use heating value is not within the range of 50 kJ/cubic dm to 15 kJ/cubic dm. 5. If the AGA8 method is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is zero. 6. If the gas composition source for AGA8 and AGA10 calculation (GasPropertiesSrcSel) is "Live - GC" and gas properties read from the GC are invalid (AreGasPropertiesInvalidGC). 7. If the gas composition source for AGA8 and AGA10 calculation is "Transmitter Head 1" and gas properties read from the other head are invalid or the Dual-Configuration meter communication error (IsColocMeterCommErr) is TRUE (1). Recommended Actions: 1. If the gas properties are from a live GC source, then verify that the gas properties read from the GC are invalid. Resolve it first and this alarm will clear. 2. If the gas properties are from a fixed source, check the fixed gas composition (MoleFractionMethane, MoleFractionN2Method2, MoleFractionCO2, MoleFractionEthane, MoleFractionPropane, MoleFractionWater, MoleFractionH2S, MoleFractionH2, MoleFractionCO, MoleFractionOxygen, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNHeptane, MoleFractionNOctane, MoleFractionNNonane, MoleFractionNDecane, MoleFractionHelium, MoleFractionArgon), the specific gravity (SpecificGravity) and the heating value (MeasVolGrossHeatingVal) are within the specified range using the Field Setup Wizard in MeterLink™. 3. If the meter is configured to read gas composition from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if in-use gas properties are invalid on Transmitter Head 1 of a Dual-Configuration meter. Resolve it first and this alarm will clear	R	Y			int	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
5903	Reserved		R				int								
5904	Reserved		R				int								
5910	BatchOldSeq	Number of old sequences in a batch The number of firing sequences from previous Batches used by (BatchPercentSmoothing).	R				long	-	-	uint16	-				
5912	BatchNewSeq	Number of new sequences in a batch The number of firing sequences since the previous Batch.	R				long	-	-	uint16	-				
5914	SeqPerUpdateNew	Expected number of new sequences per update Expected number of new sequences per batch update period (BatchUpdatePeriod). This value is determined from the (actual) emission rate (EmRateActual), (actual) stack emission rate (StackEmRateActual), stack size (StackSize) and active chords.	R	Y			long	-	-	uint16	-				
5916	SeqPerUpdateTotal	Expected number of total sequences (new+old) per update Expected number of total sequences per batch update period (BatchUpdatePeriod). It is the sum of new sequences (BatchNewSeq) and number of old sequences (BatchOldSeq) in a batch.	R	Y			long	-	-	uint16	-				
5930	HourlyMacro1	Hourly log macro 1 Hourly log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
5932	HourlyMacro2	Hourly log macro 2 Hourly log macro status indicator 2. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
5934	PrevHourFlowPosVol	Previous hour's forward volume at flow condition Previous hour's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5936	PrevHourFlowNegVol	Previous hour's reverse volume at flow condition Previous hour's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5938	PrevHourBasePosVol	Previous hour's forward volume at base condition Previous hour's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5940	PrevHourBaseNegVol	Previous hour's reverse volume at base condition Previous hour's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5942	PrevHourFlowTime	Previous hour's flow time Amount of time during the previous hour that flow was above the cutoff value.	R	Y			long	ms	ms	float32	min				
5944	Reserved		R				long								
5946	Reserved		R				long								
5948	DailyMacro1	Daily log macro 1 Daily log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
5950	DailyMacro2	Daily log macro 2 Daily log macro status indicator 2. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
5952	PrevDayFlowPosVol	Previous day's forward volume at flow condition Previous day's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5954	PrevDayFlowNegVol	Previous day's reverse volume at flow condition Previous day's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5956	PrevDayBasePosVol	Previous day's forward volume at base condition Previous day's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5958	PrevDayBaseNegVol	Previous day's reverse volume at base condition Previous day's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5960	PrevDayFlowTime	Previous day's flow time Amount of time during the previous day that flow was above the cutoff value.	R	Y			long	ms	ms	float32	min				
5962	Reserved		R				long								
5964	Reserved		R				long								
5966	CurrHourFlowPosVol	Current hour's flow-condition positive volume (int) Current hour's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5968	CurrHourFlowNegVol	Current hour's flow-condition negative volume (int) Current hour's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5970	CurrHourBasePosVol	Current hour's base-condition positive volume (int) Current hour's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5972	CurrHourBaseNegVol	Current hour's base-condition negative volume (int) Current hour's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5974	CurrHourFlowTime	Current hour's flow time Amount of time during the current hour that flow is above the cutoff value.	R	Y			long	ms	ms	float32	min				
5976	Reserved		R				long								
5978	Reserved		R				long								
5980	CurrDayFlowPosVol	Current day's flow-condition positive volume (int) Current day's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5982	CurrDayFlowNegVol	Current day's flow-condition negative volume (int) Current day's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5984	CurrDayBasePosVol	Current day's base-condition positive volume (int) Current day's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
5986	CurrDayBaseNegVol	Current day's base-condition negative volume (int) Current day's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
5988	CurrDayFlowTime	Current day's flow time Amount of time during the current day that flow is above the cutoff value. The start of the day is defined by the 'ContractHour' data point.	R	Y			long	ms	ms	float32	min				
5990	Reserved		R				long								
5992	Reserved		R				long								
5994	PrevHourPosEnergy	Previous hour's forward energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
5996	PrevHourNegEnergy	Previous hour's reverse energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
5998	PrevDayPosEnergy	Previous day's forward energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				
6000	PrevDayNegEnergy	Previous day's reverse energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				
6002	CurrHourPosEnergy	Current hour's forward energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
6004	CurrHourNegEnergy	Current hour's reverse energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
6006	CurrDayPosEnergy	Current day's forward energy Current day's forward energy. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6008	CurrDayNegEnergy	Current day's reverse energy Current day's reverse energy. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				
6010	PrevHourPosMass	Previous hour's forward mass This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6012	PrevHourNegMass	Previous hour's reverse mass This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6014	PrevDayPosMass	Previous day's forward mass This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6016	PrevDayNegMass	Previous day's reverse mass This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6018	CurrHourPosMass	Current hour's forward mass This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6020	CurrHourNegMass	Current hour's reverse mass This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6022	CurrDayPosMass	Current day's forward mass Current day's forward mass. This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6024	CurrDayNegMass	Current day's reverse mass Current day's reverse mass. This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
6026	AcqModuleErrorReasons	Reason for Acquisition Module error Reason for Acquisition Module error when (IsAcqModuleError) is indicated. A value of zero indicates no error. Bit Value Description: 0x00000001 AcqModuleExtendedStatusAvailable - Acquisition Module extended status is available. Check the further data in AcqModuleExtendedStatus 0x00000002 AcqModuleReprogrammingFailed - Acquisition Module reprogramming error. Check the AcqModuleMaxReprogramFail bit (below) to see if all attempts have failed. 0x00000004 AcqModuleCommNoLink - No Ethernet connection to the Acquisition Module. Check the interconnect cable between the Acquisition Module and the CPU Module. 0x00000008 AcqModuleCommNoComm - No communications to the Acquisition Module / unable to ping. Check the interconnect cable between the Acquisition Module and the CPU Module and/or cycle power to the meter. 0x00000010 AcqModuleCommFail - Acquisition Module communications failure. A command or response has failed. Check the interconnect cable between the Acquisition Module and the CPU Module and/or cycle power to the meter. 0x00000200 AcqModuleImageFailure - Acquisition Module loader file is corrupted. Download new firmware to the meter using Program Download in MeterLink™. 0x00000400 AcqModuleMaxReprogramFail - The maximum number of Acquisition Module reprogramming retries has been exceeded. Replace the Acquisition Module. If the issue is unresolved, contact your local area Emerson Flow service representative.	R				long	-	-	uint32	-				
6028	AcqModuleExtendedStatus	Extended status returned from Acquisition Module Status returned from Acquisition Module when the reason for the Acquisition Module error (AcqModuleErrorReasons) is ExtendedStatusAvailable (0x01) Bit Value Description: 0x00000000 ACQUISITION_NO_EXTENDED_ERROR 0x00000001 Not used 0x00000002 ACQUISITION_FLASH_POLL_TIMEOUT_ERROR 0x00000004 ACQUISITION_FLASH_INVALID_SECTOR_ERROR 0x00000008 ACQUISITION_FLASH_PROCESS_COMMAND_ERR_ERROR 0x00000010 ACQUISITION_FLASH_BUFFER_IS_NULL_ERROR 0x00000020 Not used 0x00000040 ACQUISITION_FLASH_VERIFY_WRITE_ERROR 0x00000080 ACQUISITION_FLASH_UNKNOWN_COMMAND_ERROR 0x00000100 ACQUISITION_FLASH_NO_ACCESS_SECTOR_ERROR 0x00000200 Not used 0x00000400 Not used 0x00000800 Not used 0x00001000 Not used 0x00002000 Not used 0x00004000 Not used 0x00008000 Not used 0x00010000 ACQUISITION_FPGA_LOAD_FAIL 0x00020000 Not used 0x00040000 ACQUISITION_RAM_FAIL 0x00080000 ACQUISITION_FLASH_FAIL 0x00100000 ACQUISITION_UPTIME_TEST_FAIL 0x00200000 ACQUISITION_ACQ_REPROGRAM_FAIL 0x00400000 Not used 0x00800000 Not used 0x01000000 ACQUISITION_WATCHDOG_OCCURRED 0x02000000 ACQUISITION_WAVEFORM_SEQUENCE_ERROR (Reserved for engineering) 0x04000000 Not used 0x08000000 Not used 0x10000000 Not used 0x20000000 Not used	R				long	-	-	uint32	-				
6046	Reserved		R				float								
6048	Reserved		R				float								

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6050	FlowPOrTSrcUponAlarm	Flow pressure and/or temperature source when in alarm Selects the flow-condition pressure and/or temperature source when the corresponding input is in alarm. Either the last good (i.e., non-alarm) value or a fixed (specified) value is used. To fix (specify) a value, use the appropriate data point: SpecFlowPressure or SpecFlowTemperature.	RW	Y	Y	Y	float	-	-	uint8	-	Use last good value (0) Use fixed value (1)	0	0	1
6052	EnablePressureInput	Flow-condition pressure input selector Selects the flow-condition pressure input. When set to "Live", the flow-condition pressure is read from an analog input signal. When set to "Fixed", the flow-condition pressure is specified (fixed) via the SpecFlowPressure data point, via a Modbus register or via the HART Command-132. An external source can update the flow-condition pressure through Modbus either by writing to the ISO 17089 Modbus register (34050) or by writing to a non-ISO 17089 Modbus register. The flow-condition pressure written via the ISO 17089 Modbus register is always absolute pressure. When set to "Transmitter Head 1", the flow-condition pressure is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition pressure input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition pressure is used for pressure expansion correction (if enabled). This value cannot be set to "None" if pressure expansion correction is enabled (EnableExpCorrPress) or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	float	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
6054	InputPressureUnit	Input pressure absolute/gage selector Specifies whether the input pressure is "Absolute" or "Gage" . If the input pressure is gage, then the absolute pressure is calculated as the sum of the input gage pressure and the atmospheric pressure (AtmosphericPress). When writing the flow-condition absolute pressure values via the ISO 17089 Modbus register then the input pressure unit has no effect and value is always considered as absolute pressure.	RW	Y	Y	Y	float	-	-	boolean	-	Gage (FALSE) Absolute (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
6056	AtmosphericPress	Atmospheric pressure Specifies the atmospheric pressure. This value is required when the input pressure absolute/gage selector (InputPressureUnit) is Gage, so that flow-condition absolute pressure (AbsFlowPressure) can be calculated.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.101325	0.03	0.1084
6058	LowPressureAlarm	Pressure alarm low limit Pressure alarm low limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or below this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.001	0	280
6060	HighPressureAlarm	Pressure alarm high limit Pressure alarm high limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or above this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		8.3	0	280
6062	SpecFlowPressure	Specified (fixed) flow-condition pressure Specifies the flow-condition pressure used in calculations when the enable pressure input (EnablePressureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	MPa	psi	float32	MPa		0.10156	0	280
6064	MinInputPressure	Live flow pressure value corresponding to 4 mA input signal Specifies the input flow pressure value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	0	280
6066	MaxInputPressure	Live flow pressure value corresponding to 20 mA input signal Specifies the input flow pressure value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		100	0	280
6068	LiveFlowPressureCalCtrl	Selects the value to use when calibrating the live pressure input source This turns the live pressure input calibration mode on or off. This point also specifies which pressure value to use when calibrating (FlowPressureWhileCal) by either choosing the source to be the last live input value prior to entering the calibration mode (freezing) or using a specified (fixed) flow-condition pressure (SpecFlowPressure). When the pressure value source is selected, the meter remains in the calibration mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the mode is explicitly exited by setting this point to Off (0).	RW				float	-	-	uint8	-	Off (0) Cal - Freeze input (1) Cal - Use fixed (2)	0	0	2
6070	LiveFlowPressureOffset	Live flow-condition pressure calibration offset value Live flow-condition pressure calibration offset value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by the live flow-condition pressure calibration gain value (LiveFlowPressureGain) and then adding this offset.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	-280	280
6072	LiveFlowPressureGain	Live flow-condition pressure calibration gain value Live flow-condition pressure calibration gain value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by this gain and then adding the live flow-condition pressure calibration offset value (LiveFlowPressureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
6074	EnableTemperatureInput	Flow-condition temperature input selector Selects the flow-condition temperature input. When set to "Live", the flow-condition temperature is read from an analog input signal. When set to "Fixed", the flow-condition temperature is specified (fixed) via the SpecFlowTemperature data point, via a Modbus register or via the HART Command-134. An external source can update the flow-condition temperature through Modbus either by writing to the ISO 17089 Modbus register (34052) or by writing to a non-ISO 17089 Modbus register. When set to "Transmitter Head 1", the flow-condition temperature is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition temperature input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition temperature is used for temperature expansion correction (if enabled), AGA8 calculations (if enabled) and AGA10 calculations (if enabled). This value cannot be set to "None" if temperature expansion correction (EnableExpCorrTemp) is enabled or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	float	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
6076	LowTemperatureAlarm	Temperature alarm low limit Temperature alarm low limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or below this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	143.15	473.15
6078	HighTemperatureAlarm	Temperature alarm high limit Temperature alarm high limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or above this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	143.15	523.15
6080	SpecFlowTemperature	Specified (fixed) flow-condition temperature Specifies the flow-condition temperature used in calculations when the enable temperature input (EnableTemperatureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	deg C	deg F	float32	K		273.15	143.15	473.15
6082	MinInputTemperature	Live temperature value corresponding to 4 mA input signal Specifies the input flow temperature value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	0	473.15
6084	MaxInputTemperature	Live temperature value corresponding to 20 mA input signal Specifies the input flow temperature value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	0	523.15

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6086	LiveFlowTemperatureCalCtrl	Selects the value to use when calibrating the live temperature input source This turns the live temperature input calibration mode on or off. This point also specifies which temperature value to use when calibrating (FlowTemperatureWhileCal) by either choosing the source to be the last live input value prior to entering the calibration mode (freezing) or using a specified (fixed) flow-condition temperature (SpecFlowTemperature). When the temperature value source is selected, the meter remains in the calibration mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the mode is explicitly exited by setting this point to Off (0).	RW				float	-	-	uint8	-	Off (0) Cal - Freeze input (1) Cal - Use fixed (2)	0	0	2
6088	LiveFlowTemperatureOffset	Live flow-condition temperature calibration offset value Live flow-condition temperature calibration offset value. The calibrated live temperature is calculated by multiplying the raw live temperature by the live flow-condition temperature calibration gain value (LiveFlowTemperatureGain) and then adding this offset. This value is applied to the temperature in Kelvin. Due to temperature conversion factors, use the MeterLink™ to set this parameter. MODIFYING THIS POINT VIA MODBUS IS NOT RECOMMENDED.	RW	Y	Y	Y	float	deg C	deg F	float32	K		0	-273.15	473.15
6090	LiveFlowTemperatureGain	Live flow-condition temperature calibration gain value Live flow-condition temperature calibration gain value. The calibrated live temperature is calculated by multiplying the raw live temperature by this gain and then adding the live flow-condition temperature calibration offset value (LiveFlowTemperatureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
6100	AreGasPropertiesInvalidInUse	In-use gas composition, specific gravity and/or heating value invalid The in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse), specific gravity (SpecificGravityInUse) and/or heating value (HeatingValueInUse) are invalid due to one or more of the following conditions. 1. If the gas composition validation (IsGasCompositionValidationEnabled) is enabled and the AGA8 method (HCH_Method) is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is not within the range of 85% to 115%. 2. If the gas composition validation is enabled and the AGA8 method is "Detail Method" or "GERG-2008" and the in-use gas composition mole percentage post-normalization is outside range specified by GERG-2008 "intermediate quality range" when the AGA8 method is "GERG-2008" and AGA10 "expanded range" when the AGA8 method is "Detail Method". 3. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" or "Gross Method 2" and the in-use specific gravity is not within the range of 0.2 to 0.8. 4. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" and the in-use heating value is not within the range of 50 kJ/cubic dm to 15 kJ/cubic dm. 5. If the AGA8 method is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is zero. 6. If the gas composition source for AGA8 and AGA10 calculation (GasPropertiesSrcSel) is "Live - GC" and gas properties read from the GC are invalid (AreGasPropertiesInvalidGC). 7. If the gas composition source for AGA8 and AGA10 calculation is "Transmitter Head 1" and gas properties read from the other head are invalid or the Dual-Configuration meter communication error (IsColocMeterCommErr) is TRUE (1). Recommended Actions: 1. If the gas properties are from a live GC source, then verify that the gas properties read from the GC are invalid. Resolve it first and this alarm will clear. 2. If the gas properties are from a fixed source, check the fixed gas composition (MoleFractionMethane, MoleFractionN2Method2, MoleFractionCO2, MoleFractionEthane, MoleFractionPropane, MoleFractionWater, MoleFractionH2S, MoleFractionH2, MoleFractionCO, MoleFractionOxygen, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNHeptane, MoleFractionNOctane, MoleFractionNNonane, MoleFractionNDecane, MoleFractionHelium, MoleFractionArgon), the specific gravity (SpecificGravity) and the heating value (MeasVolGrossHeatingVal) are within the specified range using the Field Setup Wizard in MeterLink™. 3. If the meter is configured to read gas composition from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if in-use gas properties are invalid on Transmitter Head 1 of a Dual-Configuration meter. Resolve it first and this alarm will clear	R	Y			float	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
6102	MethaneInUse	Methane gas component used for AGA8 and AGA10 calculations This is either a specified Methane value (MoleFractionMethane), the Methane value read from a GC (MethaneGC) or the Methane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6104	N2InUse	Nitrogen gas component used for AGA8 and AGA10 calculations This is either a specified N2 value (MoleFractionN2Method2), the N2 value read from a GC (N2GC) or the N2 value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6106	CO2InUse	Carbon dioxide gas component used for AGA8 and AGA10 calculations This is either a specified CO2 value (MoleFractionCO2), the CO2 value read from a GC (CO2GC) or the CO2 value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6108	EthaneInUse	Ethane gas component used for AGA8 and AGA10 calculations This is either a specified Ethane value (MoleFractionEthane), the Ethane value read from a GC (EthaneGC) or the Ethane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6110	PropaneInUse	Propane gas component used for AGA8 and AGA10 calculations This is either a specified Propane value (MoleFractionPropane), the Propane value read from a GC (PropaneGC) or the Propane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6112	WaterInUse	Water gas component used for AGA8 and AGA10 calculations This is either a specified Water value (MoleFractionWater), the Water value read from a GC (WaterGC) or the Water value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6114	H2SInUse	Hydrogen sulfide gas component used for AGA8 and AGA10 calculations This is either a specified H2S value (MoleFractionH2S), the H2S value read from a GC (H2SGC) or the H2S value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6116	H2InUse	Hydrogen gas component used for AGA8 and AGA10 calculations This is either a specified H2 value (MoleFractionH2), the H2 value read from a GC (H2GC) or the H2 value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6118	COInUse	Carbon monoxide gas component used for AGA8 and AGA10 calculations This is either a specified CO value (MoleFractionCO), the CO value read from a GC (COGC) or the CO value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6120	OxygenInUse	Oxygen gas component used for AGA8 and AGA10 calculations This is either a specified Oxygen value (MoleFractionOxygen), the Oxygen value read from a GC (OxygenGC) or the Oxygen value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6122	IsoButaneInUse	Isobutane gas component used for AGA8 and AGA10 calculations This is either a specified IsoButane value (MoleFractionIsoButane), the IsoButane value read from a GC (IsoButaneGC) or the IsoButane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6124	NButaneInUse	N-Butane gas component used for AGA8 and AGA10 calculations This is either a specified NButane value (MoleFractionNButane), the NButane value read from a GC (NButaneGC) or the NButance value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6126	IsoPentaneInUse	Isopentane gas component used for AGA8 and AGA10 calculations This is either a specified IsoPentane value (MoleFractionIsoPentane), the IsoPentane value read from a GC (IsoPentaneGC) or the IsoPentane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6128	NPentaneInUse	N-Pentane gas component used for AGA8 and AGA10 calculations This is either a specified NPentane value (MoleFractionNPentane), the NPentane value read from a GC (NPentaneGC) or the NPentane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6130	NHexaneInUse	N-Hexane gas component used for AGA8 and AGA10 calculations This is either a specified NHexane value (MoleFractionNHexane), the NHexane value read from a GC (NHexaneGC) or the NHexane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6132	NHeptaneInUse	N-Heptane gas component used for AGA8 and AGA10 calculations This is either a specified NHeptane value (MoleFractionNHeptane), the NHeptane value read from a GC (NHeptaneGC) or the NHeptane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6134	NOctaneInUse	N-Octane gas component used for AGA8 and AGA10 calculations This is either a specified NOctane value (MoleFractionNOctane), the NOctane value read from a GC (NOctaneGC) or the NOctane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6136	NNonaneInUse	N-Nonane gas component used for AGA8 and AGA10 calculations This is either a specified NNonane value (MoleFractionNNonane), the NNonane value read from a GC (NNonaneGC) or the NNonane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6138	NDecaneInUse	N-Decane gas component used for AGA8 and AGA10 calculations This is either a specified NDecane value (MoleFractionNDecane), the NDecane value read from a GC (NDecaneGC) or the NDecane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6140	HeliumInUse	Helium gas component used for AGA8 and AGA10 calculations This is either a specified Helium value (MoleFractionHelium), the Helium value read from a GC (HeliumGC) or the Helium value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6142	ArgonInUse	Argon gas component used for AGA8 and AGA10 calculations This is either a specified Argon value (MoleFractionArgon), the Argon value read from a GC (ArgonGC) or the Argon value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
6144	HeatingValueInUse	Heating value used for energy calculations The heating value used for energy calculations. This is either a specified heating value (MeasVolGrossHeatingVal), the heating value read from a GC (HeatingValueGC) or the heating value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	kJ/dm3	Btu/ft3	float32	kJ/dm3				
6146	SpecificGravityInUse	Gas specific gravity (relative density) This is either a specified Specific Gravity value (SpecificGravity), the Specific Gravity value read from a GC (SpecificGravityGC) or the Specific Gravity value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	-	-	float32	-				
6150	AreGasPropertiesInvalidGC	Gas composition, specific gravity and/or heating value from the GC invalid The gas composition (N2GC, CO2GC, H2GC, COGC, MethaneGC, EthaneGC, PropaneGC, IsoButaneGC, NButaneGC, IsoPentaneGC, NPentaneGC, NHexaneGC, NHeptaneGC, NOctaneGC, NNonaneGC, NDecaneGC, H2SGC, HeliumGC, WaterGC, OxygenGC, ArgonGC), the specific gravity (SpecificGravityGC) and/or the heating value (HeatingValueGC) read from the GC are invalid. Recommended Actions: 1. Verify that no GC alarms (IsGCCommErr, IsGCDataErr and IsGCAlarmPresent) are active. If present, then resolving those issues will fix this issue. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
6152	MethaneGC	Methane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Methane if the GC functionality is enabled via the (IsOptionalGCInterfaceEnabled) data point, the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6154	N2GC	Nitrogen gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Nitrogen if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6156	CO2GC	Carbon dioxide gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) CO2 if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6158	EthaneGC	Ethane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Ethane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6160	PropaneGC	Propane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Propane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6162	WaterGC	Water gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) H2O if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6164	H2SGC	Hydrogen sulfide gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) H2S if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6166	H2GC	Hydrogen gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Hydrogen if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6168	COGC	Carbon monoxide gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) CO if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6170	OxygenGC	Oxygen gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Oxygen if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6172	IsoButaneGC	Isobutane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) i-Butane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6174	NButaneGC	N-Butane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Butane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6176	IsoPentaneGC	Isopentane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) i-Pentane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6178	NPentaneGC	N-Pentane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Pentane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6180	NHexaneGC	N-Hexane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Hexane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6182	NHeptaneGC	N-Heptane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Heptane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6184	NOctaneGC	N-Octane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Octane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6186	NNonaneGC	N-Nonane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Nonane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6188	NDecaneGC	N-Decane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Decane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6190	HeliumGC	Helium gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Helium if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6192	ArgonGC	Argon gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Argon if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6194	C6PlusGC	C6+ gas component read from the GC This value is divided into appropriate standard gas component(s) (according to the identification of the C6+ gas component via enable C6+ gas component index automatic detection(IsC6PlusAutoDetectionEnabled), C6+ gas component identifier (C6PlusGCComponentID) and C6+ gas component index (C6PlusComponentIndex)) if the GC functionality is enabled (IsOptionalGCInterfaceEnabled).	R	Y			float	mole %	mole %	float32	mole fraction				
6196	C6PlusGCComponentID	Automatically detected C6+ gas component identifier This is automatically detected C6+ gas component identifier used to divide C6+ gas component concentration (C6PlusGC) into appropriate standard gas component(s). If this value is 108 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.47466, 0.3534, 0.17194, 0.00 and 0.00 respectively. If this value is 109 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.50, 0.50, 0.00, 0.00 and 0.00 respectively. If this value is 110 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.60, 0.30, 0.10, 0.00 and 0.00 respectively. If this value is 111 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.57143, 0.28572, 0.14285, 0.00 and 0.00 respectively. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is enabled.	R	Y			float	-	-	uint8	-				
6198	NeoPentaneGC	Neo-pentane component read from the GC This value is divided into one or more of the 21 standard gas components if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
6200	HeatingValueGC	Heating value read from the GC This value is copied to the 'in-use' heating value (HeatingValueInUse) if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC). Note that the type of heating value to be read from the GC must be specified (GCHeatingValueType) as either Btu-Dry, Btu-Saturated or Btu-Actual so that the correct GC register is read. Also, the heating value unit must be specified (GCHeatingValueUnit).	R	Y			float	kJ/dm3	Btu/ft3	float32	kJ/dm3				
6202	SpecificGravityGC	Specific gravity (relative density) read from the GC Specific gravity (relative density) read from the GC.	R	Y			float	-	-	float32	-				
6204	HARTPercentRange	HART percent range The percent range of the primary variable is calculated every time the primary variable is updated. The calculated value depends on the device variable assigned to the analog output 1 content (AO1Content) and its lower and upper range values.	R	Y			float	%	%	float32	%				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6206	HARTPercentRangeAO2	Analog output 2 HART percent range The percent range of the secondary variable is calculated every time the secondary variable is updated. The calculated value depends on the device variable assigned to the analog output 2 content (AO2Content) and its lower and upper range values.	R	Y			float	%	%	float32	%				
6220	AreGasPropertiesInvalidInUse	In-use gas composition, specific gravity and/or heating value invalid The in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse), specific gravity (SpecificGravityInUse) and/or heating value (HeatingValueInUse) are invalid due to one or more of the following conditions. 1. If the gas composition validation (IsGasCompositionValidationEnabled) is enabled and the AGA8 method (HCH_Method) is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is not within the range of 85% to 115%. 2. If the gas composition validation is enabled and the AGA8 method is "Detail Method" or "GERG-2008" and the in-use gas composition mole percentage post-normalization is outside range specified by GERG-2008 "intermediate quality range" when the AGA8 method is "GERG-2008" and AGA10 "expanded range" when the AGA8 method is "Detail Method". 3. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" or "Gross Method 2" and the in-use specific gravity is not within the range of 0.2 to 0.8. 4. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" and the in-use heating value is not within the range of 50 kJ/cubic dm to 15 kJ/cubic dm. 5. If the AGA8 method is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is zero. 6. If the gas composition source for AGA8 and AGA10 calculation (GasPropertiesSrcSel) is "Live - GC" and gas properties read from the GC are invalid (AreGasPropertiesInvalidGC). 7. If the gas composition source for AGA8 and AGA10 calculation is "Transmitter Head 1" and gas properties read from the other head are invalid or the Dual-Configuration meter communication error (IsColocMeterCommErr) is TRUE (1). Recommended Actions: 1. If the gas properties are from a live GC source, then verify that the gas properties read from the GC are invalid. Resolve it first and this alarm will clear. 2. If the gas properties are from a fixed source, check the fixed gas composition (MoleFractionMethane, MoleFractionN2Method2, MoleFractionCO2, MoleFractionEthane, MoleFractionPropane, MoleFractionWater, MoleFractionH2S, MoleFractionH2, MoleFractionCO, MoleFractionOxygen, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNHeptane, MoleFractionNOctane, MoleFractionNNonane, MoleFractionNDecane, MoleFractionHelium, MoleFractionArgon), the specific gravity (SpecificGravity) and the heating value (MeasVolGrossHeatingVal) are within the specified range using the Field Setup Wizard in MeterLink™. 3. If the meter is configured to read gas composition from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if in-use gas properties are invalid on Transmitter Head 1 of a Dual-Configuration meter. Resolve it first and this alarm will clear	R	Y			long	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
6222	AreGasPropertiesInvalidGC	Gas composition, specific gravity and/or heating value from the GC invalid The gas composition (N2GC, CO2GC, H2GC, COGC, MethaneGC, EthaneGC, PropaneGC, IsoButaneGC, NButaneGC, IsoPentaneGC, NPentaneGC, NHexaneGC, NHeptaneGC, NOctaneGC, NNonaneGC, NDecaneGC, H2SGC, HeliumGC, WaterGC, OxygenGC, ArgonGC), the specific gravity (SpecificGravityGC) and/or the heating value (HeatingValueGC) read from the GC are invalid. Recommended Actions: 1. Verify that no GC alarms (IsGCCommErr, IsGCDataErr and IsGCAlarmPresent) are active. If present, then resolving those issues will fix this issue. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			long	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
6224	IsGCCommErr	Communication error with the GC The meter is not able to communicate successfully with the GC. Refer to the GC communication status value (GCCommStatus) for any detailed communication errors from the GC. Recommended Actions: A. When the GC is connected to the meter on serial port: 1. Verify that you are using a GC compatible with Sim2251 communications. 2. Check the communications cables to the GC. The GC must be wired to the port on the meter chosen by the serial port selector (GCSerialPort). Verify that the hardware protocol for that port (DriverSelectionPortA or OptIOModule1Type or OptIOModule2Type) matches the GC. 3. Check the TX and RX LEDs to see if there is a poll message on the TX LED followed by a receive message on the RX LED. 4. Verify that the GC communication serial port settings are set to Modbus ASCII (7, Even, 1) or Modbus RTU (8, None, 1). Then, verify that the meter is configured to match using the Field Setup Wizard in MeterLink™. 5. If possible, collect the System log from the meter using the Archive Log in MeterLink™. The System log will provide additional information to help identify the cause of this alarm. 6. If the issue is unresolved, collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative. See also the GC communications settings (GCProtocol, GCModbusID, GCBaud, GCCommTimeout and GCCommStatus). B. When the GC is connected to the meter on the Ethernet port: 1. Verify that you are using a GC compatible with Sim2251 communications. 2. Check that the GC port (GCSerialPort) is set to "Ethernet" (128) and that the meter and the GC both are not DHCP servers. 3. Verify that the GC TCP port number (GCTCPPort) is correctly set to the GC port number used for Modbus TCP communication with the meter. 4. Verify that the GC Modbus ID (GCModbusID) is configured the same as the Modbus ID set for the GC device. 5. Verify that the GC IP Address (GCIPAddr) is set as the GC device IP address or the associated gateway/bridge IP address on the network. 6. Check that the meter's Ethernet 1 subnet mask (Eth1SubnetMask) and Ethernet 1 default gateway (Eth1DfltGatewayAddr) are correctly configured to the corresponding subnet mask and the default gateway of GC or the intermediate gateway/bridge in case it is not on the same network as the meter. 7. If possible, collect the System log from the meter using the Archive Log in MeterLink™. The System log will provide additional information to help identify the cause of this alarm. 8. If the issue is unresolved, collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative. See also the GC communications settings (GCCommTimeout and GCCommStatus).	R				long	-	-	boolean	-	No GC communication error (FALSE) GC communication error (TRUE)			

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6226	IsGCDataErr	Data read from the GC is invalid GC data is invalid due to one or more of the following conditions. 1. The total unnormalized gas composition mole percentage of all the gas components read from the GC is not within the range of 85% to 115%. 2. An individual gas composition mole percentage (N2GC, CO2GC, H2GC, COGC, MethaneGC, EthaneGC, PropaneGC, IsoButaneGC, NButaneGC, IsoPentaneGC, NPentaneGC, NHexaneGC, NHeptaneGC, NOctaneGC, NNonaneGC, NDecaneGC, H2SGC, HeliumGC, WaterGC, OxygenGC, ArgonGC) read from the GC is not within the range of 0% to 100%. 3. The specific gravity (SpecificGravityGC) read from the GC is not within the range of 0.2 to 0.8. 4. The heating value (HeatingValueGC) read from the GC is greater than 50 kJ/cubic dm. 5. The stream for the data read from the GC (GCStreamNumber) was not found within the desired stream timeout (GCDesiredStreamTimeout). 6. The gas component index/indexes read from the GC is not same as gas component index configured in the meter (N2ComponentIndex, CO2ComponentIndex, H2ComponentIndex, COComponentIndex, MethaneComponentIndex, EthaneComponentIndex, PropaneComponentIndex, IsoButaneComponentIndex, NButaneComponentIndex, IsoPentaneComponentIndex, NPentaneComponentIndex, NHexaneComponentIndex, NHeptaneComponentIndex, NOctaneComponentIndex, NNonaneComponentIndex, NDecaneComponentIndex, H2SComponentIndex, HeliumComponentIndex, WaterComponentIndex, OxygenComponentIndex, ArgonComponentIndex, NeoPentaneComponentIndex). 7. GC interface feature (IsOptionalGCInterfaceEnabled) is Disabled (0). 8. The port on which the GC is connected is Not available (0) (IsPortAAvail, IsPortBAvail, IsPortCAvail). Recommended Actions: 1. Use MON/MON2000/MON2020 Gas Chromatograph software to verify the total unnormalized gas composition mole percentage of all the gas components is in range of 85% to 115%, an individual gas composition mole percentage is within the range of 0% to 100%, specific gravity is within the range of 0.2 to 0.8 and the heating value is less than 50 kJ/cubic dm. Ensure that heating value unit in the GC and the meter configuration (GCHeatingValueUnit) are same. Correct identified issues. 2. Verify that meter is not reading unrecognized component index by collecting the System log from the meter. The System log will report "unrecognized component id <value>" if this is the issue. Use the Field Setup Wizard in MeterLink™ to correct component data in the meter. Contact your local area Emerson Flow service representative for assistance. 3. Verify that the GC stream number matches a stream number in the stream sequence being used by the GC using the Field Setup Wizard in MeterLink™. Use the Edit/Compare Configuration screen in MeterLink™ to verify that the desired stream timeout value is sufficiently long to read desired stream from GC. 4. Verity that the GC interface feature is Enabled (1) and the port availability of the port the GC is connected to is set to 1 in the Meter Information dialog in MeterLink™. If the GC interface feature is Disabled (0), then collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative. If the GC is connected to Port A and the port availability is set to 0, then the CPU Module is damaged. Contact your local area Emerson Flow service representative for replacement. If the GC is	R				long	-	-	boolean	-	No GC Data Error (FALSE) GC Data Error (TRUE)			
6228	Reserved		R				long								
6230	IsGCAlarmPresent	GC alarm condition is present GC reported alarm (GCAlarm1), Modbus Register 3046, bits 14 and/or 15 are set or the GC reported alarm (GCAlarm2), Modbus Register 3047, bits 0, 1, 2 and/or 3 are set. Recommended Actions: 1. Use the MON/MON2000/MON2020 Gas Chromatograph software to check the alarm state of the GC and correct any issues. 2. If the issue is unresolved, collect a complete Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				long	-	-	boolean	-	No GC alarm (FALSE) GC alarm (TRUE)			
6232	GCCommStatus	GC communication status value This signifies the status of communication between the meter and GC. Zero value indicates successful communication with no errors. A non-zero value indicates gas composition update failure and the meter shall set communication error with GC alarm (IsGCCommErr). The value indicates the reason for gas composition update failure. Value Description 0 - No error. 1 - Desired stream not found. 2 - GC controller is busy (error defined by Modbus protocol). 3 - GC detected an illegal Modbus function code from the meter. 4 - GC detected an illegal Modbus data address from the meter. 5 - GC detected an illegal data value from the meter. 6 - Failure in associated device (Modbus defined error). 7 - GC has accepted request from the meter but is still processing. 8 - A firmware logic error was detected. 9 - Modbus address mismatch. 10 - Modbus function code mismatch. 11 - GC reports an exception code that is unrecognized. 12 - Modbus request message from the meter is too long (exceeds the maximum allowable length). 13 - GC Modbus response message is too long (exceeds the maximum allowable length). 14 - GC response message has incorrect number of registers. 15 - GC does not support the requested message data type. 16 - GC does not support the requested data protocol. 17 - Modbus message either from the meter or the GC exceeds the maximum length allowable. 18 - GC response not received within the communication timeout. 19 - GC response message (ASCII protocol) incomplete. 20 - GC response message (RTU protocol) incomplete. 21 - GC gas property data spans more than one update. 22 - Server port not open. Gateway path not available or target device failed to respond. 23 - GC IP address incorrect.	R				long	-	-	uint8	-				
6234	GCAlarm1	GC alarm 1 register value GC Status register as read from the GC. (Alarm1 register in the GC). Bits 14 and 15 are checked and if set, the GC reading is marked as invalid.	R				long	-	-	uint16	-				
6236	GCAlarm2	GC alarm 2 register value GC Error register as read from the GC (Alarm2 register in the GC). Bits 0, 1, 2 and 3 are checked and if set, the GC reading is marked as invalid.	R				long	-	-	uint16	-				
6238	GCStartCycleTime	Most recent GC analysis cycle start date and time Start date and time of the most recent GC analysis in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970).	R	Y			long	Epoch sec	Epoch sec	int32	Epoch sec				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6250	GasPropertiesSrcSel	Selects gas composition source for AGA8 and AGA10 calcs Selects the gas composition source for the base corrections (AGA8) and speed of sound calculation. The settings are "Fixed" or "Live - GC" or "Transmitter Head 1". To read the gas composition from a GC the interface to GC (IsOptionalGCInterfaceEnabled) must be enabled. The gas composition can be read from Transmitter Head 1 of a Dual-Configuration meter only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The indication of the source for gas composition data is the GasPropertiesSrc data point.	RW	Y	Y	Y	long	-	-	uint8	-	Fixed (0) Live - GC (1) Transmitter Head 1 (2)	0	0	2
6252	GasPropertiesSrcSelGCAlarm	Selects the gas property data source to use when the GC is in alarm Selects the gas property data source to use when the GC is in an alarm condition. If Fixed value is selected, the meter will start using the fixed gas composition stored in the meter, the in-use gas property data is updated with the fixed gas property data. If Last good value is selected, the meter will use the last gas composition collected from the GC before the GC started to report alarms, the in-use gas property data is not updated with the invalid GC-read gas property data.	RW	Y	Y	Y	long	-	-	uint8	-	Use last good value (0) Use fixed value (1)	0	0	1
6254	GCProtocol	GC communication protocol Selects the type of Modbus protocol (ASCII or RTU) used to communicate with the GC.	RW	Y	Y	Y	long	-	-	uint32	-	ASCII (0) RTU (1)	0	0	1
6256	GCBaud	GC communication baud rate Baud rate used to communicate serially to a GC.	RW	Y	Y	Y	long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	9600	1200	115200
6258	GCSerialPort	Communication port for the GC Port B (2) is available when the slot 1 Optional I/O Module (OptIOModule1Type) is installed. Port C (3) is available when the slot 2 Optional I/O Module (OptIOModule2Type) is installed. Ethernet (128) is used for meter to communicate with GC over Modbus TCP.	RW	Y	Y	Y	long	-	-	uint8	-	Disabled (0) Port A (1) Port B (2) Port C (3) Ethernet (128)	0	0	128
6260	GCModbusID	GC Modbus address This signifies the Modbus address of GC. When the meter connects to GC on serial line then this is set as the Modbus ID of GC on the serial network. When the meter connects to GC on the Ethernet network, then this is the unit identifier in the TCP header of Modbus TCP communication that depends on the type of Ethernet connection as follows: 1. If GC is connected to the meter on the Ethernet network then Modbus protocol specification recommends that unit identifier should be set as 255 (unsignificant value), though this is not a mandate. 2. If GC is connected to the meter via a gateway/bridge then unit identifier is set as the Modbus ID of GC on its network. Please note that for successful communication, it is a mandate that GC Modbus ID should be configured same as the GC device Modbus ID. This applies for all the above mentioned network connection types.	RW	Y	Y	Y	long	-	-	uint8	-		1	1	255
6262	GCStreamNumber	Selects the stream for the data read from the GC Selects the stream for the data read from the GC.	RW	Y	Y	Y	long	-	-	uint8	-		1	1	30
6264	GCDesiredStreamTimeout	GC communication desired stream timeout value When communicating with a GC, this specifies the length of time to wait for the desired stream to be updated before declaring an error.	RW	Y	Y	Y	long	min	min	uint8	min		100	6	255
6266	GCHeatingValueUnit	Specifies the unit for reading the heating value from the GC The heating (measurement) unit used for reading the heating value from the GC.	RW	Y	Y	Y	long	-	-	uint8	-	Btu/ft3 (0) kJ/m3 (1) kJ/dm3 (2) MJ/m3 (3) kCal/m3 (4) kWh/m3 (5)	0	0	5
6268	GCHeatingValueType	GC communication heating value type selector Selects GC heating value type.	RW	Y	Y	Y	long	-	-	uint8	-	Btu-Dry (0) Btu-Saturated (1) Btu-Actual (2)	0	0	2
6270	GCCommTimeout	GC communication timeout value This is the amount of time the meter will wait for message responses from the GC.	RW	Y	Y	Y	long	sec	sec	uint8	sec		4	0	255
6280	AO1Content	Analog Output 1 content (and HART primary variable) Selects the data to be represented by Analog Output 1. Is used for HART communication as the Primary Variable content.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
6282	AO1Dir	Selects the flow direction represented by the Analog Output 1 Selects the flow direction represented by Analog Output 1. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
6284	IsAO1EnableTest	Analog Output 1 test enable Enables the Analog Output Test mode for Analog Output 1. When in the Analog Output Test mode, Analog Output 1 is fixed at the percentage of full scale specified via the Analog Output 1 test mode output percent configuration point (AO1TestModeOutputPercent) (regardless of the actual data content value). If Analog Output 1 remains in Analog Output Test mode for longer than the non-normal mode timeout (NonNormalModeTimeout), Analog Output 1 automatically exits Analog Output Test mode and returns to normal operation.	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
6286	AO1TestModeOutputPercent	Analog Output 1 test mode percentage of full-scale Specifies the Analog Output 1 Test mode percentage of full-scale. This specifies the analog current (as a percentage of the current output range, 4-20 mA) to force Analog Output 1 when in the Analog Output Test mode enabled via the IsAO1EnableTest data point.	RW				float	%	%	uint8	%		50	0	105
6288	AO1FullScaleVolFlowRate	Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to uncorrected volume flow rate (QFlow) or corrected volume flow rate (QBase).	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
6290	AO1MinVel	Analog Output 1 velocity corresponding to the minimum current (4 mA) Specifies the Analog Output 1 velocity corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
6292	AO1MaxVel	Analog Output 1 velocity corresponding to the maximum current (20 mA) Specifies the Analog Output 1 velocity corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6294	AO1FullScaleEnergyRate	Analog Output 1 energy rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 energy rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38
6296	AO1FullScaleMassRate	Analog Output 1 mass rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 mass rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
6298	AO1ActionUponInvalidContent	Analog Output 1 current action upon invalid content Specifies the action for Analog Output 1 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	float	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
6300	AO1ZeroScaleVolFlowRate	Analog Output 1 volumetric flow rate corresponding to the minimum current (4 mA) Specifies the Analog Output 1 volumetric flow rate corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to uncorrected volume flow rate (QFlow) or corrected volume flow rate (QBase).	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
6302	AO1ZeroScaleEnergyRate	Analog Output 1 energy rate corresponding to the minimum current (4 mA) Specifies the Analog Output 1 energy rate corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
6304	AO1ZeroScaleMassRate	Analog Output 1 mass rate corresponding to the minimum current (4 mA) Specifies the Analog Output 1 mass rate corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
6310	QMeterValidity	Uncorrected flow-condition volumetric flow rate invalid The volumetric flow rate (no expansion correction) is invalid. The meter is either not in measurement mode (i.e. no chords acquired) or the number of operating chords is below the minimum number required (MinChord) or the diagnostic chord speed of sound is out of range (IsDiagnosticSndSpdRangeErr) or, for a measurement chord, the in-use chord length does not match the calculated chord length (IsChordLengthMismatched). Recommended Actions: 1. From the alarm list, determine which chords are failed and resolve these alarm(s) first. Resolving the chord failures will clear this alarm. 2. If the diagnostic chord speed of sound out of range error is active then resolving it will clear this alarm. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative. See also: IsAcqMode, IsTooFewOperChords, IsDiagnosticSndSpdDetectionFeatureActive	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6311	QFlowValidity	Flow-condition volumetric flow rate invalid The meter either has not collected enough information from the chords to make an accurate measurement or the pressure and/or temperature are invalid and the meter is performing pressure or temperature expansion corrections on the meter's internal diameter. This is an alarm condition that shows the validity of the flow-condition volumetric flow rate (QFlow). The flow-condition volumetric flow rate (QFlow) becomes invalid if the uncorrected flow-condition volumetric flow rate validity (QMeterValidity), temperature expansion correction validity (ExpCorrTempValidity), pressure expansion correction validity (ExpCorrPressValidity), and/or flow profile correction validity (FlowProfileCorrValidity) is invalid. Recommended Actions: 1. If the pressure expansion correction validity alarm is present, correcting it may clear this alarm. 2. If the temperature expansion correction validity alarm is present, correcting it may clear this alarm. 3. If the uncorrected flow-condition volumetric flow rate validity alarm is present, correcting it may clear this alarm. 4. If the flow profile correction validity alarm is present, correcting it may clear this alarm. 5. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6312	QBaseValidity	Base-condition volumetric flow rate invalid AGA8 base-condition volumetric flow rate (QBase) is invalid if the flow-condition volumetric flow rate is invalid (QFlowValidity), the in-use gas properties are invalid (AreGasPropertiesInvalidInUse), the flow-condition pressure is invalid (PressureValidity) and/or the flow-condition temperature is invalid (TemperatureValidity). Recommended Actions: 1. Verify that the in-use gas properties, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6313	EnergyRateValidity	Energy flow rate invalid The calculated energy flow rate (EnergyRate) is invalid. A problem has occurred with the flow-condition pressure and/or temperature inputs, AGA8 calculations or heating value. The energy rate (EnergyRate) becomes invalid if either the base-condition volumetric flow rate is invalid (QBaseValidity) or if an invalid gas heating value (AreGasPropertiesInvalidInUse) is used. Recommended Actions: 1. If the base-condition volumetric flow rate is invalid, resolve this issue first before trying to resolve this alarm. 2. Verify using MeterLink™ that a valid heating value (MeasVolGrossHeatingVal) is specified in the meter or a live gas chromatograph is configured and the meter reports no invalid GC alarms. Resolve these alarms if present. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6314	MassRateValidity	Mass flow rate invalid The calculated mass flow rate (MassRate) is invalid. A problem has occurred with flow-condition pressure and/or temperature inputs or AGA8 calculations (HCH_Method). Mass rate (MassRate) becomes invalid if either the flow-condition volumetric flow rate is invalid (QFlowValidity) or the AGA8 flow calculation is invalid (AGA8FlowCalcValidity). This is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Recommended Actions: 1. Other primary cause alarms will be present in the alarm list. Resolve those alarms first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6315	TemperatureValidity	Flow temperature invalid Temperature is invalid if the flow-condition temperature (FlowTemperature) is outside the limits defined by the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). Temperature is invalid if the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Temperature is invalid if the meter is configured to receive the flow-condition temperature value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34052) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the temperature sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog temperature device, verify that the temperature sensor is properly wired to connector TB2-B pins 3 & 4 (ANALOG IN TT- & TT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write temperature to the meter, verify that it is properly writing the fixed flow temperature (SpecFlowTemperature) in the proper units. If flow-condition temperature value is updated through the ISO 17089 Modbus register, then the temperature unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed temperature in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter, make sure that the Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if the flow-condition temperature is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the temperature of the process fluid to within alarm limits. 2. If using an analog temperature device and input reading is 0, check if IsAI1Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or it is damaged. Reinstall or replace I/O board if this value is 0. 3. If using an analog temperature device, verify that the temperature sensor is working properly. 4. If using an analog temperature device, recheck the wiring and switch settings as noted above under First Time Setup Issues.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6316	PressureValidity	Flow pressure invalid Pressure is invalid if the flow pressure (FlowPressure) is outside the limits defined by the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). Pressure is invalid if the meter is configured to read the flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Pressure is invalid if the meter is configured to receive the flow-condition pressure value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34050) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the pressure sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog pressure device, verify that the pressure sensor is properly wired to the connector TB2-B pins 1 & 2 (ANALOG IN PT- & PT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write pressure to the meter, verify that it is properly writing to fixed flow pressure (SpecFlowPressure) in the proper units. If flow-condition pressure value is updated through the ISO 17089 Modbus register, then the pressure unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed pressure in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if flow-condition pressure is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the pressure of the process fluid to within alarm limits. 2. If using an analog pressure device and the input reading is 0, check if IsAI2Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or is damaged. Reinstall or replace the board if this value is 0. 3. If using an analog pressure device, verify that the pressure sensor is working properly. 4. If using an analog pressure device, recheck wiring and switch settings as noted above under First Time Setup Issues. 5. If the external source is writing values to the fixed flow pressure (SpecFlowPressure), verify that the external source is still writing valid	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6317	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6318	Freq2DataValidity	Frequency Output 2 data invalid The parameter which the Frequency Output 2 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 2 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6319	AO1DataValidity	Analog Output 1 data invalid Analog Output 1 (AO1) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid or the loop current mode is disabled via HART. The content of AO1 is specified by AO1Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 1 (AO1Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 1 is not in alarm, then verify that the output is not fixed or set in test mode or the loop current mode has been not been disabled via HART. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6320	AO2DataValidity	Analog Output 2 data invalid Analog Output 2 (AO2) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid. The content of AO2 is specified by AO2Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 2 (AO2Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 2 is not in alarm, then verify that the output is not fixed or set in test mode. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6330	Reserved		R				int								
6331	Reserved		R				int								
6332	Reserved		R				int								
6333	Reserved		R				int								
6334	IsOptionalAGA10CalcEnabled	Calculation of speed of sound from gas composition is enabled This indicates whether the optional calculation of speed of sound from gas composition feature is enabled. Enabled if TRUE (1).	R				int	-	-	boolean	-	No (FALSE) Yes (TRUE)			
6335	IsOptionalGCInterfaceEnabled	GC interface feature is enabled This indicates whether the GC interface feature is enabled. Enabled if TRUE (1).	R				int	-	-	boolean	-	No (FALSE) Yes (TRUE)			
6336	IsOptionalContinuousFlowAnalysisEnabled	Flow analysis features are enabled This indicates whether the optional flow analysis features are enabled. Enabled if TRUE (1).	R	Y			int	-	-	boolean	-	No (FALSE) Yes (TRUE)			
6338	PeakSwitchDetectMode	Peak switch detection mode Determines what action to take if a peak switch is detected by the pattern of computed eta values (EtaBA, EtaBD, EtaCA, EtaCD). Both the "Status Only" and the "Status and Discard" modes set the peak switch detection indicators (IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC, IsPeakSwitchDetectedD). If "Status and Discard" is selected the waveforms with peak switching detected will not be included in the flow calculations. Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). If "Disabled" no status will be updated nor waveforms discarded.	RW	Y	Y	Y	int	-	-	uint8	-	Disabled (0) Status Only (1) Status and Discard (2)	0	0	2
6339	IsPeakSwitchDetected	Peak switch detected A peak switch timing error was detected on at least one chord (IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC, IsPeakSwitchDetectedD).	R				int	-	-	boolean	-				
6340	IsPeakSwitchDetectedA	Peak switch detected for chord A A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodA1, PctGoodA2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6341	IsPeakSwitchDetectedB	Peak switch detected for chord B A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodB1, PctGoodB2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
6342	IsPeakSwitchDetectedC	Peak switch detected for chord C A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodC1, PctGoodC2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
6343	IsPeakSwitchDetectedD	Peak switch detected for chord D A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodD1, PctGoodD2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6344	IsXdcrMaintenanceRequired A	Transducer maintenance required for chord A At least one of the paths for chord A has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
6345	IsXdcrMaintenanceRequired B	Transducer maintenance required for chord B At least one of the paths for chord B has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6346	IsXdcrMaintenanceRequiredC	Transducer maintenance required for chord C At least one of the paths for chord C has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
6348	IsXdcrMaintenanceRequiredD	Transducer maintenance required for chord D At least one of the paths for chord D has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
6349	IsXdcrMaintenanceRequired	Transducer maintenance required One or more of the chords requires transducer maintenance (IsXdcrMaintenanceRequiredA, IsXdcrMaintenanceRequiredB, IsXdcrMaintenanceRequiredC, IsXdcrMaintenanceRequiredD).	R				int	-	-	boolean	-				
6350	CompAvgMeterSndVel	Previous hour average meter speed of sound Previous hour average meter-calculated speed of sound for comparison to the previous hour average speed of sound calculated from the gas composition (CompAvgAGA10SndVel). This is an average over an hour when average flow velocity (AvgFlow) is between the diagnostic analysis flow limits (FlowAnalysisLowFlowLmt) and the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt) and is only calculated when all calculation inputs (gas composition, pressure and temperature) are valid during the flow time over the hour. This is used to calculate speed of sound comparison error (SndVelCompErr).	R				float	m/s	ft/s	float32	m/s				
6352	CompAvgAGA10SndVel	Previous hour average speed of sound calculated from the gas composition Previous hour average speed of sound calculated from the gas composition for comparison to the meter-calculated average speed of sound (CompAvgMeterSndVel). This is an average over an hour when average flow velocity (AvgFlow) is between the diagnostic analysis low flow limit (FlowAnalysisLowFlowLmt) and the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt) and is only calculated when all calculation inputs (gas composition, pressure and temperature) are valid during the flow time over the hour. This is used to calculate speed of sound comparison error (SndVelCompErr).	R				float	m/s	ft/s	float32	m/s				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6354	SndVelCompErr	Previous hour error between gas composition SOS and meter SOS Previous hour error between the average speed of sound calculated from the gas composition (CompAvgAGA10SndVel) and the average meter-calculated speed of sound (CompAvgMeterSndVel). It is computed as: ((CompAvgMeterSndVel - CompAvgAGA10SndVel) / CompAvgAGA10SndVel) * 100%. When the absolute error is greater than speed of sound comparison error limit (SndVelCompErrLimit) then the speed of sound comparison alarm (IsSndVelCompErr) is set TRUE (1).	R				float	%	%	float32	%				
6356	SndVelCompErrLimit	Error limit for gas composition SOS and meter SOS comparison Alarm limit for the comparison of speed of sound from the gas composition to the meter-calculated speed of sound error (IsSndVelCompErr).	RW	Y	Y	Y	float	%	%	float32	%		0.2	0.1	90
6358	IsSndVelCompErr	Comparison of SOS from gas composition to meter SOS error The absolute value of the error (SndVelCompErr) between the previous hour average speed of sound calculated from the gas composition (CompAvgAGA10SndVel) and the previous hour average meter-calculated speed of sound (CompAvgMeterSndVel) is greater than the alarm limit (SndVelCompErrLimit). This alarm is enabled if IsSndVelCompFeatureActive = TRUE (1). Recommended Actions: 1. Verify the pressure and temperature readings in use by the meter are accurate. 2. Verify that the in-use gas properties are accurate. Use the Meter Monitor in MeterLink™ to check the gas composition values. 3. If the alarm is on a data sharing Dual-Configuration meter's Transmitter Head 2 using pressure, temperature and/or gas composition from Transmitter Head 1, check that the two transmitter heads are configured correctly, e.g. that they have the same AGA8 method selector (HCH_Method) and input pressure absolute/gage selector (InputPressureUnit). 4. If the issue is unresolved, collect a complete Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
6370	AO2Content	Analog Output 2 content (and HART secondary variable) Selects the data to be represented by Analog Output 2. Is used for HART communication as the Secondary Variable content.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
6372	AO2Dir	Selects the flow direction represented by the Analog Output 2 Selects the flow direction represented by Analog Output 2. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
6374	IsAO2EnableTest	Analog Output 2 test enable Enables the Analog Output Test mode for Analog Output 2. When in the Analog Output Test mode, Analog Output 2 is fixed at the percentage of full scale specified via the Analog Output 2 test mode output percent configuration point (AO2TestModeOutputPercent) (regardless of the actual data content value). If Analog Output 2 remains in Analog Output Test mode for longer than the non-normal mode timeout (NonNormalModeTimeout), Analog Output 2 automatically exits Analog Output Test mode and returns to normal operation.	RW				int	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
6376	AO2TestModeOutputPercent	Analog Output 2 test mode percentage of full-scale Specifies the Analog Output 2 test mode percentage of full-scale. This specifies the analog current (as a percentage of the current output range, 4-20 mA) to force Analog Output 2 when in the Analog Output Test mode (enabled via the IsAO2EnableTest data point).	RW				int	%	%	uint8	%		50	0	105
6378	AO2FullScaleVolFlowRate	Analog Output 2 volumetric flow rate corresponding to the maximum current (20 mA) Specifies the Analog Output 2 volumetric flow rate corresponding to the maximum current (20 mA) when the AO2Content data point is set to "Uncorrected volume flow rate" (QFlow) or "Corrected volume flow rate" (QBase).	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
6380	AO2MinVel	Analog Output 2 velocity corresponding to the minimum current (4 mA) Specifies the Analog Output 2 velocity corresponding to the minimum current (4 mA) when the AO2Content data point is set to Average flow velocity (AvgFlow) or Average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
6382	AO2MaxVel	Analog Output 2 velocity corresponding to the maximum current (20 mA) Specifies the Analog Output 2 velocity corresponding to the maximum current (20 mA) when the AO2Content data point is set to "Average flow velocity" or "Average speed of sound".	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500
6384	AO2FullScaleEnergyRate	Analog Output 2 energy rate corresponding to the maximum current (20 mA) Specifies the Analog Output 2 energy rate corresponding to the maximum current (20 mA) when the AO2Content data point is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38
6386	AO2FullScaleMassRate	Analog Output 2 mass rate corresponding to the maximum current (20 mA) Specifies the Analog Output 2 mass rate corresponding to the maximum current (20 mA) when the AO2Content data point is set to Mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
6388	AO2ActionUponInvalidContent	Analog Output 2 current action upon invalid content Specifies the action for Analog Output 2 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	float	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
6390	AO2ZeroScaleVolFlowRate	Analog Output 2 volumetric flow rate corresponding to the minimum current (4 mA) Specifies the Analog Output 2 volumetric rate corresponding to the minimum current (4 mA) when the AO2Content data point is set to is set to "Uncorrected volume flow rate" (QFlow) or "Corrected volume flow rate" (QBase).	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
6392	AO2ZeroScaleEnergyRate	Analog Output 2 energy rate corresponding to the minimum current (4 mA) Specifies the Analog Output 2 energy rate corresponding to the minimum current (4 mA) when the AO2Content data point is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
6394	AO2ZeroScaleMassRate	Analog Output 2 mass rate corresponding to the minimum current (4 mA) Specifies the Analog Output 2 mass rate corresponding to the minimum current (4 mA) when the AO2Content data point is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
6400	QFlow	Volumetric flow rate at flow condition Flow-condition volumetric flow rate, corrected for flow-condition expansion (QExpCorr) and flow profile correction factor (CorrectionFactor).	R				float	volume/time	volume/time	float32	m3/hr				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6402	QFlowValidity	Flow-condition volumetric flow rate invalid The meter either has not collected enough information from the chords to make an accurate measurement or the pressure and/or temperature are invalid and the meter is performing pressure or temperature expansion corrections on the meter's internal diameter. This is an alarm condition that shows the validity of the flow-condition volumetric flow rate (QFlow). The flow-condition volumetric flow rate (QFlow) becomes invalid if the uncorrected flow-condition volumetric flow rate validity (QMeterValidity), temperature expansion correction validity (ExpCorrTempValidity), pressure expansion correction validity (ExpCorrPressValidity), and/or flow profile correction validity (FlowProfileCorrValidity) is invalid. Recommended Actions: 1. If the pressure expansion correction validity alarm is present, correcting it may clear this alarm. 2. If the temperature expansion correction validity alarm is present, correcting it may clear this alarm. 3. If the uncorrected flow-condition volumetric flow rate validity alarm is present, correcting it may clear this alarm. 4. If the flow profile correction validity alarm is present, correcting it may clear this alarm. 5. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6404	QBase	Volumetric flow rate at base condition The base-condition volumetric flow rate. QBase = Qflow (QFlow) * AGA8FlowToBaseConversion (AGA8FlowToBaseConversion)	R				float	volume/time	volume/time	float32	m3/hr				
6406	QBaseValidity	Base-condition volumetric flow rate invalid AGA8 base-condition volumetric flow rate (QBase) is invalid if the flow-condition volumetric flow rate is invalid (QFlowValidity), the in-use gas properties are invalid (AreGasPropertiesInvalidInUse), the flow-condition pressure is invalid (PressureValidity) and/or the flow-condition temperature is invalid (TemperatureValidity). Recommended Actions: 1. Verify that the in-use gas properties, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6408	Freq1KFactor	Frequency Output 1 pair K-Factor Frequency Output 1 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
6410	Freq2KFactor	Frequency Output 2 pair K-Factor Frequency Output 2 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
6412	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
6414	Freq2OutputVFR	Frequency Output 2 pair output volumetric flow rate Frequency Output 2 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
6416	EnergyRate	Energy flow rate Energy rate. This is applicable when the heating value is fixed (specified) or read from a gas chromatograph. It is computed as QBase with HeatingValueInUse applied.	R				float	energy/time	energy/time	float32	MJ/hr				
6418	EnergyRateValidity	Energy flow rate invalid The calculated energy flow rate (EnergyRate) is invalid. A problem has occurred with the flow-condition pressure and/or temperature inputs, AGA8 calculations or heating value. The energy rate (EnergyRate) becomes invalid if either the base-condition volumetric flow rate is invalid (QBaseValidity) or if an invalid gas heating value (AreGasPropertiesInvalidInUse) is used. Recommended Actions: 1. If the base-condition volumetric flow rate is invalid, resolve this issue first before trying to resolve this alarm. 2. Verify using MeterLink™ that a valid heating value (MeasVolGrossHeatingVal) is specified in the meter or a live gas chromatograph is configured and the meter reports no invalid GC alarms. Resolve these alarms if present. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6420	Freq1EnergyKFactor	Frequency Output 1 pair energy K-Factor Frequency Output 1 pair energy K-Factor.	R				float	pulses/MJ	pulses/MMBtu	float32	pulses/MJ				
6422	Freq2EnergyKFactor	Frequency Output 2 pair energy K-Factor Frequency Output 2 pair energy K-Factor.	R				float	pulses/MJ	pulses/MMBtu	float32	pulses/MJ				
6424	Freq1OutputEnergyRate	Frequency Output 1 pair output energy rate Frequency Output 1 pair output energy rate. This includes frequency feedback correction if applicable.	R				float	energy/time	energy/time	float32	MJ/hr				
6426	Freq2OutputEnergyRate	Frequency Output 2 pair output energy rate Frequency Output 2 pair output energy rate. This includes frequency feedback correction if applicable.	R				float	energy/time	energy/time	float32	MJ/hr				
6428	MassRate	Mass flow rate Mass flow rate. This is applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (AGA8 calculation method (HCH_Method) is not set to "None"). It is computed as QFlow with RhoMixFlow applied.	R				float	mass/time	mass/time	float32	kg/hr				
6430	MassRateValidity	Mass flow rate invalid The calculated mass flow rate (MassRate) is invalid. A problem has occurred with flow-condition pressure and/or temperature inputs or AGA8 calculations (HCH_Method). Mass rate (MassRate) becomes invalid if either the flow-condition volumetric flow rate is invalid (QFlowValidity) or the AGA8 flow calculation is invalid (AGA8FlowCalcValidity). This is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Recommended Actions: 1. Other primary cause alarms will be present in the alarm list. Resolve those alarms first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6432	Freq1MassKFactor	Frequency Output 1 pair mass K-Factor Frequency Output 1 pair mass K-Factor.	R				float	pulses/kg	pulses/lbm	float32	pulses/kg				
6434	Freq2MassKFactor	Frequency Output 2 pair mass K-Factor Frequency Output 2 pair mass K-Factor.	R				float	pulses/kg	pulses/lbm	float32	pulses/kg				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6436	Freq1OutputMassRate	Frequency Output 1 pair output mass rate Frequency Output 1 pair output mass rate. This includes frequency feedback correction if applicable.	R				float	mass/time	mass/time	float32	kg/hr				
6438	Freq2OutputMassRate	Frequency Output 2 pair output mass rate Frequency Output 2 pair output mass rate. This includes frequency feedback correction if applicable.	R				float	mass/time	mass/time	float32	kg/hr				
6440	Freq1ChnlA	Frequency Output 1A value Frequency Output 1 channel A value.	R				float	Hz	Hz	float32	Hz				
6442	Freq1ChnlB	Frequency Output 1B value Frequency Output 1 channel B value.	R				float	Hz	Hz	float32	Hz				
6444	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6446	DO1A	Digital Output 1A value Digital Output 1A value. This value is based on the selected content (DO1AContent) and polarity (DO1AIsInvPolarity).	R				float	-	-	uint8	-				
6448	DO1B	Digital Output 1B value Digital Output 1B value. This value is based on the selected content (DO1BContent) and polarity (DO1BIsInvPolarity).	R				float	-	-	uint8	-				
6450	Freq2ChnlA	Frequency Output 2A value Frequency Output 2 channel A value.	R				float	Hz	Hz	float32	Hz				
6452	Freq2ChnlB	Frequency Output 2B value Frequency Output 2 channel B value.	R				float	Hz	Hz	float32	Hz				
6454	Freq2DataValidity	Frequency Output 2 data invalid The parameter which the Frequency Output 2 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 2 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6456	DO2A	Digital Output 2A value Digital Output 2A value. This value is based on the selected content (DO2AContent) and polarity (DO2AIsInvPolarity).	R				float	-	-	uint8	-				
6458	DO2B	Digital Output 2B value Digital Output 2B value. This value is based on the selected content (DO2BContent) and polarity (DO2BIsInvPolarity).	R				float	-	-	uint8	-				
6460	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
6462	DI1	Digital Input 1 value Digital Input 1 value.	R				float	-	-	boolean	-				
6470	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
6472	AO1OutputTrimmed	Analog Output 1 current value after trim applied Analog Output 1 current value after trim applied.	R				float	ma	ma	float32	ma				
6474	AO1DataValidity	Analog Output 1 data invalid Analog Output 1 (AO1) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid or the loop current mode is disabled via HART. The content of AO1 is specified by AO1Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 1 (AO1Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 1 is not in alarm, then verify that the output is not fixed or set in test mode or the loop current mode has been not been disabled via HART. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6476	AO1IsFixed	Analog Output 1 (HART PV) is fixed Analog Output 1 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 1 is removed from test mode, this alarm will clear. See also IsAO1EnableTest data point.	R				float	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
6478	AO1IsSaturated	Analog Output 1 (HART PV) is saturated Analog Output 1 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 1.	R				float	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
6480	AO2Output	Analog Output 2 current value Analog Output 2 current value.	R				float	ma	ma	float32	ma				
6482	AO2OutputTrimmed	Analog Output 2 current value after trim applied Analog Output 2 current value after trim applied.	R				float	ma	ma	float32	ma				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6484	AO2DataValidity	Analog Output 2 data invalid Analog Output 2 (AO2) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid. The content of AO2 is specified by AO2Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 2 (AO2Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 2 is not in alarm, then verify that the output is not fixed or set in test mode. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6486	AO2IsFixed	Analog Output 2 (HART SV) is fixed Analog Output 2 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 2 is removed from test mode, this alarm will clear. See also IsAO2EnableTest data point.	R				float	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
6488	AO2IsSaturated	Analog Output 2 (HART SV) is saturated Analog Output 2 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 2.	R				float	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
6500	AO1TrimCurrent	Analog Output 1 fixed current value (for trim) Specifies the Analog Output 1 Fixed Current Mode value for trimming the output. A value of zero causes the Fixed Current Mode to be exited. Cycling power also causes the Fixed Current Mode to be exited.	RW			Y	float	ma	ma	float32	ma		0	0	21
6502	AO1TrimZeroExtMeasCurrent	Analog Output 1 zero trim externally measured current Analog Output 1 zero trim externally measured current.	RW			Y	float	ma	ma	float32	ma		4	3	5
6504	AO1TrimGainExtMeasCurrent	Analog Output 1 gain trim externally measured current Analog Output 1 gain trim externally measured current.	RW			Y	float	ma	ma	float32	ma		20	19	21
6506	AO2TrimCurrent	Analog Output 2 fixed current value (for trim) Specifies the Analog Output 2 Fixed Current Mode value for trimming the output. A value of zero causes the Fixed Current Mode to be exited. Cycling power also causes the Fixed Current Mode to be exited.	RW			Y	float	ma	ma	float32	ma		0	0	21
6508	AO2TrimZeroExtMeasCurrent	Analog Output 2 zero trim externally measured current Analog Output 2 zero trim externally measured current.	RW			Y	float	ma	ma	float32	ma		4	3	5
6510	AO2TrimGainExtMeasCurrent	Analog Output 2 gain trim externally measured current Analog Output 2 gain trim externally measured current.	RW			Y	float	ma	ma	float32	ma		20	19	21
6550	AO1CurrentTrimZero	Analog Output 1 current calibration zero (offset) Analog Output 1 current calibration zero (offset).	R	Y			float	ma	ma	float32	ma				
6552	AO1CurrentTrimGain	Analog Output 1 current calibration gain Analog Output 1 current calibration gain.	R	Y			float	-	-	float32	-				
6554	AO2CurrentTrimZero	Analog Output 2 current calibration zero (offset) Analog Output 2 current calibration zero (offset).	R	Y			float	ma	ma	float32	ma				
6556	AO2CurrentTrimGain	Analog Output 2 current calibration gain Analog Output 2 current calibration gain.	R	Y			float	-	-	float32	-				
6558	DampingValue	Damping value (outputs and data points) Specifies the damping value for all outputs and measurement data points. The damping value is the (worst case) time for the outputs and measurement data points to reach 63% of the steady-state value in response to a step input. This is a function of the desired batch update period (BatchUpdatePeriod).	R				float	sec	sec	float32	sec				
6560	Reserved		R				float								
6562	Reserved		R				float								
6564	Freq1ZeroScaleVolFlowRate	Frequency Output 1 pair volumetric flow rate corresponding to a frequency of zero Specifies the Frequency Output 1 pair volumetric flow rate corresponding to a frequency of zero when the Frequency Output 1 pair content (Freq1Content) is set to a volumetric flow rate.	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
6566	Freq1ZeroScaleEnergyRate	Frequency Output 1 pair energy rate corresponding to a frequency of zero Specifies the Frequency Output 1 pair energy rate corresponding to a frequency of zero when the Frequency Output 1 pair content (Freq1Content) is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
6568	Freq1ZeroScaleMassRate	Frequency Output 1 pair mass rate corresponding to a frequency of zero Specifies the Frequency Output 1 pair mass rate corresponding to a frequency of zero when the Frequency Output 1 pair content (Freq1Content) is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
6570	Freq2ZeroScaleVolFlowRate	Frequency Output 2 pair volumetric flow rate corresponding to a frequency of zero Specifies the Frequency Output 2 pair volumetric flow rate corresponding to a frequency of zero when the Frequency Output 2 pair content (Freq2Content) is set to a volumetric flow rate.	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
6572	Freq2ZeroScaleEnergyRate	Frequency Output 2 pair energy rate corresponding to a frequency of zero Specifies the Frequency Output 2 pair energy rate corresponding to a frequency of zero when the Frequency Output 2 pair content (Freq2Content) is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
6574	Freq2ZeroScaleMassRate	Frequency Output 2 pair mass rate corresponding to a frequency of zero Specifies the Frequency Output 2 pair mass rate corresponding to a frequency of zero when the Frequency Output 2 pair content (Freq2Content) is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
6600	HARTManufacturerIDCode	HART manufacturer ID code HART manufacturer ID code. HART slave devices are identified by their manufacturer ID, device type (HARTDeviceType) and device revision (HARTDeviceRevisionLevel).	R				int	-	-	uint8	-	Rosemount (38)			
6601	HARTDeviceType	HART device type HART device type. HART slave devices are identified by their manufacturer ID (HARTManufacturerIDCode), device type and device revision (HARTDeviceRevisionLevel).	R				int	-	-	uint8	-	153 - Gas 3410 Series meter (153)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6602	HARTMinNumPreambles	HART (via AO1) minimum number of Master command preamble bytes HART, via AO1, minimum number of Master command preamble bytes.	RW	Y	Y	Y	int	-	-	uint8	-		5	5	20
6603	HARTUnivCmdMajorRevision	HART universal command major revision number HART universal command major revision number.	R	Y			int	-	-	uint8	-				
6604	HARTDeviceRevisionLevel	HART device revision level HART device revision level. HART slave devices are identified by their manufacturer ID (HARTManufacturerIDCode), device type (HARTDeviceType) and device revision level.	R				int	-	-	uint8	-				
6605	HARTSoftwareRevisionLevel	HART device software revision level HART device software revision level.	R				int	-	-	uint8	-				
6606	HARTHardwareRevisionLevel	HART device hardware revision level HART device hardware revision level. For the ultrasonic meter, this is the CPU Module's I/O board type (IOBdType).	R				int	-	-	uint8	-				
6608	HARTPhysicalSignalingCode	HART physical signaling code HART physical signaling code.	R	Y			int	-	-	uint8	-	Bell 202 current (0)			
6609	HARTFlagAssignments	HART flag assignments HART flag assignments.	R	Y			int	-	-	uint8	-	Multi-sensor field device (1)			
6610	HARTPollingAddress	HART (via AO1) polling address Specifies the HART polling address for Analog Output 1.	RW	Y	Y	Y	int	-	-	uint8	-		0	0	63
6611	HARTVolFlowRateUnit	HART volumetric flow rate unit Specifies the HART communication unit for volumetric flow rate. This unit is derived from the volume unit (HARTVolUnit) and the flow rate time unit (HARTRateTimeUnit).	R				int	-	-	uint8	-	m3/sec (28) m3/hr (19) m3/day (29) ft3/sec (26) ft3/hr (130) ft3/day (27)			
6612	Reserved		R				int								
6613	HARTTVContent	HART Third Variable content HART Third Variable content.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7)	0	0	7
6614	HARTQVContent	HART Fourth Variable content HART Fourth Variable content.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7)	0	0	7
6615	HARTSlot0Content	HART Command 33 Slot 0 content Specifies the Device Variable mapped to the HART Command 33 Slot 0.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
6616	HARTSlot1Content	HART Command 33 Slot 1 content Specifies the Device Variable mapped to the HART Command 33 Slot 1.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
6617	HARTSlot2Content	HART Command 33 Slot 2 content Specifies the Device Variable mapped to the HART Command 33 Slot 2.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
6618	HARTSlot3Content	HART Command 33 Slot 3 content Specifies the Device Variable mapped to the HART Command 33 Slot 3.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
6619	Reserved		R				int								
6620	Reserved		R				int								
6621	IsAO1HARTAvail	Analog Output 1 HART functionality available Indicates whether HART functionality is available on Analog Output 1. It is set to "Not available" when the HART slave is disabled (IsHARTSlaveEnabled) or Analog Output 1 is not available (IsAO1Avail).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
6622	IsAO2Avail	Analog Output 2 available Analog Output 2 available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6623	IsAO2HARTAvail	Analog Output 2 HART functionality available Indicates whether HART functionality is available on Analog Output 2. It is set to "Not available" when the HART slave is disabled (IsHARTSlaveEnabled) or Analog Output 2 is not available (IsAO2Avail).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
6624	Reserved		R				int								
6625	Reserved		R				int								
6626	Reserved		R				int								
6627	Reserved		R				int								
6628	Reserved		R				int								
6629	Reserved		R				int								
6630	Reserved		R				int								
6631	Reserved		R				int								
6632	Reserved		R				int								
6633	Reserved		R				int								
6634	Reserved		R				int								
6635	Reserved		R				int								
6636	Reserved		R				int								
6637	Reserved		R				int								
6638	Reserved		R				int								
6639	Reserved		R				int								
6640	Reserved		R				int								
6641	Reserved		R				int								
6642	Reserved		R				int								
6643	Reserved		R				int								
6644	Reserved		R				int								
6645	Reserved		R				int								
6646	Reserved		R				int								
6647	Reserved		R				int								
6648	Reserved		R				int								
6649	Reserved		R				int								
6650	Reserved		R				int								
6651	Reserved		R				int								
6652	HARTVolUnit	HART volume unit Selects the HART communication volume unit. The volumetric flow rate unit (HARTVolFlowRateUnit) is derived from this.	RW	Y	Y	Y	int	-	-	uint8	-	m3 (43) ft3 (112)	43	43	112
6653	HARTEnergyUnit	HART energy unit Selects the HART communication energy unit. The energy rate unit (HARTEnergyRateUnit) is derived from this.	RW	Y	Y	Y	int	-	-	uint8	-	MJ (164) MMBtu (240)	164	164	240
6654	HARTMassUnit	HART mass unit Selects the HART communication mass unit. The mass rate unit (HARTMassRateUnit) is derived from this.	RW	Y	Y	Y	int	-	-	uint8	-	kg (61) lbm (63)	61	61	63
6655	HARTRateTimeUnit	HART flow rate time unit Selects the HART communication time unit for volumetric (HARTVolFlowRateUnit), energy (HARTEnergyRateUnit) and mass (HARTMassRateUnit) flow rates.	RW	Y	Y	Y	int	-	-	uint8	-	sec (51) hour (52) day (53)	52	51	53
6656	HARTVelUnit	HART velocity unit Selects the HART communication unit for flow velocity.	RW	Y	Y	Y	int	-	-	uint8	-	m/s (21) ft/s (20)	21	20	21
6657	HARTMassRateUnit	HART mass rate unit Specifies the HART communication unit for mass flow rate. This unit is derived from the mass unit (HARTMassUnit) and the flow rate time unit (HARTRateTimeUnit).	R				int	-	-	uint8	-	kg/s (73) kg/hr (75) kg/day (76) lbm/sec (80) lbm/hr (82) lbm/day (83)			
6658	HARTEnergyRateUnit	HART energy rate unit Specifies the HART communication unit for energy flow rate. This unit is derived from the energy unit (HARTEnergyUnit) and the flow rate time unit (HARTRateTimeUnit).	R				int	-	-	uint8	-	MJ/s (241) MJ/hr (141) MJ/day (242) MMBtu/s (243) MMBtu/hr (244) MMBtu/day (245)			
6659	HARTPressureUnit	HART pressure unit Selects the HART communication unit for pressure.	RW	Y	Y	Y	int	-	-	uint8	-	Pa (11) KPa (12) MPa (237) psi (6)	237	6	237
6660	HARTTemperatureUnit	HART temperature unit Selects the HART communication unit for temperature.	RW	Y	Y	Y	int	-	-	uint8	-	C (32) K (35) F (33)	32	32	35
6661	HARTNumPreambleBytesFromSlave	HART (via AO1) number of Slave response preamble bytes HART, via AO1, number of Slave response preamble bytes.	RW	Y	Y	Y	int	-	-	uint8	-		5	5	20
6662	Reserved		R				int								
6663	Reserved		R				int								
6664	Reserved		R				int								
6665	Reserved		R				int								

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6666	IsAcqModuleIncompatible	Acquisition Module is not compatible with the firmware/configuration The firmware cannot work with the installed Acquisition Module. The Acquisition Module may be newer than the firmware and the firmware does not recognize it. The Acquisition Module may be installed on a meter running firmware for the opposite product (Gas/Liquid). The Acquisition Module may be installed on a meter configured with a transducer frequency (XdcrFreq) or sample interval (SampInterval) that is not supported by the module. Recommended Actions: 1. Verify that the transducer frequency and sample interval are set to values supported by the installed Acquisition Module. 2. Upgrade the firmware in the meter to the latest version using MeterLink™. Contact your local area Emerson Flow service representative to obtain the latest firmware. 3. If the latest firmware revision did not resolve the issue, replace the Acquisition Module. 4. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Compatible Acquisition Module (FALSE) Incompatible Acquisition Module (TRUE)			
6667	IsEnergyRateInvalid	Energy flow rate invalid This indicates when the energy rate (EnergyRate) is invalid. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			
6668	AvgSndVelIsOutOfLimits	Average speed of sound out of limits (HART-specific) The meter's measured average speed of sound (AvgSndVel) is out of limits (SSMin, SSMax). This alarm is used for HART applications. The non-HART average speed of sound out of limits alarm (IsAvgSoundVelRangeErr) is used for other applications. Recommended Actions: 1. Verify that all the chords are measuring the same Speed of Sound within about 0.15%. Look for alarms that indicate transducer problems and resolve any of these issues. This could include failing transducers, debris buildup on transducers or incorrectly entered path lengths in the configuration. 2. If the chords agree well, it is recommended to compare the meter's average speed of sound with the speed of sound calculated from gas composition. If they agree within 0.3%, it is recommended that the minimum (SSMin) or maximum (SSMax) speed of sound be adjusted so the meter's average speed of sound falls within these limits. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Within limits (FALSE) Out of limits (TRUE)			
6669	FlowPressureIsOutOfLimits	Flow-condition pressure out-of-limits The flow-condition pressure (FlowPressure) is outside the limits (MinInputPressure to MaxInputPressure). Recommended Actions: 1. If connected to a pressure transducer, verify that the transducer is functioning properly. Verify that the wiring is correctly connected to TB2-B pins 1 & 2 (ANALOG IN PT- and PT+). Verify that the current is between 4 mA and 20 mA. 2. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits (MinInputPressure and MaxInputPressure) corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 3. Adjust the gain and offset (LiveFlowPressureGain and LiveFlowPressureOffset) so the flow-condition pressure (FlowPressure) is correct. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Within limits (FALSE) Out of limits (TRUE)			
6670	FlowTemperatureIsOutOfLimits	Flow-condition temperature out-of-limits The flow-condition temperature (FlowTemperature) is outside the limits (MinInputTemperature to MaxInputTemperature). Recommended Actions: 1. If connected to a temperature transducer, verify that the transducer is functioning properly. Verify that the wiring is correctly connected to TB2-B pins 3 & 4 (ANALOG IN TT- and TT+). Verify that the current is between 4 mA and 20 mA. 2. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits (MinInputTemperature and MaxInputTemperature) corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 3. Adjust the gain and offset (LiveFlowTemperatureGain and LiveFlowTemperatureOffset) so the flow-condition temperature (FlowTemperature) is correct. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Within limits (FALSE) Out of limits (TRUE)			
6671	IsPPPSupported	PPP connections are supported Boolean that indicates if PPP is supported or not. If variable does not exist on a meter, assumed that PPP is not supported.	R				int	-	-	boolean	-				
6672	Reserved		R				int								
6673	HARTTVValidity	HART Third Variable invalid The HART Third Variable value as defined by the HART device variable selection (HARTTVContent) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6674	HARTQVValidity	HART Fourth Variable invalid The HART Fourth Variable value as defined by the HART device variable selection (HARTQVContent) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6675	HARTSlot0Validity	HART Command 33 Slot 0 invalid The HART Slot 0 value as defined by the HART device variable selection (HARTSlot0Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6676	HARTSlot1Validity	HART Command 33 Slot 1 invalid The HART Slot 1 value as defined by the HART device variable selection (HARTSlot1Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6677	HARTSlot2Validity	HART Command 33 Slot 2 invalid The HART Slot 2 value as defined by the HART device variable selection (HARTSlot2Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6678	HARTSlot3Validity	HART Command 33 Slot 3 invalid The HART Slot 3 value as defined by the HART device variable selection (HARTSlot3Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6679	AO1IsFixed	Analog Output 1 (HART PV) is fixed Analog Output 1 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 1 is removed from test mode, this alarm will clear. See also IsAO1EnableTest data point.	R				int	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
6680	AO1IsSaturated	Analog Output 1 (HART PV) is saturated Analog Output 1 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 1.	R				int	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
6681	AO1ActionUponInvalidContent	Analog Output 1 current action upon invalid content Specifies the action for Analog Output 1 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	int	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
6682	AO2IsFixed	Analog Output 2 (HART SV) is fixed Analog Output 2 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 2 is removed from test mode, this alarm will clear. See also IsAO2EnableTest data point.	R				int	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
6683	AO2IsSaturated	Analog Output 2 (HART SV) is saturated Analog Output 2 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 2.	R				int	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
6684	AO2ActionUponInvalidContent	Analog Output 2 current action upon invalid content Specifies the action for Analog Output 2 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	int	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
6685	HARTLengthUnit	HART length unit Selects the HART communication unit for length.	RW	Y	Y	Y	int	-	-	uint8	-	m (45) in (47)	45	45	47
6686	HARTMicroLengthUnit	HART micro length unit Selects the HART communication unit for pipe wall roughness (WallRoughness).	RW	Y	Y	Y	int	-	-	uint8	-	micrometers (170) microinches (171)	170	170	171
6687	HARTViscosityUnit	HART viscosity unit Selects the HART communication unit for dynamic viscosity.	RW	Y	Y	Y	int	-	-	uint8	-		55	55	170

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6688	HARTYoungsModulusPressureUnit	HART Young's modulus pressure unit Selects the HART communication unit for Young's Modulus (YoungsModulus).	RW	Y	Y	Y	int	-	-	uint8	-	KPa (12) MPa (237) 1E6 psi (180)	180	12	237
6689	HARTHeatingValueUnit	HART volumetric heating value unit Selects the HART communication unit for volumetric gross heating value (MeasVolGrossHeatingVal).	RW	Y	Y	Y	int	-	-	uint8	-	KJ/dm3 (170) Btu/ft3 (171)	170	170	171
6690	HARTDensityUnit	HART density unit Selects the HART communication unit for specified flow-condition gas mass density (SpecRhoMixFlow).	RW	Y	Y	Y	int	-	-	uint8	-	kg/m3 (92) lbm/ft3 (94)	92	92	94
6691	PerfStatusSuppressLmt	Chord performance status suppression limit Minimum percentage of chord performance to suppress chordal performance statuses. If the chord performance (PctGoodA..PctGoodD) is above this limit then the chordal performance statuses for the chord (DidDltTmChkFailA..DidDltTmChkFailD, IsSigQltyBadA..IsSigQltyBadD, DidExceedMaxNoiseA..DidExceedMaxNoiseD, IsSNRTooLowA..IsSNRTooLowD, DidTmDevChkFailA..DidTmDevChkFailD, IsSigDistortedA..IsSigDistortedD, IsPeakSwitchDetectedA..IsPeakSwitchDetectedD, IsSigClippedA..IsSigClippedD and IsStackingIncompleteA..IsStackingIncompleteD) are suppressed. This limit cannot be set less than or equal to percentage good threshold (MinPctGood).	RW	Y	Y		int	%	%	uint8	%		95	0	100
6692	MeterNominalSize	Meter nominal size The meter nominal size as set by the user or at the factory. The meter nominal size is used for the MeterLink™-created Smart Meter Verification report.	RW	Y	Y	Y	int	-	-	uint8	-	Not set (0) 4 in (DN 100) (4) 6 in (DN 150) (6) 8 in (DN 200) (8) 10 in (DN 250) (10) 12 in (DN 300) (12) 14 in (DN 350) (14) 16 in (DN 400) (16) 18 in (DN 450) (18) 20 in (DN 500) (20) 22 in (DN 550) (22) 24 in (DN 600) (24) 26 in (DN 650) (26) 28 in (DN 700) (28) 30 in (DN 750) (30) 32 in (DN 800) (32) 34 in (DN 850) (34) 36 in (DN 900) (36) 42 in (DN 1050) (42)	0	0	255
6700	HARTDeviceID	Unique HART device ID Unique HART device ID. This number is different for every device manufactured by Rosemount with this device type. It is identical to CPUBdSerialNumber	R	Y			long	-	-	uint32	-				
6702	HARTDeviceFinalAssyNum	HART device final assembly number HART device final assembly number. The final assembly number is used for identifying the materials and electronics that comprise the field device.	R	Y	Y	Y	long	-	-	uint32	-		0	0	16777215
6704	HARTDate	HART date code used by the master for record keeping HART date code used by the master for record keeping (such as last or next calibration date).	RW	Y	Y	Y	long	-	-	uint32	-		65792	0	16777215
6706	Reserved		R				long								
6708	Reserved		R				long								
6710	AO2Content	Analog Output 2 content (and HART secondary variable) Selects the data to be represented by Analog Output 2. Is used for HART communication as the Secondary Variable content.	RW	Y	Y	Y	long	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
6712	AO2Dir	Selects the flow direction represented by the Analog Output 2 Selects the flow direction represented by Analog Output 2. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	long	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
6720	Reserved		R				long								
6722	Reserved		R				long								
6724	SystemStatusLatched	General system status General system status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	long	-	-	bitfield	-	7 IsColocMeterQFlowRangeErrLatched (NV) 8 IsTooFewOperChordsLatched (NV) 9 IsMeterVelAboveMaxLmtLatched (NV) 10 IsBlockageDetectedLatched (NV) 11 IsBoreBuildupDetectedLatched (NV) 12 IsLiquidDetectedLatched (NV) 13 IsAbnormalProfileDetectedLatched (NV) 14 IsReverseFlowDetectedLatched (NV)			
6726	FieldIOStatus	Ancillary devices and device status Externally connected devices and device status	R	*	*	*	long	-	-	bitfield	-	0 IsColocMeterCommErr (NV) 1 PressureInvalid (NV) 2 TemperatureInvalid (NV) 3 AreGasPropertiesInvalidInUse (NV) 4 IsGCCommErr (NV) 5 IsGCDataErr (NV) 7 IsGCAlarmPresent (NV) 8 DidResetUsers (NV, Cnfg) 18 IsCorePresent (NV, Cnfg)			
6728	FieldIOStatusLatched	Latched status of field IO Latched field IO indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to the field I/O status (FieldIOStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsColocMeterCommErrLatched (NV) 1 PressureInvalidLatched (NV) 2 TemperatureInvalidLatched (NV) 3 AreGasPropertiesInvalidInUseLatched (NV)			
6730	ProfileStatus	Status of profile factor Profile factor indicator. This is a bitfield consisting of multiple Boolean data point values corresponding to the Profile status group.	R	*	*	*	long	-	-	bitfield	-	0 IsAbnormalProfileDetected (NV) 1 IsBlockageDetected (NV) 2 IsBoreBuildupDetected (NV)			
6732	ProfileStatusLatched	Latched status of profile factor Latched profile factor indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to the profile status (ProfileStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsAbnormalProfileDetectedLatched (NV) 1 IsBlockageDetectedLatched (NV) 2 IsBoreBuildupDetectedLatched (NV)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6734	SOSCompareStatus	Status of SOS comparison Speed of sound comparison indicator. This is a bitfield consisting of multiple Boolean data point values corresponding to the speed of sound comparison group.	R	*	*	*	long	-	-	bitfield	-	0 IsSndVelCompErr (NV) 2 IsDiagnosticSndSpdRangeErr (NV) 3 IsColocMeterSndSpdRangeErr (NV)			
6736	SOSCompareStatusLatched	Latched status of SOS comparison Latched speed of sound comparison status indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to the speed of sound compare status (SOSCompareStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsSndVelCompErrLatched (NV) 2 IsDiagnosticSndSpdRangeErrLatched (NV) 3 IsColocMeterSndSpdRangeErrLatched (NV)			
6738	LiquidDetectedStatus	Status of liquid detection Liquid detection indicator. This is a bitfield consisting of multiple Boolean data point values corresponding to the liquid detection status group.	R	*	*	*	long	-	-	bitfield	-	0 IsLiquidDetected (NV)			
6740	LiquidDetectedLatched	Latched status of liquid detection Latched liquid detection indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to liquid detected status (LiquidDetectedStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsLiquidDetectedLatched (NV)			
6742	FwdBaselineTime	Time of forward flow baseline The time value when the baseline is taken in the forward direction.	R	Y	Y	Y	long	sec	sec	int32	Epoch sec		0	0	2147483647
6744	RevBaselineTime	Time of reverse flow baseline The time value when the baseline is taken in the reverse direction.	R	Y	Y	Y	long	sec	sec	int32	Epoch sec		0	0	2147483647
6746	FwdBoreBuildupDailyLogRecNum1	First daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the first day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
6748	FwdBoreBuildupDailyLogRecNum2	Second daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the second day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
6750	FwdBoreBuildupDailyLogRecNum3	Third daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the third day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
6752	FwdBoreBuildupDailyLogRecNum4	Fourth daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the fourth day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
6754	FwdBoreBuildupDailyLogRecNum5	Fifth daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the fifth day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
6756	RevBoreBuildupDailyLogRecNum1	First daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the first day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
6758	RevBoreBuildupDailyLogRecNum2	Second daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the second day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
6760	RevBoreBuildupDailyLogRecNum3	Third daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the third day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
6762	RevBoreBuildupDailyLogRecNum4	Fourth daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the fourth day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
6764	RevBoreBuildupDailyLogRecNum5	Fifth daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the fifth day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
6766	HourlyMacro1	Hourly log macro 1 Hourly log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6768	HourlyMacro2	Hourly log macro 2 Hourly log macro status indicator 2. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6770	HourlyMacro3	Hourly log macro 3 Hourly log macro status indicator 3. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6772	HourlyMacro4	Hourly log macro 4 Hourly log macro status indicator 4. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6774	HourlyMacro5	Hourly log macro 5 Hourly log macro status indicator 5. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6776	HourlyMacro6	Hourly log macro 6 Hourly log macro status indicator 6. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6780	DailyMacro1	Daily log macro 1 Daily log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6782	DailyMacro2	Daily log macro 2 Daily log macro status indicator 2. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6784	DailyMacro3	Daily log macro 3 Daily log macro status indicator 3. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6786	DailyMacro4	Daily log macro 4 Daily log macro status indicator 4. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6788	DailyMacro5	Daily log macro 5 Daily log macro status indicator 5. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6790	DailyMacro6	Daily log macro 6 Daily log macro status indicator 6. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
6794	MeterModel	Meter model The meter model as set by the user or at the factory. The meter model is used for the MeterLink™-created Smart Meter Verification report.	R	Y	Y	Y	long	-	-	uint16	-	Not set (0) 3411 (3411) 3412 (3412) 3414 (3414) 3415 (3415) 3416 (3416) 3417 (3417) 3418 (3418)	0	0	65535
6800	SOSComparePctDiff	Percent difference between the speed of sound calculated from gas composition and the average measured speed of sound The percent difference between the optional speed of sound calculated from gas composition (AGA10SndVel) and the average measured speed of sound (AvgSndVel) computed each Batch cycle as: ((AvgSndVel - AGA10SndVel) / AGA10SndVel) * 100%.	R				float	%	%	float32	%				
6802	FwdBaselineFlowTemperature	Forward flow temperature baseline The flow temperature value when the baseline is taken in the forward direction. Normally taken from RunningAvgFlowTemperature.	R	Y	Y	Y	float	deg C	deg F	float32	K		273.15	-3.40E+38	3.40E+38
6804	FwdBaselineFlowPressure	Forward flow pressure baseline The flow pressure value when the baseline is taken in the forward direction. Normally taken from RunningAvgFlowPressure.	R	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	-3.40E+38	3.40E+38
6806	FwdBaselineTurbulenceA	Forward flow chord A turbulence baseline The chord A turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceA.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
6808	FwdBaselineTurbulenceB	Forward flow chord B turbulence baseline The chord B turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceB.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
6810	FwdBaselineTurbulenceC	Forward flow chord C turbulence baseline The chord C turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceC.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
6812	FwdBaselineTurbulenceD	Forward flow chord D turbulence baseline The chord D turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceD.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
6814	FwdBaselineAvgFlow	Forward flow average flow baseline The average flow value when the baseline is taken in the forward direction. Normally taken from RunningAvgAvgFlow.	R	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-3.40E+38	3.40E+38
6816	FwdBaselineCrossFlow	Forward flow cross-flow baseline The cross-flow value when the baseline is taken in the forward direction. Normally taken from RunningAvgCrossFlow.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38
6818	FwdBaselineProfileFactor	Forward flow profile factor baseline The profile factor value when the baseline is taken in the forward direction. Normally taken from RunningAvgProfileFactor.	R	Y	Y	Y	float	-	-	float32	-		1.17	-3.40E+38	3.40E+38
6820	FwdBaselineSymmetry	Forward flow symmetry baseline The symmetry value when the baseline is taken in the forward direction. Normally taken from RunningAvgSymmetry.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38
6822	RevBaselineFlowTemperature	Reverse flow temperature baseline The flow temperature value when the baseline is taken in the reverse direction. Normally taken from RunningAvgFlowTemperature.	R	Y	Y	Y	float	deg C	deg F	float32	K		273.15	-3.40E+38	3.40E+38
6824	RevBaselineFlowPressure	Reverse flow pressure baseline The flow pressure value when the baseline is taken in the reverse direction. Normally taken from RunningAvgFlowPressure.	R	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	-3.40E+38	3.40E+38
6826	RevBaselineTurbulenceA	Reverse flow chord A turbulence baseline The chord A turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceA.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
6828	RevBaselineTurbulenceB	Reverse flow chord B turbulence baseline The chord B turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceB.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
6830	RevBaselineTurbulenceC	Reverse flow chord C turbulence baseline The chord C turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceC.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
6832	RevBaselineTurbulenceD	Reverse flow chord D turbulence baseline The chord D turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceD.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
6834	RevBaselineAvgFlow	Reverse flow average flow baseline The average flow value when the baseline is taken in the reverse direction. Normally taken from RunningAvgAvgFlow.	R	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-3.40E+38	3.40E+38
6836	RevBaselineCrossFlow	Reverse flow cross-flow baseline The cross-flow value when the baseline is taken in the reverse direction. Normally taken from RunningAvgCrossFlow.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38
6838	RevBaselineProfileFactor	Reverse flow profile factor baseline The profile factor value when the baseline is taken in the reverse direction. Normally taken from RunningAvgProfileFactor.	R	Y	Y	Y	float	-	-	float32	-		1.17	-3.40E+38	3.40E+38
6840	RevBaselineSymmetry	Reverse flow symmetry baseline The symmetry value when the baseline is taken in the reverse direction. Normally taken from RunningAvgSymmetry.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6842	RunningAvgFlowTemperature	Flow temperature one minute average A running average of flow-condition temperature (FlowTemperature) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	deg C	deg F	float32	K				
6844	RunningAvgFlowPressure	Flow pressure one minute average A running average of flow-condition pressure (FlowPressure) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	MPa	psi	float32	MPa				
6846	RunningAvgTurbulenceA	Chord A turbulence one minute average A running average of chord A turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
6848	RunningAvgTurbulenceB	Chord B turbulence one minute average A running average of chord B turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
6850	RunningAvgTurbulenceC	Chord C turbulence one minute average A running average of chord C turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
6852	RunningAvgTurbulenceD	Chord D turbulence one minute average A running average of chord D turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
6854	RunningAvgAvgFlow	Avg flow averaged for one minute A running average of average flow velocity (AvgFlow) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	m/s	ft/s	float32	m/s				
6856	RunningAvgCrossFlow	Cross-flow one minute average A running average of cross-flow (CrossFlow) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
6858	RunningAvgProfileFactor	Profile factor one minute average A running average of profile factor (ProfileFactor) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
6860	RunningAvgSymmetry	Symmetry one minute average A running average of symmetry (Symmetry) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
6862	RunningSDevCrossFlow	Running standard deviation of cross-flow over a minute A running average of standard deviation of cross-flow (SDevCrossFlow) over a minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
6864	RunningSDevProfileFactor	Running standard deviation of the profile factor over a minute A running average of standard deviation of the profile factor (SDevProfileFactor) over a minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
6866	RunningSDevSymmetry	Running standard deviation of symmetry over a minute A running average of standard deviation of symmetry (SDevSymmetry) over a minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
6868	ReverseFlowVol	Accumulated volume for reverse flow alarm Volume flowed from continuous flow in reverse direction. This volume is compared to the reverse flow limit (ReverseFlowVolLmt) to determine the reverse flow alarm (IsReverseFlowDetected). It is only accumulated when the flow velocity (AvgWtdFlowVel) is below the reverse flow velocity threshold (ReverseFlowDetectionZeroCut).	R				float	volume	volume	float32	m3				
6870	SignalAmplitudeA1	Batch average signal amplitude on path A1 Batch average of the signal amplitude when transducer A1 receives a signal.	R				float	mV	mV	float32	mV				
6872	SignalAmplitudeA2	Batch average signal amplitude on path A2 Batch average of the signal amplitude when transducer A2 receives a signal.	R				float	mV	mV	float32	mV				
6874	SignalAmplitudeB1	Batch average signal amplitude on path B1 Batch average of the signal amplitude when transducer B1 receives a signal.	R				float	mV	mV	float32	mV				
6876	SignalAmplitudeB2	Batch average signal amplitude on path B2 Batch average of the signal amplitude when transducer B2 receives a signal.	R				float	mV	mV	float32	mV				
6878	SignalAmplitudeC1	Batch average signal amplitude on path C1 Batch average of the signal amplitude when transducer C1 receives a signal.	R				float	mV	mV	float32	mV				
6880	SignalAmplitudeC2	Batch average signal amplitude on path C2 Batch average of the signal amplitude when transducer C2 receives a signal.	R				float	mV	mV	float32	mV				
6882	SignalAmplitudeD1	Batch average signal amplitude on path D1 Batch average of the signal amplitude when transducer D1 receives a signal.	R				float	mV	mV	float32	mV				
6884	SignalAmplitudeD2	Batch average signal amplitude on path D2 Batch average of the signal amplitude when transducer D2 receives a signal.	R				float	mV	mV	float32	mV				
6886	NoiseAmplitudeA1	Batch average noise amplitude on path A1 Batch average of the noise amplitude when transducer A1 receives a signal.	R				float	mV	mV	float32	mV				
6888	NoiseAmplitudeA2	Batch average noise amplitude on path A2 Batch average of the noise amplitude when transducer A2 receives a signal.	R				float	mV	mV	float32	mV				
6890	NoiseAmplitudeB1	Batch average noise amplitude on path B1 Batch average of the noise amplitude when transducer B1 receives a signal.	R				float	mV	mV	float32	mV				
6892	NoiseAmplitudeB2	Batch average noise amplitude on path B2 Batch average of the noise amplitude when transducer B2 receives a signal.	R				float	mV	mV	float32	mV				
6894	NoiseAmplitudeC1	Batch average noise amplitude on path C1 Batch average of the noise amplitude when transducer C1 receives a signal.	R				float	mV	mV	float32	mV				
6896	NoiseAmplitudeC2	Batch average noise amplitude on path C2 Batch average of the noise amplitude when transducer C2 receives a signal.	R				float	mV	mV	float32	mV				
6898	NoiseAmplitudeD1	Batch average noise amplitude on path D1 Batch average of the noise amplitude when transducer D1 receives a signal.	R				float	mV	mV	float32	mV				
6900	NoiseAmplitudeD2	Batch average noise amplitude on path D2 Batch average of the noise amplitude when transducer D2 receives a signal.	R				float	mV	mV	float32	mV				
6902	FlowAnalysisHighFlowLmt	Upper flow velocity limit for performing flow analysis diagnostics The upper flow velocity limit for performing flow analysis diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled), Dual-Configuration meter diagnostics (IsColocMeterQFlowRangeErr and IsColocMeterSndSpdRangeErr) and gating "flow analysis gated" values in daily and hourly logs.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		30.48	1	50
6904	FlowAnalysisLowFlowLmt	Lower flow velocity limit for performing flow analysis diagnostics The lower flow velocity limit for performing flow analysis diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled), Dual-Configuration meter diagnostics (IsColocMeterQFlowRangeErr and IsColocMeterSndSpdRangeErr) and gating "flow analysis gated" values in daily and hourly logs. This value may not be less than the lower velocity threshold (ZeroCut).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		1.524	-3.40E+38	3.40E+38

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6906	LiquidDetectionSDevSymmetryLmt	Liquid detection symmetry limit Alarm limit for running average of standard deviation of symmetry (RunningSDevSymmetry) involved in detection of potential liquids present (IsLiquidDetected).	RW	Y	Y	Y	float	-	-	float32	-		0.07	0	3.40E+38
6908	LiquidDetectionSDevProfileFactorLmt	Liquid detection profile factor limit Alarm limit for running average of standard deviation of profile factor (RunningSDevProfileFactor) involved in detection of potential liquids present (IsLiquidDetected).	RW	Y	Y	Y	float	-	-	float32	-		0.07	0	3.40E+38
6910	LiquidDetectionSDevCrossFlowLmt	Liquid detection cross-flow limit Alarm limit for running average of standard deviation of cross flow (RunningSDevCrossFlow) involved in detection of potential liquids present (IsLiquidDetected).	RW	Y	Y	Y	float	-	-	float32	-		0.07	0	3.40E+38
6912	AbnormalProfileDetectionLmt	Abnormal profile detection alarm limit Abnormal profile detection (IsAbnormalProfileDetected) alarm limit.	RW	Y	Y	Y	float	%	%	float32	%		5	0	100
6914	ReverseFlowVolLmt	Reverse flow alarm limit This is the limit for the reverse flow alarm (IsReverseFlowDetected). If the volume for reverse flow (ReverseFlowVol) exceeds this value with continuous reverse flow, the reverse flow alarm will be set.	RW	Y	Y	Y	float	volume	volume	float32	m3		0	0	3.40E+38
6916	ReverseFlowDetectionZeroCut	Velocity threshold below which reverse flow volume accumulates Velocity threshold below which the flow velocity is considered reversed (and thus the reverse flow volume (ReverseFlowVol) is accumulated).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0.1	0	3.40E+38
6918	SDevCrossFlow	Standard deviation of cross-flow Standard deviation of cross-flow calculated using measurement sequences received in a batch. This is used to calculate one minute running average of standard deviation of cross-flow (RunningSDevCrossFlow).	R				float	-	-	float32	-				
6920	SDevProfileFactor	Standard deviation of profile factor Standard deviation of profile factor calculated using measurement sequences received in a batch. This is used to calculate one minute running average of standard deviation of profile factor (RunningSDevProfileFactor).	R				float	-	-	float32	-				
6922	SDevSymmetry	Standard deviation of symmetry Standard deviation of symmetry calculated using measurement sequences received in a batch. This is used to calculate one minute running average of standard deviation of symmetry (RunningSDevSymmetry).	R				float	-	-	float32	-				
6950	AreSwComponentsCompatible	Kernel, File System and Firmware are compatible versions When TRUE (1), the versions of the kernel (OSVer), file system (FileSysVer) and firmware (CPUBdSwVer), are compatible with each other. When FALSE (0), the appropriate software component(s) need to be updated.	R				int	-	-	boolean	-				
6951	AreSwComponentsIncompatible	Kernel, File System and Firmware are not compatible versions The inversion of the software compatibility Boolean (AreSwComponentsCompatible) for the Modbus system status bit field (SystemStatus). When FALSE (0), the versions of the kernel, file system and firmware are compatible with each other. When TRUE (1), the appropriate software component(s) need to be updated.	R				int	-	-	boolean	-				
6952	IsSndVelCompFeatureActive	Comparison of SOS from gas composition to meter SOS feature is active TRUE (1) if the comparison of speed of sound from the gas composition by the meter-calculated speed of sound is enabled (IsSndVelCompEnabled), the Continuous Flow Analysis feature (IsOptionalContinuousFlowAnalysisEnabled) is enabled and the AGA8 method (HCH_Method) is set to Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017).	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
6953	FwdBaselineSwirlAngle	Forward flow swirl angle baseline The swirl angle value when the baseline is taken in the forward direction. Normally taken from RunningAvgSwirlAngle.	R	Y	Y	Y	int	deg	deg	int8	deg		0	-128	127
6954	RevBaselineSwirlAngle	Reverse flow swirl angle baseline The swirl angle value when the baseline is taken in the reverse direction. Normally taken from RunningAvgSwirlAngle.	R	Y	Y	Y	int	deg	deg	int8	deg		0	-128	127
6955	IsRunningAvgValid	One minute average validity Are the values in the one minute averages valid for use with the baseline	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
6956	RunningAvgSwirlAngle	Swirl angle one minute average A running average of swirl angle (SwirlAngle) over one minute when the running averages are valid (IsRunningAvgValid).	R				int	deg	deg	int8	deg				
6957	IsBlockageDetected	Possible blockage detected There may be a possible blockage upstream from the meter. The monitored conditions are from the hourly log data in the meter which means the alarm condition is set or cleared once an hour. Limits are specified by blockage turbulence limits (BlockageTurbulenceLmtA, BlockageTurbulenceLmtB, BlockageTurbulenceLmtC, BlockageTurbulenceLmtD) blockage cross-flow limit (BlockageCrossFlowLmt) and blockage symmetry limit (BlockageSymmetryLmt). This alarm is enabled/disabled by IsBlockageDetectionEnabled. This alarm is latched by IsBlockageDetectedLatched. Recommended Actions: 1. Check that the baseline has been set for the relevant flow direction. Use Edit/Compare Configuration dialog in MeterLink™ and check the relevant flow direction baseline comment (FwdBaselineComment, RevBaselineComment) and ensure the comment for the meter's flow direction is not set to Factory default. If the baseline was not set at the flow calibration lab or during field commissioning i.e. if the baseline isn't something other than factory default values, use the Set Baseline Wizard in MeterLink™ to set the baseline for normal flow conditions. 2. Inspect the flow conditioners, flow straighteners, tube bundles, or upstream piping for foreign objects. 3. If the issue is unresolved, collect a Maintenance Log, Archive Log, and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-				
6958	IsBlockageDetectionFeatureActive	Blockage detection feature active This is TRUE (1) when blockage detection (IsBlockageDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
6959	IsBoreBuildupDetected	Possible bore buildup detected There may be a possible buildup of material on the meter bore. The monitored conditions are from the daily log data in the meter which means the alarm condition is set or cleared once a day. This alarm is enabled/disabled using IsBoreBuildupDetectionEnabled. This alarm is latched by IsBoreBuildupDetectedLatched. Recommended Actions: 1. Check that the baseline has been set for the relevant flow direction. Use Edit/Compare Configuration dialog in MeterLink™ and check the relevant flow direction baseline comment (FwdBaselineComment, RevBaselineComment) and ensure the comment for the meter's flow direction is not set to Factory default. If the baseline was not set at the flow calibration lab or during field commissioning i.e. if the baseline isn't something other than factory default values, use the Set Baseline Wizard in MeterLink™ to set the baseline for normal flow conditions. 2. Collect the Archive Log using MeterLink™ and look at the Profile Factor chart on the Daily Log Charts worksheet. If the data trend shows a long-term change in Profile Factor, this indicates a long-term buildup. If the Profile Factor has had an abrupt change in the last week, this indicates a possible upset condition that caused a buildup on the bore of the meter. 3. Inspect meter run for possible bore buildup. 4. If the issue is unresolved, collect a Maintenance Log and Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6960	IsBoreBuildupDetectionFeatureActive	Bore buildup detection feature active This is TRUE (1) when bore buildup detection (IsBoreBuildupDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
6961	IsLiquidDetected	Liquids possibly present in gas There may be a possible presence of liquids in the meter. Alarm limits are specified by LiquidDetectionSDevSymmetryLmt, LiquidDetectionSDevProfileFactorLmt and LiquidDetectionSDevCrossFlowLmt. This alarm is enabled/disabled by IsLiquidDetectionEnabled. This alarm is latched by IsLiquidDetectedLatched. This is TRUE (1) when all three alarm conditions are active for a period of one minute i.e. the running average of the standard deviation of profile factor (RunningSDevProfileFactor) is greater than the liquid detection profile factor limit (LiquidDetectionSDevProfileFactorLmt), the running average of standard deviation of symmetry (RunningSDevSymmetry) is greater than the liquid detection symmetry limit (LiquidDetectionSDevSymmetryLmt) and the running average of standard deviation of profile factor (RunningSDevCrossFlow) is greater than the liquid detection cross flow limit (LiquidDetectionSDevCrossFlowLmt). Recommended Actions: 1. Verify that the gas process conditions are such that the meter is operating above the dew point. 2. Inspect the meter run for the presence of liquids. 3. Check the upstream system for faults that could allow liquids into the meter run. 4. Verify that the meter is not at a low point in the meter run where liquids could be trapped. 5. If the issue is unresolved, collect a Maintenance Log and Waveform stream file while alarm is active and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
6962	IsLiquidDetectionFeatureActive	Liquid detection feature active This is TRUE (1) when liquid detection (IsLiquidDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
6963	IsAbnormalProfileDetected	Abnormal profile detected The flow profile of the meter is abnormal and may affect the accuracy of measurement of the meter. Limits are specified by AbnormalProfileDetectionLmt. This alarm is enabled/disabled by IsAbnormalProfileDetectionEnabled. This alarm is latched by IsAbnormalProfileDetectedLatched. Recommended Actions: 1. Check that the baseline has been set for the relevant flow direction. Use Edit/Compare Configuration dialog in MeterLink™ and check the relevant flow direction baseline comment (FwdBaselineComment, RevBaselineComment) and ensure the comment for the meter's flow direction is not set to Factory default. If the baseline was not set at the flow calibration lab or during field commissioning i.e. if the baseline isn't something other than factory default values, use the Set Baseline Wizard in MeterLink™ to set the baseline for normal flow conditions. 2. Inspect the meter run and the upstream flow conditioner for possible obstructions. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
6964	IsAbnormalProfileDetectionFeatureActive	Abnormal profile detection feature active This is TRUE (1) when abnormal profile detection (IsAbnormalProfileDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
6965	IsReverseFlowDetected	Reverse flow detected The meter has accumulated a reverse flow volume greater than a user configurable limit. Limits are specified by the reverse flow volume limit (ReverseFlowVolLmt) and by the reverse flow detection zero flow cutoff (ReverseFlowDetectionZeroCut). This alarm may be enabled or disabled (IsReverseFlowDetectionEnabled). This alarm is latched (IsReverseFlowDetectedLatched). Recommended Actions: 1. Check the valves for leaks. 2. If the metering run is known to have some volume of reverse flow when the flow is stopped, reconfigure the reverse flow volume limit (ReverseFlowVolLmt) to allow a greater volume. 3. If the meter regularly flows in the reverse direction, this alarm should be disabled. It is only intended to be used for unidirectional applications. 4. If the issue is unresolved, collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
6966	IsFwdBaselineFlowTemperatureNotSet	Forward flow temperature baseline value is not set Baseline value, FwdBaselineFlowTemperature, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6967	IsFwdBaselineFlowPressureNotSet	Forward flow pressure baseline value is not set Baseline value, FwdBaselineFlowPressure, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6968	IsFwdBaselineTurbulenceANotSet	Forward turbulence A baseline value is not set Baseline value, FwdBaselineTurbulenceA, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6969	IsFwdBaselineTurbulenceBNotSet	Forward turbulence B baseline value is not set Baseline value, FwdBaselineTurbulenceB, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6970	IsFwdBaselineTurbulenceCNotSet	Forward turbulence C baseline value is not set Baseline value, FwdBaselineTurbulenceC, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6971	IsFwdBaselineTurbulenceDNotSet	Forward turbulence D baseline value is not set Baseline value, FwdBaselineTurbulenceD, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6972	IsFwdBaselineCommentNotSet	Forward baseline comment is not set Baseline value, FwdBaselineComment, is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6973	IsFwdBaselineAvgFlowNotSet	Forward average flow baseline value is not set Baseline value, FwdBaselineAvgFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6974	IsFwdBaselineCrossFlowNotSet	Forward cross-flow baseline value is not set Baseline value, FwdBaselineCrossFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6975	IsFwdBaselineProfileFactorNotSet	Forward profile factor baseline value is not set Baseline value, FwdBaselineProfileFactor, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6976	IsFwdBaselineSwirlAngleNotSet	Forward swirl angle baseline value is not set Baseline value, FwdBaselineSwirlAngle, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6977	IsFwdBaselineSymmetryNotSet	Forward symmetry baseline value is not set Baseline value, FwdBaselineSymmetry, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6978	IsFwdBaselineTimeNotSet	Forward baseline time is not set Baseline value, FwdBaselineTime, is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6979	IsRevBaselineFlowTemperatureNotSet	Reverse flow temperature baseline value is not set Baseline value, RevBaselineFlowTemperature, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6980	IsRevBaselineFlowPressureNotSet	Reverse flow pressure baseline value is not set Baseline value, RevBaselineFlowPressure, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6981	IsRevBaselineTurbulenceANotSet	Reverse turbulence A baseline value is not set Baseline value, RevBaselineTurbulenceA, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6982	IsRevBaselineTurbulenceBNotSet	Reverse turbulence B baseline value is not set Baseline value, RevBaselineTurbulenceB, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6983	IsRevBaselineTurbulenceCNotSet	Reverse turbulence C baseline value is not set Baseline value, RevBaselineTurbulenceC, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6984	IsRevBaselineTurbulenceDNotSet	Reverse turbulence D baseline value is not set Baseline value, RevBaselineTurbulenceD, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6985	IsRevBaselineCommentNotSet	Reverse baseline comment is not set Baseline value, RevBaselineComment, is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6986	IsRevBaselineAvgFlowNotSet	Reverse average flow baseline value is not set Baseline value, RevBaselineAvgFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6987	IsRevBaselineCrossFlowNotSet	Reverse cross-flow baseline value is not set Baseline value, RevBaselineCrossFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6988	IsRevBaselineProfileFactorNotSet	Reverse profile factor baseline value is not set Baseline value, RevBaselineProfileFactor, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6989	IsRevBaselineSwirlAngleNotSet	Reverse swirl angle baseline value is not set Baseline value, RevBaselineSwirlAngle, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6990	IsRevBaselineSymmetryNotSet	Reverse symmetry baseline value is not set Baseline value, RevBaselineSymmetry, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6991	IsRevBaselineTimeNotSet	Reverse baseline time is not set Baseline value, RevBaselineTime is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
6992	IsFwdBaselineNotSet	Forward baseline is not set Some or all forward baseline values used by the Continuous Flow Analysis feature are not set. The baseline captures the flow characteristics of the meter when installed so that the meter can monitor these parameters and use them to diagnose the health of the meter. Recommended Actions: 1. Run the Set Baseline Wizard in MeterLink™ to set the forward baseline parameters. 2. If the meter does not run in the forward direction or you do not wish to take advantage of the Continuous Flow Analysis feature, acknowledge this alarm to clear it.	RW	Y	Y		int	-	-	boolean	-	Baseline set (FALSE) Baseline not set (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
6993	IsRevBaselineNotSet	Reverse baseline is not set Some or all reverse baseline values used by the Continuous Flow Analysis feature are not set. The baseline captures the flow characteristics of the meter when installed so that the meter can monitor these parameters and use them to diagnose the health of the meter. Recommended Actions: 1. Run the Set Baseline Wizard in MeterLink™ to set the reverse baseline parameters. 2. If the meter does not run in the reverse direction or you do not wish to take advantage of the Continuous Flow Analysis features, acknowledge this alarm to clear it.	RW	Y	Y		int	-	-	boolean	-	Baseline set (FALSE) Baseline not set (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
6994	IsAnyBaselineAvail	Baselines supported for this meter type This indicates whether or not the baselines are supported for this meter type. If the meter is a JuniorSonic, device number (DeviceNumber) is 3411 or 3412, then the value is FALSE (0) and the baselines are not used.	R	Y			int	-	-	boolean	-	Not Available (FALSE) Available (TRUE)			
6995	PressureInvalidLatched	Flow pressure invalid, latched until acknowledged The alarm value for flow-condition pressure (PressureInvalid) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
6996	TemperatureInvalidLatched	Flow temperature invalid, latched until acknowledged The alarm value for flow-condition temperature (TemperatureInvalid) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
6997	IsAcqModuleErrorLatched	Acquisition Module error, latched until acknowledged The alarm value for Acquisition Module errors (IsAcqModuleError) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
6998	IsMeterVelAboveMaxLmtLatched	Meter velocity above max limit, latched until acknowledged The alarm value for the maximum velocity (IsMeterVelAboveMaxLmt) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
6999	IsAvgSoundVelRangeErrLatched	Average speed of sound out of limits, latched until acknowledged The latch for the average speed of sound out of limits alarm (IsAvgSoundVelRangeErr) that remains set until manually cleared	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7000	IsAcqModeLatched	Acquisition mode, latched until acknowledged The latched alarm for acquisition mode (IsAcqMode) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7001	IsTooFewOperChordsLatched	Too few operating chords, latched until acknowledged The alarm value for too few chords (IsTooFewOperChords) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7002	IsSndVelCompErrLatched	Comparison of SOS from gas composition to meter SOS error, latched until acknowledged Latched alarm for speed of sound comparison error (IsSndVelCompErr) between the previous hour average speed of sound calculated from the gas composition (CompAvgAGA10SndVel) and the previous hour average meter-calculated speed of sound (CompAvgMeterSndVel) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7003	IsSndVelCompEnabled	Enable or disable comparison of SOS from gas composition with meter SOS Disables comparison of speed of sound calculated from the gas composition by the meter-calculated speed of sound (IsSndVelCompFeatureActive) when set to FALSE (0). Setting this to TRUE (1) will enable the comparison if the Continuous Flow Analysis feature (IsOptionalContinuousFlowAnalysisEnabled) is enabled and the AGA8 method (HCH_Method) is set to Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017).	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7004	IsBlockageDetectedLatched	Possible blockage detected, latched until acknowledged The latched alarm for blockage detected (IsBlockageDetected) that remains set until acknowledged.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7005	IsBlockageDetectionEnabled	Enables or disables blockage detection Disables blockage detection (IsBlockageDetected) when set FALSE (0). Setting this to TRUE (1) will enable blockage detection if optional flow analysis features are enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7006	BlockageTurbulenceLmtA	Blockage alarm turbulence limit for chord A The percentage from the baseline value (FwdBaselineTurbulenceA or RevBaselineTurbulenceA) that the turbulence of chord A (TurbulenceA) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		5	0	100
7007	BlockageTurbulenceLmtB	Blockage alarm turbulence limit for chord B The percentage from the baseline value (FwdBaselineTurbulenceB or RevBaselineTurbulenceB) that the turbulence of chord B (TurbulenceB) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		3	0	100
7008	BlockageTurbulenceLmtC	Blockage alarm turbulence limit for chord C The percentage from the baseline value (FwdBaselineTurbulenceC or RevBaselineTurbulenceC) that the turbulence of chord C (TurbulenceC) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		3	0	100
7009	BlockageTurbulenceLmtD	Blockage alarm turbulence limit for chord D The percentage from the baseline value (FwdBaselineTurbulenceD or RevBaselineTurbulenceD) that the turbulence of chord D (TurbulenceD) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		5	0	100
7010	BlockageCrossFlowLmt	Blockage alarm cross-flow limit The percentage from the baseline value (FwdBaselineCrossFlow or RevBaselineCrossFlow) the cross-flow (CrossFlow) is allowed to vary before there is an indication of potential blockage.	RW	Y	Y		int	%	%	uint8	%		3	0	100
7011	BlockageSymmetryLmt	Blockage alarm symmetry limit The percentage from the baseline value (FwdBaselineSymmetry or RevBaselineSymmetry) the chord symmetry (Symmetry) is allowed to vary before there is an indication of potential blockage.	RW	Y	Y		int	%	%	uint8	%		5	0	100
7012	IsBoreBuildupDetectedLatched	Possible bore buildup detected, latched until acknowledged The alarm value for bore buildup detection (IsBoreBuildupDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7013	IsBoreBuildupDetectionEnabled	Enables or disables bore buildup detection Disables bore buildup detection diagnostic when set FALSE (0).	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7014	IsLiquidDetectedLatched	Liquids possibly present in gas, latched until acknowledged The alarm value for liquid detection (IsLiquidDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7015	IsLiquidDetectionEnabled	Enables or disables liquid detection Disables liquid present detection (IsLiquidDetected) when set FALSE (0). Setting this to TRUE (1) will enable liquid present detection if the Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7016	IsAbnormalProfileDetectedLatched	Abnormal profile detected, latched until acknowledged The alarm value for abnormal profile (IsAbnormalProfileDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7017	IsAbnormalProfileDetectionEnabled	Enables or disables abnormal profile detection Disables abnormal profile detection (IsAbnormalProfileDetected) when set FALSE (0). Setting this to TRUE (1) will enable abnormal profile present detection if Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7018	IsReverseFlowDetectedLatched	Reverse flow detected, latched until acknowledged The latch for the reverse flow alarm (IsReverseFlowDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7019	IsReverseFlowDetectionEnabled	Enables or disables reverse flow detection Disables reverse flow detection (IsReverseFlowDetected) when set FALSE (0). Setting this to TRUE (1) will enable reverse flow detection.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
7020	XdcrNumDriveCycles	Number of cycles for transducer Number of cycles for transducer. Will be overwritten when transducer type (SetXdcrType) changes.	RW	Y	Y	Y	int	-	-	uint8	-		1	1	2
7021	SampPerCycle	Samples per cycle The number of times the waveform is sampled between two zero crossings with the same slope (one cycle). Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	int	-	-	uint8	-	10 (10)	10	10	10
7022	SetXdcrType	Set transducer type Sets the type of transducer installed. Changing this data point will overwrite transducer configuration parameters (XdcrFreq, XdcrNumDriveCycles, DltChk, NegSpan, Pk1Wdth, PosSpan, SampPerCycle, SampInterval, TmDevLow1, Tspf, TspfLo, TspfHi, Tspe and Tamp) with default values. The band pass filter (Filter) will be enabled if required by the selected transducer type. Once these transducer configuration values are written, the value of this data point is saved in the transducer type data point (XdcrType), and then set transducer type is set to zero.	RW	Y		Y	int	-	-	uint8	-	Automatically reset by the meter (0) T-11/T-21/T-41 (2) T-12/T-22 (3) T-32 (4) T-200 (5)	0	0	5
7023	SampInterval	Sampling (rate) interval. Changing this value requires re-booting the meter The duration in nanoseconds of the signal sampling period. It is also used to compute the system delay (SystemDelay). Usually adjusted by setting the transducer type (SetXdcrType). A sample interval of 800 ns requires a standard Acquisition Module. A sample interval less than 800 ns requires a High Frequency Acquisition Module.	RW	Y	Y	Y	int	ns	ns	float32	ns		800	400	800
7024	XdcrFreq	Transducer frequency The output frequency of the transducers. Usually adjusted by setting the transducer type (SetXdcrType). A transducer frequency of 125 KHz requires a standard Acquisition Module. A transducer frequency higher than 125 KHz requires a High Frequency Acquisition Module.	RW	Y	Y	Y	int	KHz	KHz	float32	KHz		125	125	250
7025	IsDiagnosticChordEnabled	Enable diagnostic chord When set to TRUE (1), it enables diagnostic chord on the meter. Changing this value requires warm-starting the meter. This only applies to (DeviceNumber) 3411 meters.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
7026	IsDiagnosticSndSpdDetectionEnabled	Enables or disables diagnostic speed of sound check Disables diagnostic speed of sound check (IsDiagnosticSndSpdRangeErr) and the diagnostic speed of sound check feature (IsDiagnosticSndSpdDetectionFeatureActive) when set FALSE (0). Setting this to TRUE (1) will enable diagnostic speed of sound check.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7027	IsDiagnosticSndSpdDetectionFeatureActive	Diagnostic speed of sound check feature active This is TRUE (1), when the diagnostic speed of sound check (IsDiagnosticSndSpdDetectionEnabled) is TRUE (1), diagnostic chord is enabled (IsDiagnosticChordEnabled) and diagnostic chord is active.	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
7028	IsDiagnosticChordRunningAvgValid	Validity for diagnostic chord speed of sound average When TRUE (1), it indicates that diagnostic chord speed of sound running average (RunningAvgDiagnosticChordSndVel) is valid. It is set to FALSE (0) when diagnostic speed of sound check feature (IsDiagnosticSndSpdDetectionFeatureActive) is FALSE (0) or meter is not in measurement mode or time period to calculate diagnostic speed of sound running average (RunningAvgDiagnosticChordSndVel) has not elapsed (DiagnosticChordRunningAvgSeconds).	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
7029	DiagnosticChordRunningAvgSeconds	Time period to calculate diagnostic chord speed of sound average Number of seconds to calculate diagnostic chord speed of sound running average (RunningAvgDiagnosticChordSndVel) and set diagnostic chord speed of sound average validity (IsDiagnosticChordRunningAvgValid).	RW	Y	Y	Y	int	sec	sec	uint16	sec		60	1	3600
7030	IsDiagnosticSndSpdRangeErrLatched	Speed of sound comparison of diagnostic chord to meter error, latched until acknowledged Latched alarm for diagnostic speed of sound error (IsDiagnosticSndSpdRangeErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7031	IsDiagnosticSndSpdRangeErr	Speed of sound comparison of diagnostic chord to meter error A diagnostic speed of sound error is detected which could indicate the presence of liquids and/or debris buildup within the meter bore. This alarm indicates that the average speed of sound one-minute running average (RunningAvgAvgSndVel) and the diagnostic chord speed of sound running average (RunningAvgDiagnosticChordSndVel) differ by more than the configured error limit for the diagnostic speed of sound check (DiagnosticSndSpdErrLimit). This alarm is set to TRUE (1), when the condition stated above is met and the diagnostic speed of sound check feature (IsDiagnosticSndSpdDetectionFeatureActive) is TRUE (1), the one minute average validity (IsRunningAvgValid) is TRUE (1), and the diagnostic chord speed of sound average validity (IsDiagnosticChordRunningAvgValid) is TRUE (1). Recommended Actions: 1. Check the process fluid conditions to see if liquids could be dropping out of the process fluid. Increasing the line pressure could be a solution if this condition occurs. 2. A persistent alarm could also be an indication that some debris has been deposited along the bottom of the meter bore. The meter run should be checked and cleaned if necessary. 3. Collect the Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7032	XdcrType	Transducer type The set of transducers with the same tracking parameters of which the installed transducers are a member. The value is typically set by the set transducer type (SetXdcrType). However, this value may be manually entered or overwritten.	RW	Y	Y	Y	int	-	-	uint8	-	Not set (0) T-11/T-21/T-41 (2) T-12/T-22 (3) T-32 (4) T-200 (5)	0	0	5
7033	AreGasPropertiesInvalidInUseLatched	In-use gas properties invalid, latched until acknowledged The alarm value for in-use gas properties (AreGasPropertiesInvalidInUse) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7044	DiagnosticSndSpdErrLimit	Limit for diagnostic speed of sound check Limit on the difference between average speed of sound one minute average (RunningAvgAvgSndVel) and diagnostic chord speed of sound average (RunningAvgDiagnosticChordSndVel). This is used to generate diagnostic speed of sound error (IsDiagnosticSndSpdRangeErr).	RW	Y	Y	Y	float	%	%	float32	%		0.5	0	10
7046	RunningAvgAvgSndVel	Average speed of sound one-minute running average A running average of average speed of sound (AvgSndVel) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	m/s	ft/s	float32	m/s				
7048	RunningAvgDiagnosticChordSndVel	Diagnostic chord speed of sound running average The running average of diagnostic chord speed of sound over a time period (DiagnosticChordRunningAvgSeconds) used for diagnostic speed of sound error (IsDiagnosticSndSpdRangeErr). Diagnostic chord speed of sound is determined using an additional diagnostic chord on the meter when diagnostic chord is enabled (IsDiagnosticChordEnabled).	R				float	m/s	ft/s	float32	m/s				
7050	CalProfileFactor	Calibration average profile factor This is the average profile factor (ProfileFactor) while the timed calibration flag (CalFlag) is set to TRUE (1) or while the DI1 gates the calibration when DI1 is configured to synchronize calibration (IsDI1UsedForCal).	R				float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7070	ColocMeterSndSpdErrLimit	Error limit for Dual-Configuration meter speed of sound range check error Limit on the difference between average speed of sound one hour average (ColocMeterRunningAvgAvgSndVel) of the Dual-Configuration meters. This is used to generate Dual-Configuration meter speed of sound range check alarm (IsColocMeterSndSpdRangeErr).	RW	Y	Y	Y	float	%	%	float32	%		0.5	0	10
7072	ColocMeterQFlowErrLimit	Error limit for Dual-Configuration meter uncorrected flow rate range check error Limit on the difference between flow-condition volumetric flow rate one hour average (ColocMeterRunningAvgQFlow) of the Dual-Configuration meters. This is used to generate Dual-Configuration meter flow-condition volumetric flow rate range check alarm (IsColocMeterQFlowRangeErr).	RW	Y	Y	Y	float	%	%	float32	%		1	0	10
7074	ColocMeterRunningAvgAvgSndVel	Average speed of sound running average for Dual-Configuration meter diagnostic error One hour running average of average speed of sound (AvgSndVel). The running average is updated once in a minute using average speed of sound samples per batch. It is used to indicate Dual-Configuration meter speed of sound range check alarm (IsColocMeterSndSpdRangeErr).	R				float	m/s	ft/s	float32	m/s				
7076	ColocMeterRunningAvgQFlow	Uncorrected flow rate running average for Dual-Configuration meter diagnostic error One hour running average of Dual-Configuration meter flow-condition volumetric flow rate (QFlow). The running average is updated once in a minute using flow-condition volumetric flow rate samples per batch. It is used to indicate Dual-Configuration meter flow-condition volumetric flow rate range check alarm (IsColocMeterQFlowRangeErr).	R				float	volume/time	volume/time	float32	m3/hr				
7085	IsColocMeterCommErr	Dual-Configuration meter communication error The Dual-Configuration meters are not communicating, either due to incorrect configuration or the other head is not reachable. It could also indicate that the Dual-Configuration meter clock is out of sync. Check the Dual-Configuration meter communication error reasons (ColocMeterCommErrReasons) for details. Recommended action: 1. Check the Ethernet connection between the Dual-Configuration meters. 2. Make sure that the Dual-Configuration meter IP address (ColocMeterIPAddress) on the head 1 is the same as the Ethernet IP address (Eth1IPAddr) on the head 2 and vice versa. 3. If the clock synchronization (IsColocMeterClockSyncEnabled) is enabled, make sure that the PTP domain number (PTPDomainNumber) is the same on both meter heads. 4. Collect the Archive Logs (Daily, Hourly, Audit, Alarm, and System) using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7086	IsColocMeterCommErrLatched	Dual-Configuration meter communication error, latched until acknowledged Latched alarm for Dual-Configuration meter communication error (IsColocMeterCommErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7087	IsColocMeterSndSpdRangeCheckEnabled	Enables or disables Dual-Configuration meter speed of sound range check error Enables Dual-Configuration meter speed of sound check feature (IsColocMeterSndSpdRangeCheckFeatureActive) when set TRUE (1). Setting this to FALSE (0) will disable Dual-Configuration meter speed of sound check feature.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7088	IsColocMeterSndSpdRangeCheckFeatureActive	Dual-Configuration meter speed of sound range check feature is active This is TRUE (1), when the Dual-Configuration meter speed of sound range check (IsColocMeterSndSpdRangeCheckEnabled) is TRUE (1), Dual-Configuration meter IP address (ColocMeterIPAddress) is configured with an IP address other than the loopback address or meter's Ethernet IP address (Eth1IPAddr) and Dual-Configuration meter mode (ColocMeterMode) is set to "Transmitter Head 1" or "Transmitter Head 2".	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
7089	IsColocMeterSndSpdRangeErr	Dual-Configuration meter speed of sound range check error A Dual-Configuration meter speed of sound range error is detected. This could indicate a problem with the meter or the Dual-Configuration meter which could affect meter measurement. This alarm indicates that the one-hour running average of average speed of sound (ColocMeterRunningAvgAvgSndVel) of the Dual-Configuration meters differ by more than the specified speed of sound range check error limit (ColocMeterSndSpdErrLimit). This alarm is set to TRUE (1), when the condition stated above is met and when the Dual-Configuration meter speed of sound range check feature (IsColocMeterSndSpdRangeCheckFeatureActive) is TRUE (1) and the average speed of sound one-hour running average (IsColocMeterRunningAvgAvgSndVelValid) is TRUE (1) on both heads. The alarm is not set when the average flow velocity (AvgFlow) is less than the diagnostic analysis low flow limit (FlowAnalysisLowFlowLmt) or is greater than the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt). Recommended Actions: 1. The alarm could be an indication of the presence of liquids within the meter bore. Check the process fluid conditions to see if liquids could be dropping out of the process fluid. Increasing the line pressure could be a solution if this condition occurs. 2. The alarm could be an indication that some debris has been deposited along the bottom of the meter bore. The meter run should be checked and cleaned if necessary. 3. Check that there are no active alarm conditions which could be affecting the speed of sound measurement. 4. Collect the Archive Logs (Daily, Hourly, Audit, Alarm, and System), Maintenance Log and Waveform stream file using MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7090	IsColocMeterSndSpdRangeErrLatched	Dual-Configuration meter speed of sound range check error, latched until acknowledged Latched alarm for Dual-Configuration meter speed of sound range check error (IsColocMeterSndSpdRangeErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7091	IsColocMeterQFlowRangeCheckEnabled	Enables or disables Dual-Configuration meter uncorrected flow rate range check error Enables Dual-Configuration meter flow-condition volumetric flow rate range check feature (IsColocMeterQFlowRangeCheckFeatureActive) when set to TRUE (1). Setting this to FALSE (0) will disable Dual-Configuration meter flow-condition volumetric flow rate range check feature.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7092	IsColocMeterQFlowRangeCheckFeatureActive	Dual-Configuration meter uncorrected flow rate range check feature is active This is TRUE (1), when the Dual-Configuration meter flow-condition volumetric flow rate range check (IsColocMeterQFlowRangeCheckEnabled) is TRUE (1), Dual-Configuration meter IP address (ColocMeterIPAddress) is configured with an IP address other than the loopback address or meter's Ethernet IP address (Eth1IPAddr) and Dual-Configuration meter mode (ColocMeterMode) is set to "Transmitter Head 1" or "Transmitter Head 2".	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7093	IsColocMeterQFlowRangeErr	Dual-Configuration meter uncorrected flow rate range check error A Dual-Configuration meter flow-condition volumetric flow rate range error is detected. This alarm could indicate a problem with the meter or the Dual-Configuration meter which could affect meter measurement. This alarm indicates that the flow-condition volumetric flow rate one-hour running average (ColocMeterRunningAvgQFlow) of the Dual-Configuration meters differ by more than the specified flow-condition volumetric flow rate range check error limit (ColocMeterQFlowErrLimit). This alarm is TRUE (1), when the condition stated above is met and when the Dual-Configuration meter flow-condition volumetric flow rate range check feature (IsColocMeterQFlowRangeCheckFeatureActive) is TRUE (1) and the flow-condition volumetric flow rate one-hour running average (IsColocMeterRunningAvgQFlowValid) is TRUE (1) on both heads. The alarm is not set when the average flow velocity (AvgFlow) is less than the diagnostic analysis low flow limit (FlowAnalysisLowFlowLmt) or is greater than the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt). Recommended Actions: 1. The alarm could be an indication of the presence of liquids in the meter bore. Check the process fluid conditions to see if liquids could be dropping out of the process fluid. Increasing the line pressure could be a solution if this condition occurs. 2. The alarm could be an indication that some debris has been deposited along the bottom of the meter bore. The meter run should be checked and cleaned if necessary. 3. The alarm could be an indication of possible buildup of material on the meter bore. The meter run should be checked and cleaned if necessary. 4. On meter head 1, check the meter diagnostics Symmetry, SwirlAngle, ProfileFactor and CrossFlow and compare them against their baseline values. 5. Collect the Archive Logs (Daily, Hourly, Audit, Alarm, and System), Maintenance Log, and Waveform stream file using MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7094	IsColocMeterQFlowRangeErrLatched	Dual-Configuration meter uncorrected flow rate range check error, latched until acknowledged Latched alarm for Dual-Configuration meter flow-condition volumetric flow rate range check error (IsColocMeterQFlowRangeErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
7095	IsColocMeterRunningAvgAvgSndVelValid	Average speed of sound running average for Dual-Configuration meter diagnostic error validity The validity of average speed of sound one hour running average (ColocMeterRunningAvgAvgSndVel). This is used for Dual-Configuration meter speed of sound range check error (IsColocMeterSndSpdRangeErr).	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
7096	IsColocMeterRunningAvgQFlowValid	Uncorrected flow rate running average for Dual-Configuration meter diagnostic error validity The validity of Dual-Configuration meter flow-condition volumetric flow rate one hour running average (ColocMeterRunningAvgQFlow). This is used for Dual-Configuration meter flow-condition volumetric flow rate range check error (IsColocMeterQFlowRangeErr).	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
7097	IsColocMeterClockSyncEnabled	Enables or disables clock synchronization with Dual-Configuration meter Enables clock synchronization for a data sharing Dual-Configuration meter when set to TRUE (1) in both transmitter heads.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7098	PTPDomainNumber	PTP domain number Configures the PTP (Precision Time Protocol) domain number. This allows the Dual-Configuration meter's head 2 clock to synchronize to the Dual-Configuration meter's head 1 clock. The Dual-Configuration meter clock synchronization (IsColocMeterClockSyncEnabled) must be enabled on both Dual-Configuration meters to synchronize clock. When set to 128, meaning auto-configure PTP domain, then on the Dual-Configuration meter head 1, the low order octet of Ethernet IP address (Eth1IPAddr) is used as PTP domain number. While on the Dual-Configuration meter head 2, the low order octet of Dual-Configuration meter IP address (ColocMeterIPAddress) is used as the PTP domain number.	RW	Y	Y		int	-	-	uint8	-		128	0	255
7099	ColocMeterCommErrReasons	Dual-Configuration meter communication error reason The reasons for Dual-Configuration meter communication error (IsColocMeterCommErr). 0 – No error 1 – Dual-Configuration meter IP address could not be reached 2 – Previously established connection with Dual-Configuration meter has gone down. This could be due to reasons that can cause the connection to go down, including the remote meter rebooting, network connectivity issues, or problems with the internal system error on the Dual-Configuration meter 3 – Internal error or system call failure 4 – Dual-Configuration meter clock out of sync	R				int	-	-	uint8	-	No error (0) Dual-Configuration meter IP address unreachable (1) Waiting for Dual-Configuration meter response (2) System internal error (3) Dual-Configuration meter clock out of sync (4)			
7100	ColocMeterMode	Dual-Configuration meter mode Configures the meter to operate as a single head meter ("Disabled", 0), a Dual-Configuration meter's head 1 ("Transmitter Head 1", 1) or a Dual-Configuration meter's head 2 ("Transmitter Head 2", 2). The meters that measure the same flow may share a meter body or be installed in series with each other with only data sharing enabled. The Dual-Configuration meter's mode can be set to "Transmitter Head 1" only if the device number (DeviceNumber) is 3414 or 3418. The Dual-Configuration meter's mode can be set to "Transmitter Head 2" only if the device number (DeviceNumber) is 3411, 3412, 3414 or 3418. When meter is configured as a Dual-Configuration meter, it can be configured to synchronize transducer firing (XdcrFiringSync) and also to enable data sharing and clock synchronization with Dual-Configuration meter (ColocMeterIPAddress).	RW	Y	Y	Y	int	-	-	uint8	-	Disabled (0) Transmitter Head 1 (1) Transmitter Head 2 (2)	0	0	2
7101	XdcrFiringSync	Transducer firing synchronization control Configure transducer firing synchronization to be enabled ("Enabled", 1) or disabled ("Disabled", 0) between Dual-Configuration meters (IsXdcrFiringSyncActive). Transducer firing synchronization can only be enabled ("Enabled", 1) if Dual-Configuration meter mode (ColocMeterMode) is not disabled ("Disabled", 0) and the device number (DeviceNumber) is not 3418.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
7102	IsXdcrFiringSyncActive	Transducer firing synchronization active in batch This indicates that all waveforms in a batch have Transducer Firing Synchronization (XdcrFiringSync) active.	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7107	IsXdcrFiringSyncError	Transducer firing synchronization error A problem with transducer firing synchronization in a batch (IsXdcrFiringSyncActive) when the transducer firing synchronization (XdcrFiringSync) is enabled and the Dual-Configuration meters' Acquisition Modules are not able to synchronize for multiple consecutive batches (AlarmDef). Possible causes include incorrect configuration, transducer synchronization cable is disconnected or damaged, and one of the two heads is not powered up or power cycling. Recommended Actions: 1. Verify that the transducer synchronization cable is connected between the two Acquisition Modules located in the base enclosures. 2. Verify that both heads are powered up. 3. Verify that the transducer firing synchronization (XdcrFiringSync) is enabled on both heads. 4. Verify that the Dual-Configuration meter mode (ColocMeterMode) is set to "Transmitter Head 1" on one head and "Transmitter Head 2" on the other head. 5. For model number 3417, both heads must have the same configuration for stack size (StackSize), desired stacking transducer emission rate (StackEmRateDesired) and desired transducer emission rate (EmRateDesired). 6. For model numbers 3415 and 3416, stack size (StackSize) must be configured the same on both heads while desired stacking transducer emission rate (StackEmRateDesired) and desired transducer emission rate (EmRateDesired) on the "Transmitter Head 2" meter should not be more than twice that of the "Transmitter Head 1". 7. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7110	N2ComponentIndex	Nitrogen gas component index The index that identifies the Nitrogen gas component in the GC (N2GC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Nitrogen gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		14	0	65535
7111	CO2ComponentIndex	Carbon dioxide gas component index The index that identifies the Carbon dioxide gas component in the GC (CO2GC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Carbon dioxide gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		17	0	65535
7112	H2ComponentIndex	Hydrogen gas component index The index that identifies the Hydrogen gas component in the GC (H2GC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Hydrogen gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		12	0	65535
7113	COComponentIndex	Carbon monoxide gas component index The index that identifies the Carbon monoxide gas component in the GC (COGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Carbon monoxide gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		15	0	65535
7114	MethaneComponentIndex	Methane gas component index The index that identifies the Methane gas component in the GC (MethaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Methane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		0	0	65535
7115	EthaneComponentIndex	Ethane gas component index The index that identifies the Ethane gas component in the GC (EthaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Ethane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		1	0	65535
7116	PropaneComponentIndex	Propane gas component index The index that identifies the Propane gas component in the GC (PropaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Propane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		2	0	65535
7117	IsoButaneComponentIndex	Isobutane gas component index The index that identifies the Isobutane gas component in the GC (IsoButaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Isobutane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		3	0	65535
7118	NButaneComponentIndex	N-Butane gas component index The index that identifies the N-Butane gas component in the GC (NButaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Butane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		4	0	65535
7119	IsoPentaneComponentIndex	Isopentane gas component index The index that identifies the Isopentane gas component in the GC (IsoPentaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Isopentane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		5	0	65535
7120	NPentaneComponentIndex	N-Pentane gas component index The index that identifies the N-Pentane gas component in the GC (NPentaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Pentane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		6	0	65535
7121	NHexaneComponentIndex	N-Hexane gas component index The index that identifies the N-Hexane gas component in the GC (NHexaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Hexane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		39	0	65535
7122	NHeptaneComponentIndex	N-Heptane gas component index The index that identifies the N-Heptane gas component in the GC (NHeptaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Heptane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		45	0	65535
7123	NOctaneComponentIndex	N-Octane gas component index The index that identifies the N-Octane gas component in the GC (NOctaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Octane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		52	0	65535
7124	NNonaneComponentIndex	N-Nonane gas component index The index that identifies the N-Nonane gas component in the GC (NNonaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Nonane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		51	0	65535
7125	NDecaneComponentIndex	N-Decane gas component index The index that identifies the N-Decane gas component in the GC (NDecaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Decane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		50	0	65535
7126	H2SComponentIndex	Hydrogen sulfide gas component index The index that identifies the Hydrogen sulfide gas component in the GC (H2SGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Hydrogen sulfide gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		40	0	65535
7127	HeliumComponentIndex	Helium gas component index The index that identifies the Helium gas component in the GC (HeliumGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Helium gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		13	0	65535
7128	WaterComponentIndex	Water gas component index The index that identifies the Water gas component in the GC (WaterGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Water gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		44	0	65535
7129	OxygenComponentIndex	Oxygen gas component index The index that identifies the Oxygen gas component in the GC (OxygenGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Oxygen gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		16	0	65535

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7130	ArgonComponentIndex	Argon gas component index The index that identifies the Argon gas component in the GC (ArgonGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Argon gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		46	0	65535
7131	NeoPentaneComponentIndex	Neo-pentane component index The index that identifies the Neo-pentane gas component in the GC (NeoPentaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Neo-pentane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		7	0	65535
7132	GCDisabledComponentIndex	GC disabled component index Component index value used to disable particular gas component. If any gas component index is set to this value, corresponding gas component value is ignored.	RW	Y	Y	Y	int	-	-	uint16	-		255	0	65535
7133	C6PlusComponentIndex	C6+ gas component index C6+ gas component index value used to determine C6+ gas component so that its concentration (C6PlusGC) can be divided into appropriate standard gas component(s). If this value is 8 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.47466, 0.3534, 0.17194, 0.00 and 0.00 respectively. If this value is 9 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.50, 0.50, 0.00, 0.00 and 0.00 respectively. If this value is 10 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.60, 0.30, 0.10, 0.00 and 0.00 respectively. If this value is 11 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.57143, 0.28572, 0.14285, 0.00 and 0.00 respectively. If this value is other than 8, 9, 10 or 11 then C6+ gas component distribution is as configured by C6+ Hexane (C6PlusHexaneFrac), C6+ Heptane (C6PlusHeptaneFrac), C6+ Octane (C6PlusOctaneFrac), C6+ Nonane (C6PlusNonaneFrac) and C6+ Decane (C6PlusDecaneFrac) gas component mole fraction values. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	int	-	-	uint16	-		8	0	65535
7134	IsC6PlusAutoDetectionEnabled	Enable C6+ gas component index automatic detection Selects C6+ gas component index source. When set to "Enable", automatically detects C6+ gas component identifier (C6PlusGCComponentID) and C6+ gas component index (C6PlusComponentIndex) is ignored. When set to "Disable", automatically detected C6+ gas component identifier (C6PlusGCComponentID) is ignored and C6+ gas component index (C6PlusComponentIndex) is used.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
7150	BatchSeqNum	Batch sequence number The batch sequence number which is zero on a warm start and then incremented each batch period (BatchUpdatePeriod).	R				long	-	-	uint32	-				
7300	ProgramChksum	Program checksum value This is the checksum of the meter's programs. All NOR flash program partitions are included in the checksum.	R	Y			long	-	-	uint32	-				
7302	XdcrAssyComponent4LengthA1	Transducer assembly A1 component 4 length The length for the transducer assembly component 4 for A1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7304	XdcrAssyComponent4LengthA2	Transducer assembly A2 component 4 length The length for the transducer assembly component 4 for A2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7306	XdcrAssyComponent3LengthA1	Transducer assembly A1 component 3 length The length of the transducer assembly component 3 for A1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7308	XdcrAssyComponent3LengthA2	Transducer assembly A2 component 3 length The length of the transducer assembly component 3 for A2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7310	XdcrAssyComponent2LengthA1	Transducer assembly A1 component 2 length The length of the transducer assembly component 2 for A1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7312	XdcrAssyComponent2LengthA2	Transducer assembly A2 component 2 length The length of the transducer assembly component 2 for A2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7314	XdcrAssyComponent1LengthA1	Transducer assembly A1 component 1 length The length of the transducer assembly component 1 for A1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7316	XdcrAssyComponent1LengthA2	Transducer assembly A2 component 1 length The length of the transducer assembly component 1 for A2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7318	MeterHousingLengthA	Chord A meter housing length The meter housing length for chord A. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
7320	LA	Chord A length ("L" dimension) The distance between the transducer faces on chord A. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
7322	DltDlyA	Chord A difference in upstream and downstream delay times The adjustment to the chord A delta times (the individual times used for DltTmA (DltTmA)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
7324	AvgDlyA	Chord A average delay time The chord-specific delay for chord A primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
7328	XdcrAssyComponent4LengthB1	Transducer assembly B1 component 4 length The length for the transducer assembly component 4 for B1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7330	XdcrAssyComponent4LengthB2	Transducer assembly B2 component 4 length The length for the transducer assembly component 4 for B2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7332	XdcrAssyComponent3LengthB1	Transducer assembly B1 component 3 length The length of the transducer assembly component 3 for B1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7334	XdcrAssyComponent3LengthB2	Transducer assembly B2 component 3 length The length of the transducer assembly component 3 for B2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7336	XdcrAssyComponent2LengthB1	Transducer assembly B1 component 2 length The length of the transducer assembly component 2 for B1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7338	XdcrAssyComponent2LengthB2	Transducer assembly B2 component 2 length The length of the transducer assembly component 2 for B2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7340	XdcrAssyComponent1LengthB1	Transducer assembly B1 component 1 length The length of the transducer assembly component 1 for B1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7342	XdcrAssyComponent1LengthB2	Transducer assembly B2 component 1 length The length of the transducer assembly component 1 for B2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7344	MeterHousingLengthB	Chord B meter housing length The meter housing length for chord B. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
7346	LB	Chord B length ("L" dimension) The distance between the transducer faces on chord B. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5
7348	DltDlyB	Chord B difference in upstream and downstream delay times The adjustment to the chord B delta times (the individual times used for DltTmB (DltTmB)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
7350	AvgDlyB	Chord B average delay time The chord-specific delay for chord B primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
7354	XdcrAssyComponent4LengthC1	Transducer assembly C1 component 4 length The length for the transducer assembly component 4 for C1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7356	XdcrAssyComponent4LengthC2	Transducer assembly C2 component 4 length The length for the transducer assembly component 4 for C2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7358	XdcrAssyComponent3LengthC1	Transducer assembly C1 component 3 length The length of the transducer assembly component 3 for C1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7360	XdcrAssyComponent3LengthC2	Transducer assembly C2 component 3 length The length of the transducer assembly component 3 for C2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7362	XdcrAssyComponent2LengthC1	Transducer assembly C1 component 2 length The length of the transducer assembly component 2 for C1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7364	XdcrAssyComponent2LengthC2	Transducer assembly C2 component 2 length The length of the transducer assembly component 2 for C2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7366	XdcrAssyComponent1LengthC1	Transducer assembly C1 component 1 length The length of the transducer assembly component 1 for C1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7368	XdcrAssyComponent1LengthC2	Transducer assembly C2 component 1 length The length of the transducer assembly component 1 for C2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7370	MeterHousingLengthC	Chord C meter housing length The meter housing length for chord C. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
7372	LC	Chord C length ("L" dimension) The distance between the transducer faces on chord C. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7374	DltDlyC	Chord C difference in upstream and downstream delay times The adjustment to the chord C delta times (the individual times used for DltTmC (DltTmC)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
7376	AvgDlyC	Chord C average delay time The chord-specific delay for chord C primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
7380	XdcrAssyComponent4LengthD1	Transducer assembly D1 component 4 length The length for the transducer assembly component 4 for D1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7382	XdcrAssyComponent4LengthD2	Transducer assembly D2 component 4 length The length for the transducer assembly component 4 for D2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7384	XdcrAssyComponent3LengthD1	Transducer assembly D1 component 3 length The length of the transducer assembly component 3 for D1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7386	XdcrAssyComponent3LengthD2	Transducer assembly D2 component 3 length The length of the transducer assembly component 3 for D2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7388	XdcrAssyComponent2LengthD1	Transducer assembly D1 component 2 length The length of the transducer assembly component 2 for D1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7390	XdcrAssyComponent2LengthD2	Transducer assembly D2 component 2 length The length of the transducer assembly component 2 for D2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7392	XdcrAssyComponent1LengthD1	Transducer assembly D1 component 1 length The length of the transducer assembly component 1 for D1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7394	XdcrAssyComponent1LengthD2	Transducer assembly D2 component 1 length The length of the transducer assembly component 1 for D2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
7396	MeterHousingLengthD	Chord D meter housing length The meter housing length for chord D. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
7398	LD	Chord D length ("L" dimension) The distance between the transducer faces on chord D. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
7400	DltDlyD	Chord D difference in upstream and downstream delay times The adjustment to the chord D delta times (the individual times used for DltTmD (DltTmD)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
7402	AvgDlyD	Chord D average delay time The chord-specific delay for chord D primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
7412	IsChordLengthMismatchedA	In-use length is not equal to the calculated length for chord A The in-use chord length (LA) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthA) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthA1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthA2) - transducer1_length (XdcrAssyComponent4LengthA1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthA1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthA1) - transducer2_length (XdcrAssyComponent4LengthA2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthA2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthA2). This alarm is disabled when all the chord component lengths (MeterHousingLengthA, XdcrAssyComponent1LengthA1, XdcrAssyComponent1LengthA2, XdcrAssyComponent4LengthA1, XdcrAssyComponent4LengthA2, XdcrAssyComponent3LengthA1, XdcrAssyComponent3LengthA2, XdcrAssyComponent2LengthA1, XdcrAssyComponent2LengthA2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LA). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord A are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LA) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7413	IsChordLengthMismatchedB	In-use length is not equal to the calculated length for chord B The in-use chord length (LB) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthB) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthB1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthB2) - transducer1_length (XdcrAssyComponent4LengthB1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthB1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthB1) - transducer2_length (XdcrAssyComponent4LengthB2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthB2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthB2). This alarm is disabled when all the chord component lengths (MeterHousingLengthB, XdcrAssyComponent1LengthB1, XdcrAssyComponent1LengthB2, XdcrAssyComponent4LengthB1, XdcrAssyComponent4LengthB2, XdcrAssyComponent3LengthB1, XdcrAssyComponent3LengthB2, XdcrAssyComponent2LengthB1, XdcrAssyComponent2LengthB2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LB). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord B are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LB) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7414	IsChordLengthMismatchedC	In-use length is not equal to the calculated length for chord C The in-use chord length (LC) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthC) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthC1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthC2) - transducer1_length (XdcrAssyComponent4LengthC1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthC1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthC1) - transducer2_length (XdcrAssyComponent4LengthC2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthC2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthC2). This alarm is disabled when all chord component lengths (MeterHousingLengthC, XdcrAssyComponent1LengthC1, XdcrAssyComponent1LengthC2, XdcrAssyComponent4LengthC1, XdcrAssyComponent4LengthC2, XdcrAssyComponent3LengthC1, XdcrAssyComponent3LengthC2, XdcrAssyComponent2LengthC1, XdcrAssyComponent2LengthC2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LC). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord C are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LC) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7415	IsChordLengthMismatchedD	In-use length is not equal to the calculated length for chord D The in-use chord length (LD) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthD) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthD1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthD2) - transducer1_length (XdcrAssyComponent4LengthD1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthD1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthD1) - transducer2_length (XdcrAssyComponent4LengthD2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthD2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthD2). This alarm is disabled when all chord component lengths (MeterHousingLengthD, XdcrAssyComponent1LengthD1, XdcrAssyComponent1LengthD2, XdcrAssyComponent4LengthD1, XdcrAssyComponent4LengthD2, XdcrAssyComponent3LengthD1, XdcrAssyComponent3LengthD2, XdcrAssyComponent2LengthD1, XdcrAssyComponent2LengthD2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LD). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord D are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LD) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
7420	IsChordLengthMismatched	In-use chord length does not match calculated chord length The in-use chord length does not match for one or more chords. See chord alarms for more details (IsChordLengthMismatchedA, IsChordLengthMismatchedB, IsChordLengthMismatchedC, IsChordLengthMismatchedD). Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord (for four-path meters LA, LB, LC and LD, for dual-path meters LA and LB and for single-path meters LA) are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord lengths which can be written to the meter if different from the value In Use to clear this alarm. 2. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7424	SMVDailyResultMonth	Daily SMV result month This indicates daily Smart Meter Verification results (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, DailyGasCompPresTempResult, and DailyResult) real-time clock month where 1 means January and 12 means December. The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification).	R	Y			int	-	-	uint8	-	Not calculated (0) Jan (1) Feb (2) Mar (3) Apr (4) May (5) Jun (6) Jul (7) Aug (8) Sep (9) Oct (10) Nov (11) Dec (12)			
7425	SMVDailyResultDay	Daily SMV result day This indicates daily Smart Meter Verification results (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, DailyGasCompPresTempResult, and DailyResult) real-time clock day where 1 means 1st day of the month and so on. The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification).	R	Y			int	-	-	uint8	-				
7426	SMVDailyResultYear	Daily SMV result year (2 digit) This indicates daily Smart Meter Verification results (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, DailyGasCompPresTempResult, and DailyResult) real-time clock year in YY format (2 digit). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification).	R	Y			int	-	-	uint8	-				
7427	DailyResult	Daily SMV result This indicates the overall daily result for the Smart Meter Verification subgroups (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, and DailyGasCompPresTempResult). The overall daily Smart Meter Verification result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there is at least one daily Smart Meter Verification subgroup with result as "Warning" and no subgroup with result "Fail" for the period, then the overall daily Smart Meter Verification result is Warning(2). If there is at least one daily Smart Meter Verification subgroup with result "Fail" for the period, then the overall daily Smart Meter Verification result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7428	DailyFlowVolFlowRateResult	Daily SMV flow-condition volumetric flow rate subgroup result This indicates the daily Smart Meter Verification flow-condition volumetric flow rate subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsTooFewOperChords, IsEstimatedFlowVelocityInUse, and QFlowValidity alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7429	DailyElectronicsResult	Daily SMV electronics subgroup result This indicates the daily Smart Meter Verification electronics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from DidColdStart, IsCorePresent, WatchDogReset, IsAcqModuleError, IsAcqModuleIncompatible, IsXdcrFiringSyncError, IsClkInvalid, IsColocMeterCommErr, DidPowerFail, IsElecTempOutOfRange, IsElecVoltOutOfRange, IsHourlyLogFull, IsDailyLogFull, IsAuditLogFull, IsAlarmLogFull, IsSystemLogFull, DidResetUsers, and DidWarmStart alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7430	DailySpdSndPathSpreadResult	Daily SMV speed of sound path spread subgroup result This indicates the daily Smart Meter Verification speed of sound path spread subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsMeasSndSpdRangeA..IsMeasSndSpdRangeD alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7431	DailyPerformanceResult	Daily SMV performance subgroup result This indicates the daily Smart Meter Verification performance subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsFailedForBatchA..IsFailedForBatchD, IsHardFailedA..IsHardFailedD, DidDltTmChkFailA..DidDltTmChkFailD, IsSigQltyBadA..IsSigQltyBadD, DidExceedMaxNoiseA..DidExceedMaxNoiseD, IsSNRTooLowA..IsSNRTooLowD, DidTmDevChkFailA..DidTmDevChkFailD, IsSigDistortedA..IsSigDistortedD, IsPeakSwitchDetectedA..IsPeakSwitchDetectedD, and IsSigClippedA..IsSigClippedD alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7432	DailyTransducersResult	Daily SMV transducers subgroup result This indicates the daily Smart Meter Verification transducers subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsAcqMode, IsBatchInactiveA..IsBatchInactiveD, and IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7433	DailyConfigurationResult	Daily SMV configuration subgroup result This indicates the daily Smart Meter Verification configuration subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsWarmStartReq, IsChordLengthMismatchedA..IsChordLengthMismatchedD, and DidCnfgChksumChg alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7434	DailyBaseVolFlowRateResult	Daily SMV base-condition volumetric flow rate subgroup result This indicates the daily Smart Meter Verification base-condition volumetric flow rate subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from QBaseValidity alarm.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7435	DailyVelocityDiagnosticsResult	Daily SMV velocity diagnostics subgroup result This indicates the daily Smart Meter Verification velocity diagnostics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsMeterVelAboveMaxLmt, IsFwdBaselineNotSet, IsRevBaselineNotSet, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, and IsAbnormalProfileDetected alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7436	DailySpdSndDiagnosticsResult	Daily SMV speed of sound diagnostics subgroup result This indicates the daily Smart Meter Verification speed of sound diagnostics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsSndVelCompErr, IsColocMeterSndSpdRangeErr, IsDiagnosticSndSpdRangeErr, and IsAvgSoundVelRangeErr alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
7437	DailyFlowRateDiagnosticsResult	Daily SMV flow rate diagnostics subgroup result This indicates the daily Smart Meter Verification flow rate diagnostics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsColocMeterQFlowRangeErr and IsReverseFlowDetected alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
7438	DailyGasCompPresTempResult	Daily SMV gas composition/pressure/temperature subgroup result This indicates the daily Smart Meter Verification gas composition/pressure/temperature subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from PressureInvalid, TemperatureInvalid, AreGasPropertiesInvalidInUse, IsGCCommErr, IsGCDataErr, and IsGCAlarmPresent alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
8998	CPUBdSerialNumber	CPU Module serial number The CPU Module serial number is on a label on the CPU Module. Its minimum expected value is 0018000.	R				long	-	-	uint32	-				
9001	Reserved		R				int								
9050	Reserved		R				int								
9100	FwdMtrFctr1	Piecewise linearization forward meter factor 1 The first forward meter factor used for piecewise linearization. It is paired with forward flow rate 1 (FwdFlwRt1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9102	FwdMtrFctr2	Piecewise linearization forward meter factor 2 The second forward meter factor used for piecewise linearization. It is paired with forward flow rate 2 (FwdFlwRt2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9104	FwdMtrFctr3	Piecewise linearization forward meter factor 3 The third forward meter factor used for piecewise linearization. It is paired with forward flow rate 3 (FwdFlwRt3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9106	FwdMtrFctr4	Piecewise linearization forward meter factor 4 The fourth forward meter factor used for piecewise linearization. It is paired with forward flow rate 4 (FwdFlwRt4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9108	FwdMtrFctr5	Piecewise linearization forward meter factor 5 The fifth forward meter factor used for piecewise linearization. It is paired with forward flow rate 5 (FwdFlwRt5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9110	FwdMtrFctr6	Piecewise linearization forward meter factor 6 The sixth forward meter factor used for piecewise linearization. It is paired with forward flow rate 6 (FwdFlwRt6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9112	FwdMtrFctr7	Piecewise linearization forward meter factor 7 The seventh forward meter factor used for piecewise linearization. It is paired with forward flow rate 7 (FwdFlwRt7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9114	FwdMtrFctr8	Piecewise linearization forward meter factor 8 The eighth forward meter factor used for piecewise linearization. It is paired with forward flow rate 8 (FwdFlwRt8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9116	FwdMtrFctr9	Piecewise linearization forward meter factor 9 The ninth forward meter factor used for piecewise linearization. It is paired with forward flow rate 9 (FwdFlwRt9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9118	FwdMtrFctr10	Piecewise linearization forward meter factor 10 The tenth forward meter factor used for piecewise linearization. It is paired with forward flow rate 10 (FwdFlwRt10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9120	FwdFlwRt1	Piecewise linearization fwd vol flow rate 1 The first and highest forward flow rate used for piecewise linearization. It is paired with forward meter factor 1 (FwdMtrFctr1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero. Flow rates above this point will simply apply forward meter factor 1 (FwdMtrFctr1) as the linear meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9122	FwdFlwRt2	Piecewise linearization fwd vol flow rate 2 The second forward flow rate used for piecewise linearization. It is paired with forward meter factor 2 (FwdMtrFctr2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
9124	FwdFlwRt3	Piecewise linearization fwd vol flow rate 3 The third forward flow rate used for piecewise linearization. It is paired with forward meter factor 3 (FwdMtrFctr3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9126	FwdFlwRt4	Piecewise linearization fwd vol flow rate 4 The fourth forward flow rate used for piecewise linearization. It is paired with forward meter factor 4 (FwdMtrFctr4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9128	FwdFlwRt5	Piecewise linearization fwd vol flow rate 5 The fifth forward flow rate used for piecewise linearization. It is paired with forward meter factor 5 (FwdMtrFctr5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9130	FwdFlwRt6	Piecewise linearization fwd vol flow rate 6 The sixth forward flow rate used for piecewise linearization. It is paired with forward meter factor 6 (FwdMtrFctr6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9132	FwdFlwRt7	Piecewise linearization fwd vol flow rate 7 The seventh forward flow rate used for piecewise linearization. It is paired with forward meter factor 7 (FwdMtrFctr7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9134	FwdFlwRt8	Piecewise linearization fwd vol flow rate 8 The eighth forward flow rate used for piecewise linearization. It is paired with forward meter factor 8 (FwdMtrFctr8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9136	FwdFlwRt9	Piecewise linearization fwd vol flow rate 9 The ninth forward flow rate used for piecewise linearization. It is paired with forward meter factor 9 (FwdMtrFctr9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9138	FwdFlwRt10	Piecewise linearization fwd vol flow rate 10 The tenth forward flow rate used for piecewise linearization. It is paired with forward meter factor 10 (FwdMtrFctr10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9150	RevMtrFctr1	Piecewise linearization reverse meter factor 1 The first reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 1 (RevFlwRt1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9152	RevMtrFctr2	Piecewise linearization reverse meter factor 2 The second reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 2 (RevFlwRt2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9154	RevMtrFctr3	Piecewise linearization reverse meter factor 3 The third reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 3 (RevFlwRt3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9156	RevMtrFctr4	Piecewise linearization reverse meter factor 4 The fourth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 4 (RevFlwRt4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9158	RevMtrFctr5	Piecewise linearization reverse meter factor 5 The fifth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 5 (RevFlwRt5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9160	RevMtrFctr6	Piecewise linearization reverse meter factor 6 The sixth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 6 (RevFlwRt6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9162	RevMtrFctr7	Piecewise linearization reverse meter factor 7 The seventh reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 7 (RevFlwRt7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9164	RevMtrFctr8	Piecewise linearization reverse meter factor 8 The eighth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 8 (RevFlwRt8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9166	RevMtrFctr9	Piecewise linearization reverse meter factor 9 The ninth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 9 (RevFlwRt9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9168	RevMtrFctr10	Piecewise linearization reverse meter factor 10 The tenth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 10 (RevFlwRt10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
9170	RevFlwRt1	Piecewise linearization rev vol flow rate 1 The first and highest reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 1 (RevMtrFctr1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero. Flow rates above this point will simply apply reverse meter factor 1 (RevMtrFctr1) as the linear meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9172	RevFlwRt2	Piecewise linearization rev vol flow rate 2 The second reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 2 (RevMtrFctr2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
9174	RevFlwRt3	Piecewise linearization rev vol flow rate 3 The third reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 3 (RevMtrFctr3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9176	RevFlwRt4	Piecewise linearization rev vol flow rate 4 The fourth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 4 (RevMtrFctr4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9178	RevFlwRt5	Piecewise linearization rev vol flow rate 5 The fifth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 5 (RevMtrFctr5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9180	RevFlwRt6	Piecewise linearization rev vol flow rate 6 The sixth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 6 (RevMtrFctr6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9182	RevFlwRt7	Piecewise linearization rev vol flow rate 7 The seventh reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 7 (RevMtrFctr7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9184	RevFlwRt8	Piecewise linearization rev vol flow rate 8 The eighth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 8 (RevMtrFctr8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9186	RevFlwRt9	Piecewise linearization rev vol flow rate 9 The ninth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 9 (RevMtrFctr9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
9188	RevFlwRt10	Piecewise linearization rev vol flow rate 10 The tenth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 10 (RevMtrFctr10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	m3/hr	float32	m3/hr		0	0	200000
10004	FODO4Source	Source for Frequency/Digital Output 4 Selects the source for Frequency/Digital Output 4 if Frequency/Digital Output 4 available (IsFODO4Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO4Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	6	0	7
10005	FODO5Source	Source for Frequency/Digital Output 5 Selects the source for Frequency/Digital Output 5 if Frequency/Digital Output 5 available (IsFODO5Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO5Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	7	0	7
10006	FODO6Source	Source for Frequency/Digital Output 6 Selects the source for Frequency/Digital Output 6 if Frequency/Digital Output 6 available (IsFODO6Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO6Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	4	0	7
10007	FODO4Mode	Mode for Frequency/Digital Output 4 Selects the output levels for Frequency/Digital Output 4 (FODO4Source) when Frequency/Digital Output 4 available (IsFODO4Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
10008	FODO5Mode	Mode for Frequency/Digital Output 5 Selects the output levels for Frequency/Digital Output 5 (FODO5Source) when Frequency/Digital Output 5 available (IsFODO5Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
10009	FODO6Mode	Mode for Frequency/Digital Output 6 Selects the output levels for Frequency/Digital Output 6 (FODO6Source) when Frequency/Digital Output 6 available (IsFODO6Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10010	FODO1Source	Source for Frequency/Digital Output 1 Selects the source for Frequency/Digital Output 1 if Frequency/Digital Output 1 available (IsFODO1Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO1Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	0	0	7
10011	FODO2Source	Source for Frequency/Digital Output 2 Selects the source for Frequency/Digital Output 2 if Frequency/Digital Output 2 available (IsFODO2Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO2Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	2	0	7
10012	FODO3Source	Source for Frequency/Digital Output 3 Selects the source for Frequency/Digital Output 3 if Frequency/Digital Output 3 available (IsFODO3Avail) is TRUE (1). The sources may be: Frequency Output 1A based on Freq1Content Frequency Output 1B based on Freq1Content and Freq1BPhase Frequency Output 2A based on Freq2Content Frequency Output 2B based on Freq2Content and Freq2BPhase Digital Output 1A based on DO1AContent Digital Output 1B based on DO1BContent Digital Output 2A based on DO2AContent Digital Output 2B based on DO2BContent The output levels are selected by FODO3Mode.	RW	Y	Y	Y	int	-	-	uint8	-	Frequency Output 1A (0) Frequency Output 1B (1) Frequency Output 2A (2) Frequency Output 2B (3) Digital Output 1A (4) Digital Output 1B (5) Digital Output 2A (6) Digital Output 2B (7)	3	0	7
10013	FODO1Mode	Mode for Frequency/Digital Output 1 Selects the output levels for Frequency/Digital Output 1 (FODO1Source) when Frequency/Digital Output 1 available (IsFODO1Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
10014	FODO2Mode	Mode for Frequency/Digital Output 2 Selects the output levels for Frequency/Digital Output 2 (FODO2Source) when Frequency/Digital Output 2 available (IsFODO2Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
10015	FODO3Mode	Mode for Frequency/Digital Output 3 Selects the output levels for Frequency/Digital Output 3 (FODO3Source) when Frequency/Digital Output 3 available (IsFODO3Avail) is TRUE (1).	RW	Y	Y	Y	int	-	-	uint8	-	TTL (0) Open Collector (1)	1	0	1
10016	Freq1Content	Frequency Output 1 pair content Selects the data to be represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)) to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals.	RW	Y	Y	Y	int	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
10017	Freq1Dir	Selects the flow direction represented by the Frequency Output 1 pair (Freq1A, Freq1B) Selects the flow direction represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	int	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
10018	Freq2Dir	Selects the flow direction represented by the Frequency Output 2 pair (Freq2A, Freq2B) Selects the flow direction represented by the Frequency Output 2 pair (Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	int	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
10019	AO1Dir	Selects the flow direction represented by the Analog Output 1 Selects the flow direction represented by Analog Output 1. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	int	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
10020	Freq1MaxFrequency	Frequency Output 1 pair maximum (full-scale) frequency Selects the Frequency Output 1 pair maximum (full-scale) frequency used in determining the K-factor and inverse K-factor.	RW	Y	Y	Y	int	Hz	Hz	uint16	Hz	1000 (1000) 5000 (5000)	1000	1000	5000
10021	Freq1TestModeOutputPercent	Frequency Output 1 pair test mode percentage of full-scale Specifies the Frequency Output 1 pair test mode percentage of full-scale. This specifies the frequency (as a percentage of the full-scale frequency (Freq1MaxFrequency)) to force Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB) when in the frequency test mode (IsFreq1EnableTest).	RW				int	%	%	uint8	%		50	0	150
10023	Freq1FeedbackCorrectionPcnt	Frequency Output 1 pair volume feedback percentage Specifies the Frequency Output 1 pair percentage of error (determined by frequency feedback) to adjust for per batch. This only applies when the frequency pair content is selected to be a rate.	RW	Y	Y	Y	int	%	%	uint8	%		1	0	100

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10024	NonNormalModeTimeout	Non-normal operation timeout Non-normal operation timeout. The maximum length of time that a frequency output pair, digital output pair, analog output or calibration can remain in the test mode. In the event communications are lost between the Ultrasonic meter software and the meter (before a test mode is stopped), the meter will automatically end the test mode after the non-normal operation timeout has expired. This can be from 1 to 30 minutes depending on its settings. By default, the timeout is set to two minutes.	RW	Y	Y	Y	int	min	min	uint8	min		2	1	30
10025	CommTimeoutPortA	Comm Port A communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		int	sec	sec	uint8	sec		4	0	255
10026	UnitsSystem	Smart Meter Verification report, Modbus and local display unit system Selects the units for the Modbus communication, the local display, and the Smart Meter Verification report. Available options are U.S. Customary and Metric. For Modbus communication, the selected units system applies only to registers above 10000 and in the 2000-8999 range, other registers below 10000 are read in metric units only to maintain Mark II compatibility. Also, the selected units system is used by the Field Setup Wizard in MeterLink™. US customary units is the default setting. This configuration is different from the ISO 17089 Modbus units system (ISOModbusUnitsSystem) which determines units for the Modbus communication for the ISO 17089 Modbus registers block (32678 to 34112).	RW	Y	Y	Y	int	-	-	uint8	-	U.S. Customary (0) Metric (1)	0	0	1
10027	InputPressureUnit	Input pressure absolute/gage selector Specifies whether the input pressure is "Absolute" or "Gage" . If the input pressure is gage, then the absolute pressure is calculated as the sum of the input gage pressure and the atmospheric pressure (AtmosphericPress). When writing the flow-condition absolute pressure values via the ISO 17089 Modbus register then the input pressure unit has no effect and value is always considered as absolute pressure.	RW	Y	Y	Y	int	-	-	boolean	-	Gage (FALSE) Absolute (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
10028	VolFlowRateTimeUnit	Flow rate time unit for Modbus communication Selects the Modbus communication volumetric, energy or mass flow rate time unit for registers above 10000 and in the 2000-8999 range.	RW	Y	Y	Y	int	-	-	uint8	-	second (0) hour (1) day (2)	1	0	2
10030	RTCMonth	Real-time clock month This is used to read and write system time's month. The system time of the meter can be adjusted by writing to real-time clock day (RTCDate), year (RTCYear), hour (RTCHour), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-	Jan (1) Feb (2) Mar (3) Apr (4) May (5) Jun (6) Jul (7) Aug (8) Sep (9) Oct (10) Nov (11) Dec (12)	1	1	12
10031	RTCDate	Real-time clock day This is used to read and write system time's day of the month. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), year (RTCYear), hour (RTCHour), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		1	1	31
10032	RTCYear	Real-time clock year (2 digit) This is used to read and write system time's year. This specifies the last two digits of the year, which are added to 2000 to derive the four-digit year. The year may be set to a value within the range of the firmware release year to 38. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), hour (RTCHour), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		3	0	99
10033	RTCHour	Real-time clock hour in 24-hour format This is used to read and write system time's hour (in military time). The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), year (RTCYear), minute (RTCMinute) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		6	0	23
10034	RTCMinute	Real-time clock minute This is used to read and write system time's minute. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), year (RTCYear), hour (RTCHour) and second (RTCSecond). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		0	0	59
10035	RTCSecond	Real-time clock second This is used to read and write system time's second. The system time of the meter can be adjusted by writing to real-time clock month (RTCMonth), day (RTCDate), year (RTCYear), hour (RTCHour) and minute (RTCMinute). When the system time is set then the meter's real-time clock is also updated.	RW				int	-	-	uint8	-		0	0	59
10036	Reserved		R				int								
10037	Reserved		R				int								
10038	Reserved		R				int								
10039	Reserved		R				int								
10040	Reserved		R				int								
10041	Reserved		R				int								
10042	Reserved		R				int								
10043	Reserved		R				int								
10044	Reserved		R				int								
10045	DI1Mode	Digital Input 1 mode Specifies the Digital Input 1 (DI1) operating mode. If Digital Input/Calibration Input is selected, general input or calibration is determined by the Digital Input 1 calibration control flag (IsDI1UsedForCal). I/O board type (IOBdType) 4 and above is required to select Frequency/Digital Output 6.	RW	Y	Y	Y	int	-	-	uint8	-	Digital Input/Calibration Input (0) Frequency/Digital Output 6 (2)	2	0	2
10050	Freq1FullScaleVolFlowRate	Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when Frequency Output 1 pair content (Freq1Content) is set to a volumetric flow rate.	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
10052	AO1FullScaleVolFlowRate	Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to uncorrected volume flow rate (QFlow) or corrected volume flow rate (QBase).	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
10054	MinInputTemperature	Live temperature value corresponding to 4 mA input signal Specifies the input flow temperature value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	0	473.15
10056	MaxInputTemperature	Live temperature value corresponding to 20 mA input signal Specifies the input flow temperature value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	0	523.15

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10058	LowTemperatureAlarm	Temperature alarm low limit Temperature alarm low limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or below this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	143.15	473.15
10060	HighTemperatureAlarm	Temperature alarm high limit Temperature alarm high limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or above this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	143.15	523.15
10062	MinInputPressure	Live flow pressure value corresponding to 4 mA input signal Specifies the input flow pressure value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	0	280
10064	MaxInputPressure	Live flow pressure value corresponding to 20 mA input signal Specifies the input flow pressure value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		100	0	280
10066	LowPressureAlarm	Pressure alarm low limit Pressure alarm low limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or below this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.001	0	280
10068	HighPressureAlarm	Pressure alarm high limit Pressure alarm high limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or above this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		8.3	0	280
10078	SpecRhoMixFlow	Specified (fixed) flow-condition gas mass density Specifies the flow-condition gas mass density. This is used as RhoMixFlow (RhoMixFlow) when the AGA8 calculations are performed externally (selected via AGA8 calculation method (HCH_Method)).	RW	Y	Y		float	kg/m3	lbm/ft3	float32	kg/m3		0	0	500
10080	SpecZFlow	Specified (fixed) flow-condition gas compressibility Specifies the flow-condition gas compressibility. This is used as ZFlow (ZFlow) when the AGA8 calculations are performed externally (selected via AGA8 calculation method (HCH_Method)).	RW	Y	Y		float	-	-	float32	-		0	0	2
10082	SpecZBase	Specified (fixed) base-condition gas compressibility Specifies the base-condition gas compressibility. This is used as ZBase (ZBase) when the AGA8 calculations are performed externally (selected via AGA8 calculation method (HCH_Method)).	RW	Y	Y		float	-	-	float32	-		0	0	2
10084	SpecCorrectionFactor	Specified (fixed) flow profile correction factor (for single- and dual-path meters only) Specifies the (fixed) flow profile correction factor (for single and dual-path meters only) either manually entered or calculated by the meter. A zero value indicates that the meter is to calculate the flow profile correction factor based on pipe wall roughness (WallRoughness), pipe inside diameter (PipeDiam) and Reynolds Number (ReynoldsNumber). Reynolds Number (ReynoldsNumber) requires that AGA8 calculations (HCH_Method) are performed by the meter or performed externally.	RW	Y	Y		float	-	-	float32	-		0	0	1.05
10100	TBase	Base-condition temperature The base-condition temperature used for calculating the corrected, base-condition volumetric flow rate (QBase).	RW	Y	Y	Y	float	deg C	deg F	float32	K		273.15	143.15	328.15
10102	PBase	Base-condition pressure The base-condition pressure used for calculating the corrected, base-condition volumetric flow rate (QBase).	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	0.001	280
10104	AtmosphericPress	Atmospheric pressure Specifies the atmospheric pressure. This value is required when the input pressure absolute/gage selector (InputPressureUnit) is Gage, so that flow-condition absolute pressure (AbsFlowPressure) can be calculated.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.101325	0.03	0.1084
10106	HCH_Method	AGA8 method selector Selects the AGA8 calculation method. If the calculations are to be performed externally, then the calculation results must be specified (SpecRhoMixFlow, SpecZBase and SpecZFlow). For AGA8 method to be "Gross Method 1" or "Gross Method 2" or "Detail Method (AGA8, 1994)" or "GERG-2008 (AGA8 Part 2, 2017)", the base-condition pressure and temperature values must be specified (PBase and TBase), the flow-condition pressure input (EnablePressureInput) and temperature input (EnableTemperatureInput) must be "Fixed" (SpecFlowPressure and SpecFlowTemperature) or "Live" or "Transmitter Head 1" and the gas composition source (GasPropertiesSrcSel) must be "Fixed" or "Live - GC" or "Transmitter Head 1".	RW	Y	Y	Y	float	-	-	int32	-	External (0) Gross Method 1 (1) Gross Method 2 (2) Detail Method (3) GERG-2008 (5) None (4)	4	0	5
10108	MeasVolGrossHeatingVal	Volumetric gross heating value Volumetric gross heating value (required when AGA8 calculation method (HCH_Method) is "Gross Method 1"). These gas property values are either fixed (heating value and its reference temperature are user specified) or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1". Reading the gas property data from a GC requires the interface to GC to be enabled (IsOptionalGCInterfaceEnabled) and the GC communication port (GCSerialPort) to be configured. See also RefTemperatureHV. Gas property data can be read from Transmitter Head 1 of a Dual-Configuration meter only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter.	RW	Y	Y		float	kJ/dm3	Btu/ft3	float32	kJ/dm3		38.6022	15	50
10110	RefTemperatureHV	Volumetric gross heating value reference temperature Volumetric gross heating value reference temperature (required when AGA8 calculation method (HCH_Method) is Gross Method 1. See also MeasVolGrossHeatingVal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		288.7056	143.15	328.15
10112	SpecificGravity	Gas specific gravity (relative density) Gas specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either "Gross Method 1" or "Gross Method 2"). Specific gravity value is either a fixed (user specified) value or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1".	RW	Y	Y		float	-	-	float32	-		0.581078	0	2
10114	RefTemperatureGr	Reference temperature for specific gravity (relative density) Reference temperature for specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either Gross Method 1 or Gross Method 2).	RW	Y	Y	Y	float	deg C	deg F	float32	K		288.7056	143.15	328.15
10116	RefPressureGr	Reference (absolute) pressure for specific gravity (relative density) Reference (absolute) pressure for specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either Gross Method 1 or Gross Method 2).	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	0.001	280
10118	RefTemperatureMolarDensity	Reference temperature for molar density Reference temperature for molar density (required when AGA8 calculation method (HCH_Method) is Gross Method 1).	RW	Y	Y	Y	float	deg C	deg F	float32	K		288.7056	143.15	328.15
10120	RefPressureMolarDensity	Reference (absolute) pressure for molar density Reference (absolute) pressure for molar density (required when AGA8 calculation method (HCH_Method) is Gross Method 1).	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	0.001	280
10122	MoleFractionN2Method2	Nitrogen gas component The nitrogen gas component is calculated only when AGA8 method selector (HCH_Method) is Gross Method 1. It is assigned value of (N2InUse) for Gross Method 2, and is not calculated for other AGA8 methods.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1
10124	MoleFractionCO2	Carbon dioxide gas component Carbon dioxide gas component mole fraction.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1
10126	MoleFractionH2	Hydrogen gas component Hydrogen gas component mole fraction.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10128	MoleFractionCO	Carbon monoxide gas component Carbon monoxide gas component mole fraction.	RW	Y	Y		float	mole fraction	mole fraction	float32	mole fraction		0	0	1
10130	Viscosity	Natural gas mixture dynamic viscosity Natural gas mixture dynamic viscosity. Only required for JuniorSonic meters when specified flow profile correction factor (SpecCorrectionFactor) is calculated.	RW	Y	Y		float	Pa.s	cPoise	float32	Pa.s		0.000012	0	0.00005
10132	WallRoughness	Pipe wall roughness Pipe wall roughness. Only required for JuniorSonic meters when specified flow profile correction factor (SpecCorrectionFactor) is calculated.	RW	Y	Y	Y	float	m	ft	float32	m		0.00000762	0	0.0001
10134	SpecFlowTemperature	Specified (fixed) flow-condition temperature Specifies the flow-condition temperature used in calculations when the enable temperature input (EnableTemperatureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	deg C	deg F	float32	K		273.15	143.15	473.15
10136	SpecFlowPressure	Specified (fixed) flow-condition pressure Specifies the flow-condition pressure used in calculations when the enable pressure input (EnablePressureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	MPa	psi	float32	MPa		0.10156	0	280
10138	LinearExpansionCoef	Linear expansion coefficient Linear expansion coefficient. This is used to calculate the temperature expansion correction factor (when the correction is enabled via the enable temperature expansion correction (EnableExpCorrTemp)).	RW	Y	Y	Y	float	1/deg C	1/deg F	float32	1/K		0.0000115	0.00001	0.000018
10140	RefTempLinearExpCoef	Reference temperature for linear expansion Reference temperature for linear expansion. This is used to calculate the temperature expansion correction factor (when the correction is enabled via the enable temperature expansion correction (EnableExpCorrTemp)).	RW	Y	Y	Y	float	deg C	deg F	float32	K		293.15	143.15	473.15
10142	PipeOutsideDiameter	Pipe outside diameter Pipe outside diameter. This is used to calculate the pressure expansion correction factor (when the correction is enabled via the enable pressure expansion correction (EnableExpCorrPress)).	RW	Y	Y	Y	float	m	ft	float32	m		2	0	3
10144	YoungsModulus	Young's Modulus value (tensile stress to tensile strain ratio) Young's Modulus value (tensile stress to tensile strain ratio). This is used to calculate the strain per unit stress (StrainPerUnitStress) when expansion correction (EnableExpCorrPress) is enabled.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		202000	137895	310264
10146	PoissonsRatio	Poisson's Ratio value (absolute ratio of lateral strain to axial strain) Poisson's Ratio value (absolute ratio of lateral strain to axial strain). This is used to calculate the strain per unit stress (StrainPerUnitStress) when expansion correction (EnableExpCorrPress) is enabled.	RW	Y	Y	Y	float	-	-	float32	-		0.3	0.2	0.4
10201	IsGasCompositionValidationEnabled	Enables gas properties validation When set to Enabled, the meter will validate in-use gas properties as per the configured the AGA8 method (HCH_Method). When the AGA8 method is either configured as "GERG-2008" or "Detail Method", the meter will validate in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse) post-normalization to check if the individual gas components mole fraction are within limits as per the configured AGA8 method and the total unnormalized in-use gas composition mole percentage of all the gas components is within the range of 85% to 115%. When the AGA8 method is "Gross Method 1" or "Gross Method 2", the meter will validate the in-use specific gravity (SpecificGravityInUse) is within the range of 0.2 to 0.8. When the AGA8 method is "Gross Method 1", the meter will validate the in-use heating value (HeatingValueInUse) is within the range of 50 kJ/cubic dm to 15 kJ/cubic dm.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
10202	EnableTemperatureInput	Flow-condition temperature input selector Selects the flow-condition temperature input. When set to "Live", the flow-condition temperature is read from an analog input signal. When set to "Fixed", the flow-condition temperature is specified (fixed) via the SpecFlowTemperature data point, via a Modbus register or via the HART Command-134. An external source can update the flow-condition temperature through Modbus either by writing to the ISO 17089 Modbus register (34052) or by writing to a non-ISO 17089 Modbus register. When set to "Transmitter Head 1", the flow-condition temperature is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition temperature input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition temperature is used for temperature expansion correction (if enabled), AGA8 calculations (if enabled) and AGA10 calculations (if enabled). This value cannot be set to "None" if temperature expansion correction (EnableExpCorrTemp) is enabled or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
10203	EnablePressureInput	Flow-condition pressure input selector Selects the flow-condition pressure input. When set to "Live", the flow-condition pressure is read from an analog input signal. When set to "Fixed", the flow-condition pressure is specified (fixed) via the SpecFlowPressure data point, via a Modbus register or via the HART Command-132. An external source can update the flow-condition pressure through Modbus either by writing to the ISO 17089 Modbus register (34050) or by writing to a non-ISO 17089 Modbus register. The flow-condition pressure written via the ISO 17089 Modbus register is always absolute pressure. When set to "Transmitter Head 1", the flow-condition pressure is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition pressure input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition pressure is used for pressure expansion correction (if enabled). This value cannot be set to "None" if pressure expansion correction is enabled (EnableExpCorrPress) or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
10204	CommRspDlyPortA	Comm Port A response delay Communication Port A response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		int	ms	ms	uint8	ms		0	0	100
10205	CommRspDlyPortB	Comm Port B response delay Communication Port B response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		int	ms	ms	uint8	ms		0	0	100
10206	ContractHour	Hour of day to log daily record in 24-hour format Hour of day to log the daily record. This is expressed using 24-hour format (military time): midnight is 0 hours, noon is 12 hours, 11PM is 23 hours.	RW	Y	Y	Y	int	hr	hr	uint8	-		0	0	23
10207	Reserved		R				int								
10208	Reserved		R				int								
10210	EnableExpCorrTemp	Enable temperature expansion correction Enables volumetric flow rate temperature expansion correction when set to TRUE (1). This requires the flow-condition temperature to be "Fixed" or "Live" or "Transmitter Head 1" (EnableTemperatureInput and SpecFlowTemperature) and the pipe material linear expansion coefficient with reference temperature (LinearExpansionCoef and RefTempLinearExpCoef) to be specified.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10211	EnableExpCorrPress	Enable pressure expansion correction Enables volumetric flow rate pressure expansion correction when set to TRUE (1). This requires the flow-condition pressure to be "Fixed" or "Live" or "Transmitter Head 1" (EnablePressureInput and SpecFlowPressure) and the pipe outside diameter (PipeOutsideDiameter), Young's Modulus (YoungsModulus) and Poisson's Ratio (PoissonsRatio) to be specified.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
10300	IsLocalDisplayAvail	Local display is available When TRUE (1) the system has detected the presence of the local display.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
10301	IsLocalDisplayEnableTest	Test mode for local display When set TRUE (1) the local display will perform a series of tests to exercise all the segments of the display. This value will automatically return to FALSE (0) when the test is complete.	RW				int	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
10302	LocalDisplayScrollDelay	Scroll delay time for local display The time interval in seconds used to change which item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) is shown on the local display.	RW	Y	Y	Y	int	sec	sec	uint8	sec		5	1	100
10303	LocalDisplayFlowRateTimeUnit	Local display time units The time units used by the local display, if applicable, to display the current item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	second (0) hour (1) day (2)	1	0	2
10304	LocalDisplayVolUnitUS	Local display U.S. Customary volume unit The volumetric units used by the local display, if applicable, to display the current item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) when the units system (UnitsSystem) is selected to U.S. Customary (0). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	Cubic feet (0) Thousand cubic feet (3)	0	0	3
10305	LocalDisplayVolUnitMetric	Local display metric volume unit The volumetric units used by the local display, if applicable, to display the current item (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) when the units system (UnitsSystem) is selected to Metric (1). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	Cubic meters (0) Thousand cubic meters (2)	0	0	2
10306	LocalDisplayItem1	Local display item 1 This selects the first value to be shown on the local display. Other display items (LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	1	0	32
10307	LocalDisplayItem2	Local display item 2 This selects the second value to be shown on the local display. Other display items (LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	6	0	32

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10308	LocalDisplayItem3	Local display item 3 This selects the third value to be shown on the local display. Other display items (LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	14	0	32
10309	LocalDisplayItem4	Local display item 4 This selects the fourth value to be shown on the local display. Other display items (LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
10310	LocalDisplayItem5	Local display item 5 This selects the fifth value to be shown on the local display. Other display items (LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10311	LocalDisplayItem6	Local display item 6 This selects the sixth value to be shown on the local display. Other display items (LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
10312	LocalDisplayItem7	Local display item 7 This selects the seventh value to be shown on the local display. Other display items (LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
10313	LocalDisplayItem8	Local display item 8 This selects the eighth value to be shown on the local display. Other display items (LocalDisplayItem9, LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10314	LocalDisplayItem9	Local display item 9 This selects the ninth value to be shown on the local display. Other display items (LocalDisplayItem10, LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
10315	LocalDisplayItem10	Local display item 10 This selects the tenth value to be shown on the local display. Other display items (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9) will be displayed in sequence at a rate determined by the delay time (LocalDisplayScrollDelay). When selected as None (0), this item will be skipped. The units this item is displayed in are determined by the units system (UnitsSystem), the corresponding volume units (LocalDisplayVolUnitUS, LocalDisplayVolUnitMetric) and/or the time units (LocalDisplayFlowRateTimeUnit). This data point is only applicable when local display mode (LocalDisplayMode) is set to "Scroll items 1-10".	RW	Y	Y	Y	int	-	-	uint8	-	None (0) QFLOW - Uncorrected volume flow rate (1) TDYVL - Current day's forward uncorrected volume (2) TDYVL - Current day's reverse uncorrected volume (3) YSTVL - Previous day's forward uncorrected volume (4) YSTVL - Previous day's reverse uncorrected volume (5) TOTVL - Forward uncorrected volume (6) TOTVL - Reverse uncorrected volume (7) QBASE - Corrected volume flow rate (26) TDYVL - Current day's forward corrected volume (27) TDYVL - Current day's reverse corrected volume (28) YSTVL - Previous day's forward corrected volume (29) YSTVL - Previous day's reverse corrected volume (30) TOTVL - Forward corrected volume (31) TOTVL - Reverse corrected volume (32) VEL - Average flow velocity (8) SOS - Average speed of sound (9) TEMP - flow-condition temperature (10) PRESS - flow-condition pressure (11) FRQ1A - Frequency channel 1A (12) FRQ1B - Frequency channel 1B (13) KFCT1 - Frequency 1 K-factor (14) FRQ2A - Frequency channel 2A (15) FRQ2B - Frequency channel 2B (16) KFCT2 - Frequency 2 K-factor (17) AO1 - Analog Output 1 Current (24) AO2 - Analog Output 2 Current (25)	0	0	32
10316	LocalDisplaySquawkMode	Local display squawk mode When squawk mode is set to Squawk On (1) the local display will display the pattern O-O-O-O until squawk mode is set to Squawk Off (0). When squawk mode is set to Squawk Once (2) the local display will display the pattern O-O-O-O for 60 seconds.	RW	Y			int	-	-	uint8	-	Squawk Off (0) Squawk On (1) Squawk Once (2)	0	0	2
10317	LocalDisplayMode	Local display mode When set to "Uncorrected volume only", the local display alternately shows the forward flow-condition volume (PosVolFlow) and the reverse flow-condition volume (NegVolFlow) in m3 or ft3/gal depending on the units system (UnitsSystem). The non-resettable running totals will be displayed as multiplier of 10 or 100 (depending upon the meter size) and only 7 least significant digits will be displayed. When set to "Scroll items 1-10", the local display will display items configured by local display items 1-10 (LocalDisplayItem1, LocalDisplayItem2, LocalDisplayItem3, LocalDisplayItem4, LocalDisplayItem5, LocalDisplayItem6, LocalDisplayItem7, LocalDisplayItem8, LocalDisplayItem9, LocalDisplayItem10). In both modes, items will be updated on the local display using the scroll delay time interval (LocalDisplayScrollDelay).	RW	Y	Y	Y	int	-	-	uint8	-	Scroll items 1-10 (0) Uncorrected volume only (1)	0	0	1
10500	FlowDirection	Flow direction Flow direction indicator.	R				int	-	-	boolean	-	Reverse (FALSE) Forward (TRUE)			
10501	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10502	QMeterValidity	Uncorrected flow-condition volumetric flow rate invalid The volumetric flow rate (no expansion correction) is invalid. The meter is either not in measurement mode (i.e. no chords acquired) or the number of operating chords is below the minimum number required (MinChord) or the diagnostic chord speed of sound is out of range (IsDiagnosticSndSpdRangeErr) or, for a measurement chord, the in-use chord length does not match the calculated chord length (IsChordLengthMismatched). Recommended Actions: 1. From the alarm list, determine which chords are failed and resolve these alarm(s) first. Resolving the chord failures will clear this alarm. 2. If the diagnostic chord speed of sound out of range error is active then resolving it will clear this alarm. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative. See also: IsAcqMode, IsTooFewOperChords, IsDiagnosticSndSpdDetectionFeatureActive	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10503	QFlowValidity	Flow-condition volumetric flow rate invalid The meter either has not collected enough information from the chords to make an accurate measurement or the pressure and/or temperature are invalid and the meter is performing pressure or temperature expansion corrections on the meter's internal diameter. This is an alarm condition that shows the validity of the flow-condition volumetric flow rate (QFlow). The flow-condition volumetric flow rate (QFlow) becomes invalid if the uncorrected flow-condition volumetric flow rate validity (QMeterValidity), temperature expansion correction validity (ExpCorrTempValidity), pressure expansion correction validity (ExpCorrPressValidity), and/or flow profile correction validity (FlowProfileCorrValidity) is invalid. Recommended Actions: 1. If the pressure expansion correction validity alarm is present, correcting it may clear this alarm. 2. If the temperature expansion correction validity alarm is present, correcting it may clear this alarm. 3. If the uncorrected flow-condition volumetric flow rate validity alarm is present, correcting it may clear this alarm. 4. If the flow profile correction validity alarm is present, correcting it may clear this alarm. 5. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10504	QBaseValidity	Base-condition volumetric flow rate invalid AGA8 base-condition volumetric flow rate (QBase) is invalid if the flow-condition volumetric flow rate is invalid (QFlowValidity), the in-use gas properties are invalid (AreGasPropertiesInvalidInUse), the flow-condition pressure is invalid (PressureValidity) and/or the flow-condition temperature is invalid (TemperatureValidity). Recommended Actions: 1. Verify that the in-use gas properties, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10505	TemperatureValidity	Flow temperature invalid Temperature is invalid if the flow-condition temperature (FlowTemperature) is outside the limits defined by the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). Temperature is invalid if the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Temperature is invalid if the meter is configured to receive the flow-condition temperature value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34052) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the temperature sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog temperature device, verify that the temperature sensor is properly wired to connector TB2-B pins 3 & 4 (ANALOG IN TT- & TT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write temperature to the meter, verify that it is properly writing the fixed flow temperature (SpecFlowTemperature) in the proper units. If flow-condition temperature value is updated through the ISO 17089 Modbus register, then the temperature unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed temperature in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter, make sure that the Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if the flow-condition temperature is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the temperature of the process fluid to within alarm limits. 2. If using an analog temperature device and input reading is 0, check if IsAI1Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or it is damaged. Reinstall or replace I/O board if this value is 0. 3. If using an analog temperature device, verify that the temperature sensor is working properly. 4. If using an analog temperature device, recheck the wiring and switch settings as noted above under First Time Setup Issues.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10506	PressureValidity	Flow pressure invalid Pressure is invalid if the flow pressure (FlowPressure) is outside the limits defined by the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). Pressure is invalid if the meter is configured to read the flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Pressure is invalid if the meter is configured to receive the flow-condition pressure value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34050) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the pressure sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog pressure device, verify that the pressure sensor is properly wired to the connector TB2-B pins 1 & 2 (ANALOG IN PT- & PT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write pressure to the meter, verify that it is properly writing to fixed flow pressure (SpecFlowPressure) in the proper units. If flow-condition pressure value is updated through the ISO 17089 Modbus register, then the pressure unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed pressure in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if flow-condition pressure is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the pressure of the process fluid to within alarm limits. 2. If using an analog pressure device and the input reading is 0, check if IsAI2Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or is damaged. Reinstall or replace the board if this value is 0. 3. If using an analog pressure device, verify that the pressure sensor is working properly. 4. If using an analog pressure device, recheck wiring and switch settings as noted above under First Time Setup Issues. 5. If the external source is writing values to the fixed flow pressure (SpecFlowPressure), verify that the external source is still writing valid	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10507	AGA8BaseCalcValidity	AGA8 base-condition calculation invalid AGA8 base-condition calculations are invalid if the in-use gas composition, specific gravity and/or heating value are invalid (AreGasPropertiesInvalidInUse) or the AGA8 base calculation status (AGA8BaseCalcStatus) is a non-zero value. Recommended Actions: 1. Verify that the in-use gas properties are valid. If invalid, resolve issue which is causing the in-use gas properties invalid and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10508	AGA8FlowCalcValidity	AGA8 flow-condition calculation invalid AGA8 flow-condition calculations are invalid if the AGA8 base-condition calculations are invalid (AGA8BaseCalcValidity), the flow-condition pressure is invalid (PressureValidity), the flow-condition temperature is invalid (TemperatureValidity) and/or the AGA8 flow calculation status (AGA8FlowCalcStatus) is a non-zero value. Recommended Actions: 1. Verify that the AGA8 base-condition calculations, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10509	ExpCorrTempValidity	Temperature expansion correction invalid This indicates the validity of the temperature expansion correction equation used to correct the internal diameter of the meter for changes in temperature.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10510	ExpCorrPressValidity	Pressure expansion correction invalid This indicates the validity of the pressure expansion correction equation used to correct the internal diameter of the meter for changes in pressure.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10511	FlowProfileCorrValidity	Flow profile correction invalid Flow profile correction factor (CorrectionFactor) is invalid if the AGA8 flow-condition calculations (AGA8FlowCalcValidity) and uncorrected flow-condition volumetric flow rate (QMeterValidity) are invalid. Recommended Actions: 1. Verify that AGA8 flow-condition calculations and uncorrected flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
10512	Reserved		R				int								
10513	Reserved		R				int								
10514	MeterStatusLevel	Overall meter status indication This indicates the highest meter status, green (0), yellow(1) or red (2) currently in the meter.	R				int	-	-	uint8	-	Green (0) Yellow (1) Red (2)			
10515	IsQFlowInvalid	Flow-condition volumetric flow rate invalid This indicates when the flow-condition volumetric flow rate (QFlow) is invalid. See also: QFlowValidity	R				int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			
10516	IsQBaseInvalid	Base-condition volumetric flow rate invalid This indicates when the base-condition volumetric flow rate (QBase) is invalid. See also: QBaseValidity	R				int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10517	IsMassRateInvalid	Mass flow rate invalid This indicates when the mass flow rate (MassRate) is invalid. See also: MassRateValidity	R				int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			
10540	Reserved		R				long								
10542	PosVolUncorr	Forward uncorrected volume Accumulation of uncorrected volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
10544	PosVolUncorr	Forward uncorrected volume Accumulation of uncorrected volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
10546	NegVolUncorr	Reverse uncorrected volume Accumulation of uncorrected volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
10548	NegVolUncorr	Reverse uncorrected volume Accumulation of uncorrected volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
10550	PosVolFlow	Forward flow-condition volume Accumulation of flow-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of forward flow-condition volume when flow rate is valid (PosVolFlowAct) and forward flow-condition volume when flow rate is invalid (PosVolFlowErr) is equal to forward flow-condition volume. Due to truncating values to be read as integers, the summed value and forward flow-condition volume may differ by one.	R	Y			long	m3	ft3	uint64	m3				
10552	PosVolFlow	Forward flow-condition volume Accumulation of flow-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of forward flow-condition volume when flow rate is valid (PosVolFlowAct) and forward flow-condition volume when flow rate is invalid (PosVolFlowErr) is equal to forward flow-condition volume. Due to truncating values to be read as integers, the summed value and forward flow-condition volume may differ by one.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
10554	NegVolFlow	Reverse flow-condition volume Accumulation of flow-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of reverse flow-condition volume when flow rate is valid (NegVolFlowAct) and reverse flow-condition volume when flow rate is invalid (NegVolFlowErr) is equal to reverse flow-condition volume. Due to truncating values to be read as integers, the summed value and reverse flow-condition volume may differ by one.	R	Y			long	m3	ft3	uint64	m3				
10556	NegVolFlow	Reverse flow-condition volume Accumulation of flow-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of reverse flow-condition volume when flow rate is valid (NegVolFlowAct) and reverse flow-condition volume when flow rate is invalid (NegVolFlowErr) is equal to reverse flow-condition volume. Due to truncating values to be read as integers, the summed value and reverse flow-condition volume may differ by one.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
10558	PosVolBase	Forward base-condition volume Accumulation of base-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
10560	PosVolBase	Forward base-condition volume Accumulation of base-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				
10562	NegVolBase	Reverse base-condition volume Accumulation of base-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	m3	ft3	uint64	m3				
10564	NegVolBase	Reverse base-condition volume Accumulation of base-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	uint64	m3				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10582	DidColdStart	Meter cold started, latched until acknowledged The meter has performed a cold start. The meter configuration has reset to default values, meter archive logs are erased, user database is reset, and Smart Meter Verification reports are deleted. The meter is not configured correctly to measure flow. The user database has been reset to a single user "administrator" with the privilege to perform user management and default password is "Administrator-<CPUBdSerialNumber>". The default password is based on CPU Module serial number (CPUBdSerialNumber) mentioned on the label on the CPU Module. Recommended Actions: 1. If the cold start occurred unexpectedly, i.e. not due to firmware upgrade/downgrade or user-initiated in meter reset mode, we recommend replacing the CPU Module. Contact your local area Emerson Flow service representative. 2. If the cold start occurred after a firmware upgrade or is done using MeterLink™ to cold start the CPU Module, you must fully re-configure the meter from a previously saved configuration using Edit/Compare Configuration in MeterLink™ and reconfigure the meter's users using Manage Users in MeterLink™. 3. The alarm must be acknowledged to clear it from the list of alarms. 4. If the issue is unresolved, contact your local area Emerson Flow service representative.	RW	Y	Y		long	-	-	boolean	-	Cold start cleared (FALSE) Cold start indicated (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
10584	DataQlty	Flow data quality Flow data quality indicator. This is a bitfield consisting of multiple Boolean data point values and indicates the meter is operating at less than optimal performance.	R	*	*	*	long	-	-	bitfield	-	0 IsHardFailedA (NV) 1 IsHardFailedB (NV) 2 IsHardFailedC (NV) 3 IsHardFailedD (NV) 4 IsSndVelCompErr (NV) 16 IsTooFewOperChords (NV) 17 IsMeterVelAboveMaxLmt (NV)			
10586	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	MkII time pulses	MkII time pulses	uint64	MkIII time pulses				
10588	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	number of rollovers in MkII time pulses (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in MkII time pulses (multiply by 1,000,000,000 to add to accumulator)	uint64	MkIII time pulses				
10590	TimeLapse2	Accumulated time pulses (1000 pulses/sec) Accumulated time pulses (1000 pulses/sec).	R	Y			long	MkIII time pulses	MkIII time pulses	uint64	MkIII time pulses				
10600	FlowTemperature	Flow-condition temperature If flow-condition temperature input selector (EnableTemperatureInput) is "Fixed", flow-condition temperature = specified (fixed) flow-condition temperature (SpecFlowTemperature) when written via a Modbus register or via the HART Command-132 or via DB API protocol. Otherwise, if flow-condition temperature input selector is "Live", flow-condition temperature = average of live flow-condition temperature (LiveFlowTemperature) values for the past five seconds. If flow-condition temperature input selector is "Transmitter Head 1", flow-condition temperature is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress).	R	Y			float	deg C	deg F	float32	K				
10602	FlowPressure	Flow-condition pressure This is either gage or absolute pressure depending upon input pressure absolute/gage selector (InputPressureUnit). If flow-condition pressure input selector (EnablePressureInput) is "Fixed", flow-condition pressure = specified (fixed) flow-condition pressure (SpecFlowPressure) when written via a non-ISO 17089 Modbus register or via the HART Command-132 or via DB API protocol. When the flow-condition absolute pressure is written via the ISO 17089 Modbus register and the input pressure absolute/gage selector is set to "Gage", flow-condition pressure = specified (fixed) flow-condition pressure - Atmospheric pressure (AtmosphericPress). If flow-condition pressure input selector is "Live", flow-condition pressure = average of live flow-condition pressure (LiveFlowPressure) values for the past five seconds. If flow-condition pressure input selector is "Transmitter Head 1", flow-condition pressure is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress).	R	Y			float	MPa	psi	float32	MPa				
10604	ZFlow	AGA8 flow-condition gas mixture compressibility AGA8 flow-condition gas mixture compressibility is used for calculating the base-condition (corrected) volumetric flow rate (QBase). When AGA8 calculation method (HCH_Method) is set to Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017) it is calculated using flow-condition temperature (FlowTemperature) and molar density (dFlow). When AGA8 calculation method (HCH_Method) is "External", it is equal to the specified (fixed) flow-condition gas compressibility (SpecZFlow).	R				float	-	-	float32	-				
10606	ZBase	AGA8 base-condition gas mixture compressibility The AGA8 base-condition gas mixture compressibility is used for calculating the base-condition (corrected) volumetric flow rate (QBase). When AGA8 calculation method (HCH_Method) is set to Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017) it is calculated using base-condition temperature (TBase) and molar density (dBase). When AGA8 calculation method (HCH_Method) is "External", it is equal to the specified (fixed) base-condition gas compressibility (SpecZBase).	R				float	-	-	float32	-				
10608	dFlow	AGA8 gas mixture flow-condition molar density AGA8 gas mixture flow-condition molar density is calculated using flow-condition pressure (AbsFlowPressure) and flow-condition temperature (FlowTemperature).	R				float	g-mol/dm3	lbm-mol/ft3	float32	g-mol/dm3				
10610	dBase	AGA8 gas mixture base-condition molar density AGA8 gas mixture base-condition molar density is calculated using base-condition pressure (PBase) and base-condition temperature (TBase).	R				float	g-mol/dm3	lbm-mol/ft3	float32	g-mol/dm3				
10612	RhoMixFlow	AGA8 gas mixture flow-condition mass density AGA8 gas mixture flow-condition mass density is used for calculating Reynolds Number (ReynoldsNumber) (required when calculating the flow profile correction factor on single and dual-path meters). When AGA8 calculation method (HCH_Method) is set to Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017) it is the product of molar mass (Mr) and molar density (dFlow). When AGA8 calculation method (HCH_Method) is "External", then it is equal to the specified (fixed) flow-condition mass density (SpecRhoMixFlow).	R				float	kg/m3	lbm/ft3	float32	kg/m3				
10614	ReynoldsNumber	Reynolds Number (measure of turbulence) The Reynolds Number is the ratio of inertial forces to viscous forces. A low values indicates laminar flow while a high value indicates turbulent flow.	R				float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10616	CorrectionFactor	Flow profile correction factor Flow profile correction factor (for single and dual-path meters only) either manually entered (SpecCorrectionFactor) or calculated by the meter.	R				float	-	-	float32	-				
10618	AGA8FlowToBaseConversion	AGA8-calculated flow- to base-condition conversion factor AGA8-calculated flow- to base-condition conversion factor is calculated as AbsFlowPressure (AbsFlowPressure) / PBase (PBase) * TBase (TBase) / FlowTemperature (FlowTemperature) * Zbase (ZBase) / Zflow (ZFlow). This is used for calculating base-condition (corrected) volumetric flow rate (QBase) from the flow-condition volumetric flow rate (QFlow).	R				float	-	-	float32	-				
10620	QCutOff	Volumetric flow rate threshold below which the flow rate is considered zero The volumetric flow rate below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. This value is computed by multiplying the flow velocity low cutoff (ZeroCut) by the meter inside pipe area (PipeArea). When the flow rate is above this threshold, the cutoff indicator (IsFlowAboveCutoff) is TRUE (1).	R				float	volume/time	volume/time	float32	m3/hr				
10622	QMeter	Volumetric flow rate (no expansion correction) Volumetric flow rate (no expansion correction). Computed as average flow (AvgFlow) times pipe area (PipeArea).	R				float	volume/time	volume/time	float32	m3/hr				
10624	QFlow	Volumetric flow rate at flow condition Flow-condition volumetric flow rate, corrected for flow-condition expansion (QExpCorr) and flow profile correction factor (CorrectionFactor).	R				float	volume/time	volume/time	float32	m3/hr				
10626	QBase	Volumetric flow rate at base condition The base-condition volumetric flow rate. QBase = Qflow (QFlow) * AGA8FlowToBaseConversion (AGA8FlowToBaseConversion)	R				float	volume/time	volume/time	float32	m3/hr				
10628	Freq1ChnlA	Frequency Output 1A value Frequency Output 1 channel A value.	R				float	Hz	Hz	float32	Hz				
10630	Freq2ChnlA	Frequency Output 2A value Frequency Output 2 channel A value.	R				float	Hz	Hz	float32	Hz				
10632	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
10634	Freq1KFactor	Frequency Output 1 pair K-Factor Frequency Output 1 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
10636	AbsFlowPressure	Flow-condition absolute pressure Flow-condition absolute pressure. If input pressure absolute/gage selector (InputPressureUnit) is "Gage", flow-condition absolute pressure = flow-condition pressure (FlowPressure) + specified atmospheric pressure (AtmosphericPress). Otherwise, if input pressure absolute/gage selector (InputPressureUnit) is "Absolute", flow-condition absolute pressure = flow-condition pressure (FlowPressure).	R				float	MPa	psi	float32	MPa				
10638	CurrHourFlowTime	Current hour's flow time Amount of time during the current hour that flow is above the cutoff value.	R	Y			float	min	min	float32	min				
10640	CurrDayFlowTime	Current day's flow time Amount of time during the current day that flow is above the cutoff value. The start of the day is defined by the 'ContractHour' data point.	R	Y			float	min	min	float32	min				
10642	StrainPerUnitStress	Calculated strain per unit stress due to pressure Calculated strain per unit stress due to pressure. This is calculated if pressure expansion correction (ExpCorrPressure) is enabled via the Enable for pressure expansion correction (EnableExpCorrPress).	R				float	1/MPa	1/psi	float32	1/MPa				
10644	ExpCorrPressure	Pressure expansion correction factor Pressure expansion correction factor. If pressure expansion correction is enabled via the Enable for pressure expansion correction (EnableExpCorrPress), then this value, is computed as (1.0 + (3.0 x strain per unit stress (StrainPerUnitStress) x (absolute flow pressure (AbsFlowPressure) - reference pressure (RefPressExpCoef)))), otherwise this value is unity (1.0) Along with temperature expansion correction factor (ExpCorrTemperature), this value is used to compute the corrected flow (QExpCorr) from the uncorrected flow (QMeter).	R				float	-	-	float32	-				
10646	ExpCorrTemperature	Temperature expansion correction factor in three dimensions The temperature expansion correction factor used to correct volumes. If temperature expansion correction is enabled (EnableExpCorrTemp), then this value is calculated, otherwise it is set to 1. This correction factor is computed from the linear expansion coefficient (LinearExpansionCoef), the reference temperature (RefTempLinearExpCoef) and the flow temperature (FlowTemperature) as: (1 + 3 * linear expansion coefficient * (flow temperature - reference temperature)) Typically, this correction factor is applied to the volumetric flows (QExpCorr and those derived from it, QFlow and QBase).	R				float	-	-	float32	-				
10648	QExpCorr	Expansion corrected (flow-condition) vol flow Expansion corrected (flow-condition) volumetric flow rate, the volumetric flow rate with no expansion correction (QMeter) with pressure expansion correction (ExpCorrPressure) and temperature expansion correction (ExpCorrTemperature) applied.	R				float	volume/time	volume/time	float32	m3/hr				
10650	RhoAir	AGA8 air mass density at the specified Gr reference (T ,P) AGA8 (Gross Method 1 and 2 Base) air mass density at the specified Gr reference (T, P).	R				float	kg/m3	lbm/ft3	float32	kg/m3				
10652	HNGERG	AGA8 (Gross Method 1) molar gross ideal gas heating value at (298.15K,0.101325MPa) AGA8 (Gross Method 1 and 2 Base) molar gross ideal gas heating value at (298.15K,0.101325MPa).	R				float	kJ/g-mol	Btu/lbm-mol	float32	kJ/g-mol				
10654	Mr	AGA8 gas mixture molar mass AGA8 gas mixture base-condition molar mass.	R				float	kg/kg-mol	lbm/lbm-mol	float32	kg/kg-mol				
10656	MoleFractionCH	AGA8 equivalent hydrocarbon gas component AGA8 (Gross Method 1 and 2 Base) equivalent hydrocarbon gas component.	R				float	mole fraction	mole fraction	float32	mole fraction				
10658	MoleFractionN2Method1	AGA8 (Gross Method 1) nitrogen gas component AGA8 (Gross Method 1 and 2 Base) calculated nitrogen gas component.	R				float	mole fraction	mole fraction	float32	mole fraction				
10660	HCH	AGA8 equivalent hydrocarbon molar gross heating value AGA8 (Gross Method 1 and 2 Base) equivalent hydrocarbon molar gross heating value.	R				float	kJ/g-mol	Btu/lbm-mol	float32	kJ/g-mol				
10662	MrCH	AGA8 equivalent hydrocarbon molar mass AGA8 (Gross Method 1 and 2 Base) equivalent hydrocarbon molar mass.	R				float	kg/kg-mol	lbm/lbm-mol	float32	kg/kg-mol				
10664	B-CH-CH_Flow	AGA8 flow-condition binary CH-CH interaction coefficient AGA8 flow-condition binary CH-CH interaction coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10666	BmixFlow	AGA8 gas mixture flow-condition second virial coefficient AGA8 gas mixture flow-condition second virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				
10668	CmixFlow	AGA8 gas mixture flow-condition third virial coefficient AGA8 gas mixture flow-condition third virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm6/g-mol2	ft6/lbm-mol2	float32	dm6/g-mol2				
10670	B-CH-CH_Base	AGA8 base-condition binary CH-CH interaction coefficient AGA8 base-condition binary CH-CH interaction coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				
10672	BmixBase	AGA8 gas mixture base-condition second virial coefficient AGA8 gas mixture base-condition second virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm3/g-mol	ft3/lbm-mol	float32	dm3/g-mol				
10674	CmixBase	AGA8 gas mixture base-condition third virial coefficient AGA8 gas mixture base-condition third virial coefficient is calculated when AGA8 calculation method (HCH_Method) is Gross Method 1 or Gross Method 2 or Detail Method (AGA8, 1994).	R				float	dm6/g-mol2	ft6/lbm-mol2	float32	dm6/g-mol2				
10676	RefPressExpCoef	Pressure expansion correction reference coefficient Reference coefficient used to compute pressure expansion correction (ExpCorrPressure). Normally this is one atmosphere.	R	Y	Y	Y	float	MPa	psi	float32	MPa		0.101325	-3.40E+38	3.40E+38
10678	Qt	Transitional volumetric flow rate as stamped on the physical nameplate of the meter Transitional volumetric flow rate as set by the user or at the factory.	R	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	-3.40E+38	3.40E+38
10700	LiveFlowTemperature	Live flow-condition temperature This is the live flow temperature calculated from analog input 1 (AI1Input) and applying the calibration coefficients (LiveFlowTemperatureOffset and LiveFlowTemperatureGain). The flow-condition temperature (FlowTemperature) can be set to this value depending on the selector (EnableTemperatureInput). This value is logged in the alarm log depending on the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). The connectors for this input are designated as ANALOG IN TT- and TT+.	R	Y			float	deg C	deg F	float32	K				
10702	LiveFlowPressure	Live flow-condition pressure This is the live flow pressure calculated from analog input 2 (AI2Input) and applying the calibration coefficients (LiveFlowPressureOffset and LiveFlowPressureGain). The flow-condition pressure (FlowPressure) can be set to this value depending on the selector (EnablePressureInput). This value is logged in the alarm log depending on the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). The connectors for this input are designated as ANALOG IN PT- and PT+.	R	Y			float	MPa	psi	float32	MPa				
10800	LiveFlowTemperatureOffset	Live flow-condition temperature calibration offset value Live flow-condition temperature calibration offset value. The calibrated live temperature is calculated by multiplying the raw live temperature by the live flow-condition temperature calibration gain value (LiveFlowTemperatureGain) and then adding this offset. This value is applied to the temperature in Kelvin. Due to temperature conversion factors, use the MeterLink™ to set this parameter. MODIFYING THIS POINT VIA MODBUS IS NOT RECOMMENDED.	RW	Y	Y	Y	float	deg C	deg F	float32	K		0	-273.15	473.15
10802	LiveFlowTemperatureGain	Live flow-condition temperature calibration gain value Live flow-condition temperature calibration gain value. The calibrated live temperature is calculated by multiplying the raw live temperature by this gain and then adding the live flow-condition temperature calibration offset value (LiveFlowTemperatureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
10804	LiveFlowPressureOffset	Live flow-condition pressure calibration offset value Live flow-condition pressure calibration offset value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by the live flow-condition pressure calibration gain value (LiveFlowPressureGain) and then adding this offset.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	-280	280
10806	LiveFlowPressureGain	Live flow-condition pressure calibration gain value Live flow-condition pressure calibration gain value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by this gain and then adding the live flow-condition pressure calibration offset value (LiveFlowPressureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
10810	GainLowLmt	Minimum gain limit The minimum gain applied to the received signal. On power-up, this value is set to the minimum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)		25	0	3.40E+38
10812	GainHighLmt	Maximum gain limit The maximum gain applied to the received signal. On power-up, this value is set to the maximum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)		49881.6	0	3.40E+38
10814	GainA1	Gain when transducer A1 is receiving a signal Gain when transducer A1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
10816	GainA2	Gain when transducer A2 is receiving a signal Gain when transducer A2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
10818	GainB1	Gain when transducer B1 is receiving a signal Gain when transducer B1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
10820	GainB2	Gain when transducer B2 is receiving a signal Gain when transducer B2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
10822	GainC1	Gain when transducer C1 is receiving a signal Gain when transducer C1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
10824	GainC2	Gain when transducer C2 is receiving a signal Gain when transducer C2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10826	GainD1	Gain when transducer D1 is receiving a signal Gain when transducer D1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
10828	GainD2	Gain when transducer D2 is receiving a signal Gain when transducer D2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (h/w)	gain (h/w)	float32	gain (h/w)				
10830	GainLowLmt	Minimum gain limit The minimum gain applied to the received signal. On power-up, this value is set to the minimum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)		25	0	3.40E+38
10832	GainHighLmt	Maximum gain limit The maximum gain applied to the received signal. On power-up, this value is set to the maximum gain for the Acquisition Module (DSPBdRevNum).	RW	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)		49881.6	0	3.40E+38
10834	GainA1	Gain when transducer A1 is receiving a signal Gain when transducer A1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10836	GainA2	Gain when transducer A2 is receiving a signal Gain when transducer A2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10838	GainB1	Gain when transducer B1 is receiving a signal Gain when transducer B1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10840	GainB2	Gain when transducer B2 is receiving a signal Gain when transducer B2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10842	GainC1	Gain when transducer C1 is receiving a signal Gain when transducer C1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10844	GainC2	Gain when transducer C2 is receiving a signal Gain when transducer C2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10846	GainD1	Gain when transducer D1 is receiving a signal Gain when transducer D1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10848	GainD2	Gain when transducer D2 is receiving a signal Gain when transducer D2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	Y			float	gain (dB)	gain (dB)	float32	gain (h/w)				
10953	SystemStatus	General system status General system status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	1 AreSwComponentsIncompatible (NV) 2 DidPowerFail (NV, Cnfg) 3 IsAcqModuleIncompatible (NV) 4 IsXdcrFiringSyncError (NV) 5 IsEstimatedFlowVelocityInUse (NV) 6 DidWarmStart (NV, Cnfg) 7 IsColocMeterQFlowRangeErr (NV) 8 IsTooFewOperChords (NV) 9 IsMeterVelAboveMaxLmt (NV) 10 IsBlockageDetected (NV) 11 IsBoreBuildupDetected (NV) 12 IsLiquidDetected (NV) 13 IsAbnormalProfileDetected (NV) 14 IsReverseFlowDetected (NV) 15 WatchDogReset (NV, Cnfg)			
10954	StatusA	Chord A status Chord A status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseA (NV) 1 IsSNRTooLowA (NV) 2 DidTmDevChkFailA (NV) 4 DidDltTmChkFailA (NV) 5 IsXdcrMaintenanceRequiredA (NV, Cnfg) 6 IsStackingIncompleteA (NV) 7 IsChordLengthMismatchedA (NV) 8 IsSigClippedA (NV) 9 IsSigQltyBadA (NV) 10 IsSigDistortedA (NV) 11 IsPeakSwitchDetectedA (NV) 12 IsMeasSndSpdRangeA (NV) 13 IsBatchInactiveA (NV) 14 IsFailedForBatchA (NV) 15 IsAcqMode (NV)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10955	StatusB	Chord B status Chord B status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseB (NV) 1 IsSNRTooLowB (NV) 2 DidTmDevChkFailB (NV) 4 DidDltTmChkFailB (NV) 5 IsXdcrMaintenanceRequiredB (NV, Cnfg) 6 IsStackingIncompleteB (NV) 7 IsChordLengthMismatchedB (NV) 8 IsSigClippedB (NV) 9 IsSigQltyBadB (NV) 10 IsSigDistortedB (NV) 11 IsPeakSwitchDetectedB (NV) 12 IsMeasSndSpdRangeB (NV) 13 IsBatchInactiveB (NV) 14 IsFailedForBatchB (NV) 15 IsAcqMode (NV)			
10956	StatusC	Chord C status Chord C status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseC (NV) 1 IsSNRTooLowC (NV) 2 DidTmDevChkFailC (NV) 4 DidDltTmChkFailC (NV) 5 IsXdcrMaintenanceRequiredC (NV, Cnfg) 6 IsStackingIncompleteC (NV) 7 IsChordLengthMismatchedC (NV) 8 IsSigClippedC (NV) 9 IsSigQltyBadC (NV) 10 IsSigDistortedC (NV) 11 IsPeakSwitchDetectedC (NV) 12 IsMeasSndSpdRangeC (NV) 13 IsBatchInactiveC (NV) 14 IsFailedForBatchC (NV) 15 IsAcqMode (NV)			
10957	StatusD	Chord D status Chord D status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	int	-	-	bitfield	-	0 DidExceedMaxNoiseD (NV) 1 IsSNRTooLowD (NV) 2 DidTmDevChkFailD (NV) 4 DidDltTmChkFailD (NV) 5 IsXdcrMaintenanceRequiredD (NV, Cnfg) 6 IsStackingIncompleteD (NV) 7 IsChordLengthMismatchedD (NV) 8 IsSigClippedD (NV) 9 IsSigQltyBadD (NV) 10 IsSigDistortedD (NV) 11 IsPeakSwitchDetectedD (NV) 12 IsMeasSndSpdRangeD (NV) 13 IsBatchInactiveD (NV) 14 IsFailedForBatchD (NV) 15 IsAcqMode (NV)			
10959	AGA8BaseCalcStatus	AGA8 base-condition calculation status This alarm indicates an error when AGA8 calculations are invalid. This indicates an alarm if the AGA8 base-condition calculation is invalid. AGA8 base-condition becomes invalid if AreGasPropertiesInvalidInUse is set to invalid or this alarm has a non zero value. Value Description -1 AGA8 calculations not performed (neither internally nor externally). 0 Calculations successful. 1 (Gross Method 1 only) H_CH could not be calculated due to conflicting user inputs. 2 Bmix could not be calculated due to an attempt to take the square root of a negative number. 3 H_CH could not be calculated as the number of iterations for the selected gross method exceeded the limit. 4 The virial coefficient for either the equivalent hydrocarbon or carbon dioxide is negative; the natural gas mixture third virial coefficient was not calculated. 5 The molar density was not bounded. 6 The iterative algorithm to estimate the molar density did not converge. 7 Not used. 8 Not used. 9 Not used. 10 Division by zero error during air mass density calculation. 11 (Gross Method 1 only) Division by zero error during HN_GERG calculation. 12 (Gross Methods 1 and 2) Division by zero or square root of negative number error during compressibility calculation. 13 (Gross Method 1 only) Division by zero error during H_CH calculation. 14 (Gross Method 1 only) Division by zero error during calculation of compressibility estimate at density reference condition. 15 Division by zero error during calculation of new compressibility estimate at specific gravity reference condition. 16 Division by zero error during calculation of ratio for determining H_CH calculation iterative loop exit. 17 (Gross Method 2 only) Division by zero error during the calculation of the equivalent hydrocarbon molar mass. 18 Division by zero error during calculation of the mixture molar mass. 19 Division by zero error during calculation of the new density estimate. 20 Division by zero error during calculation of the density estimate. 21 Not used. 22 Not used. 23 (Detail Method only) Division by zero error during coefficient B calculation. 24 (Detail Method only) Division by zero error during molar density calculation. 25 (Detail Method only) Division by zero or square root of negative number error during compressibility calculation. 26 Gas properties are invalid. 27 Not Used. 28 (Detail and GERG-2008) Gas component(s) is/are outside AGA specified gas component range.	R				int	-	-	int32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
10960	AGA8FlowCalcStatus	AGA8 flow-condition calculation status AGA8 flow-condition calculation status. See AGA8BaseCalcValidity. Value Description -1 AGA8 calculations not performed (neither internally nor externally). 0 Calculations successful. 1 (Gross Method 1 only) H_CH could not be calculated due to conflicting user inputs. 2 Bmix could not be calculated due to an attempt to take the square root of a negative number. 3 H_CH could not be calculated as the number of iterations for the selected gross method exceeded the limit. 4 The virial coefficient for either the equivalent hydrocarbon or carbon dioxide is negative; the natural gas mixture third virial coefficient was not calculated. 5 The molar density was not bounded. 6 The iterative algorithm to estimate the molar density did not converge. 7 Not used. 8 Not used. 9 Not used. 10 Division by zero error during air mass density calculation. 11 (Gross Method 1 only) Division by zero error during HN_GERG calculation. 12 (Gross Methods 1 and 2) Division by zero or square root of negative number error during compressibility calculation. 13 (Gross Method 1 only) Division by zero error during H_CH calculation. 14 (Gross Method 1 only) Division by zero error during calculation of compressibility estimate at density reference condition. 15 Division by zero error during calculation of new compressibility estimate at specific gravity reference condition. 16 Division by zero error during calculation of ratio for determining H_CH calculation iterative loop exit. 17 (Gross Method 2 only) Division by zero error during the calculation of the equivalent hydrocarbon molar mass. 18 Division by zero error during calculation of the mixture molar mass. 19 Division by zero error during calculation of the new density estimate. 20 Division by zero error during calculation of the density estimate. 21 Not used. 22 Not used. 23 (Detail Method only) Division by zero error during coefficient B calculation. 24 (Detail Method only) Division by zero error during molar density calculation. 25 (Detail Method only) Division by zero or square root of negative number error during compressibility calculation. 26 Flow-condition pressure, temperature and/or gas properties are/is invalid. 27 Flow-condition calculations were not performed due to a base-condition calculation error/not performed. 28 (Detail and GERG-2008) Gas component(s) is/are outside AGA specified gas component range 29 Failed to read flow-condition pressure, temperature and/or gas properties from Transmitter Head 1	R				int	-	-	int32	-				
10961	HARTIsQBaseGood	HART corrected flow rate calculated indicator This is used internally in determining the HART device variable status for the base-condition volumetric flow rate (QBase).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
10962	HARTIsEnergyRateGood	HART energy rate calculated indicator This is used internally in determining the HART device variable status for the energy flow rate (EnergyRate).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
10963	HARTIsMassRateGood	HART mass rate calculated indicator This is used internally in determining the HART device variable status for the mass flow rate (MassRate).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
10964	HARTIsTemperatureGood	HART temperature calculated indicator This is used internally in determining the HART device variable status for the flow temperature (FlowTemperature).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
10965	HARTIsPressureGood	HART pressure calculated indicator This is used internally in determining the HART device variable status for the flow pressure (FlowPressure).	R				int	-	-	boolean	-	Bad (FALSE) Good (TRUE)			
10966	HARTConfigChangeCounter	HART configuration change counter HART configuration change counter maintains the count of how many times HART config data points changed. When a block of data comes for write which consists of one or more configuration data points, configuration change counter will increment once.	R	Y			int	-	-	uint16	-				
10967	HARTDidPrimaryConfigChange	HART primary master configuration changed HART primary master configuration changed. It is set to TRUE when configuration writable via HART is modified. It is reset to FALSE when command 38 is issued by primary master and received configuration changed counter matches the device configuration change counter.	R	Y			int	-	-	boolean	-	HART Primary Config Change reset (FALSE) HART Primary Config Change set (TRUE)			
10968	HARTDidSecondaryConfigChange	HART secondary master configuration changed HART secondary master configuration changed. It is set to TRUE when configuration writable via HART is modified. It is reset to FALSE when command 38 is issued by secondary master and received configuration changed counter matches the device configuration change counter.	R	Y			int	-	-	boolean	-	HART Secondary Config Change reset (FALSE) HART Secondary Config Change set (TRUE)			
10969	HARTIsMaintenanceReq	HART maintenance required This indicates (to a HART master) whether or not the device requires maintenance.	R				int	-	-	boolean	-	Maintenance not required (FALSE) Maintenance required (TRUE)			
10970	HARTIsDeviceVarAlert	HART device status alert This indicates that, when one or more HART device variables are invalid. The host should identify the device variables causing this to be set using device variable calculated indicator status.	R				int	-	-	boolean	-	Not (FALSE) Yes (TRUE)			
10971	HARTLoopCurrentMode	HART loop current mode It determines whether current signaling is being used by field device. Only HART can disable or enable the loop current mode, loop current is disabled when polling address is set to non-zero (i.e. field device is in multi-drop).	R	Y			int	-	-	uint8	-	Disabled (0) Enabled (1)			
10972	HARTDidPowerFailPrimary	HART primary master power fail status This indicates the power fail status to the primary master. It is set to TRUE when the device is power cycled or reset.	R				int	-	-	boolean	-	Did not fail (FALSE) Did fail (TRUE)			
10973	HARTDidPowerFailSecondary	HART secondary master power fail status Indicate the power fail status to the secondary master. It is set to TRUE when the device is power cycled or reset.	R				int	-	-	boolean	-	Did not fail (FALSE) Did fail (TRUE)			
10998	OptIOModule2Type	Slot 2 Optional I/O Module type Optional I/O Module type present in slot 2 of the electronics backplane. If meter does not have a second slot then module type is Slot not present (255).	R				long	-	-	uint8	-	None (0) RS-232 (1) RS-485 (2) Expansion I/O (3) Slot not present (255)			
11000	CPUBdSwIntVer	CPU Module firmware version number as integer CPU Module firmware version number (CPUBdSwVer) (read as an integer for Modbus compatibility).	R				long	-	-	uint32	-				
11002	XdcrIntBdRevNum	Transducer interface board revision number The revision number of the transducer interface board. Along with the DSP board (DSPBdRevNum), the transducer interface board is one of the two boards in the Acquisition Module.	R				long	-	-	uint16	-				
11004	DeviceNumber	Meter device number Changing this value requires warm-starting the meter. This value should only be changed at the factory or when replacing a CPU Module in the field.	RW	Y	Y	Y	long	-	-	uint16	-	3414 - Four-path SeniorSonic (3414) 3412 - Dual-path JuniorSonic (3412) 3411 - Single-path JuniorSonic (3411) 3418 - Eight-path (3418)	3414	3411	3418

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
11006	CPUBdSerialNumber	CPU Module serial number The CPU Module serial number is on a label on the CPU Module. Its minimum expected value is 0018000.	R				long	-	-	uint32	-				
11008	CPUBdRevNum	CPU Module revision number The CPU Module hardware revision. The CPU Module and the I/O board (IOBdType) make up the CPU Module.	R				long	-	-	uint16	-				
11010	CPUBdFPGAVer	CPU Module FPGA version The CPU Module FPGA (field-programmable gate array) version that correlates to the firmware version number (CPUBdSwVer).	R				long	-	-	uint16	-				
11012	DSPBdRevNum	DSP Board revision number The revision number of the DSP board. Along with the transducer interface board (XdcrIntBdRevNum), the DSP board is one of the two boards in the Acquisition Module.	R	Y			long	-	-	uint16	-				
11014	AcquisitionBdFPGAVer	Acquisition Module FPGA version The Acquisition Module FPGA (field-programmable gate array) version that correlates to the firmware version number (CPUBdSwVer).	R				long	-	-	uint16	-				
11016	DatabaseConfigVersion	Database configuration version Sequentially numbered major changes to the database. Normally incremented only when structural changes are performed such as adding or removal of fields. Minor changes such as adding records (database points) are indicated by the build number (DatabaseBuildNumber). When taken together the version and the build number (DatabaseBuildNumber) uniquely describe a particular version of the database. This is often described using a decimal point to separate the major and minor numbers as XXX.YYY where XXX is the version and YYY is the build number (DatabaseBuildNumber). When the version is changed the meter will cold start.	R				long	-	-	uint16	-				
11018	IOBdType	I/O board type number Type number of the I/O board. The I/O board and the CPU (CPUBdRevNum) make up the CPU Module.	R	Y			long	-	-	uint16	-				
11020	DatabaseBuildNumber	Database configuration build number Sequentially numbered revisions between major changes to the database (DatabaseConfigVersion).	R				long	-	-	uint8	-				
11022	AcqBdSwIntVer	Acquisition Module firmware version number as integer Acquisition Module firmware version number (read as an integer for Modbus compatibility).	R				long	-	-	uint32	-				
11024	OptIOModule1Type	Slot 1 Optional I/O Module type Optional I/O Module type present in slot 1 of the electronics backplane.	R				long	-	-	uint8	-	None (0) RS-232 (1) RS-485 (2) Expansion I/O (3)			
11026	ElectronicsPlatform	Electronics platform on which the meter is running Electronics platform on which the meter is running.	R				long	-	-	uint8	-	Mark III (0) 3410 Series (1)			
11028	ChordalConfig	Chordal configuration The arrangement of the chords on meters with four or more sets of transducers. The chord arrangement is determined by the X dimensions (XA, XB, XC and XD). Meter with fewer than four sets of transducers, as defined by the device number (DeviceNumber), are set to a chordal configuration of N/A (0).	R	Y			long	-	-	uint8	-	N/A (0) Dual-X (1) BG (2)			
11030	HARTQFlowUpdateTime	HART flow-condition volumetric flow rate update time The flow-condition volumetric flow rate (QFlow) timestamp. It updates every time the flow-condition volumetric flow rate (QFlow) is updated and status is good within 24 hours. timestamp is set to 0 if it is not updated within 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11032	HARTQBaseUpdateTime	HART base-condition volumetric flow rate update time The base-condition volumetric flow rate (QBase) timestamp. It updates every time the base-condition volumetric flow rate (QBase) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11034	HARTAvgFlowUpdateTime	HART average flow velocity update time The Average flow velocity (AvgFlow) timestamp. It updates every time the average flow velocity (AvgFlow) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11036	HARTAvgSndVelUpdateTime	HART average speed of sound update time The Average speed of sound (AvgSndVel) timestamp. It updates every time the average speed of sound (AvgSndVel) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11038	HARTEnergyRateUpdateTime	HART energy rate update time The Energy rate (EnergyRate) timestamp. It updates every time the energy rate (EnergyRate) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11040	HARTMassRateUpdateTime	HART mass rate update time The Mass rate (MassRate) timestamp. It updates every time the mass rate (MassRate) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11042	HARTPressureUpdateTime	HART flow pressure update time The Flow pressure (FlowPressure) timestamp. It updates every time the flow pressure (FlowPressure) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11044	HARTTemperatureUpdateTime	HART flow temperature update time The Flow Temperature (FlowTemperature) timestamp. It updates every time the flow Temperature (FlowTemperature) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11046	HARTAO1OutputUpdateTime	HART analog output 1 update time The Analog Output 1 current value (AO1Output) timestamp. It updates every time the analog output 1 current value (AO1Output) is calculated and status is good within 24 hours. timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11048	HARTPercentRangeUpdateTime	HART percent range update time The percent range (HARTPercentRange) timestamp. It updates every time the HART percent range (HARTPercentRange) is calculated and status is good within 24 hours. Timestamp is set to 0 if it is not updated within the last 24 hours or it is updated but status is not good.	R				long	ms	ms	uint32	ms				
11150	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	sec	sec	float32	sec				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
11152	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	hr	hr	float32	sec				
11154	AvgBatchTimeHours	Average batch time Average batch time. The average is computed over the previous 8 batches.	R				float	hr	hr	float32	hr				
11156	Freq1FeedbackStatus	Frequency Output 1 pair feedback status Frequency Output 1 pair feedback status.	R				float	-	-	uint8	-	Forward (0) Reverse (1)			
11158	Freq1FeedbackPulseCnt	Frequency Output 1 pair feedback pulse count Frequency Output 1 pair feedback pulse count.	R				float	MkIII time pulses	MkIII time pulses	uint16	MkIII time pulses				
11160	Freq1InvKFactor	Frequency Output 1 pair inverse K-Factor Frequency Output 1 pair inverse K-Factor.	R				float	m3/pulse	ft3/pulse	float32	m3/pulse				
11162	Freq1FeedbackVol	Frequency Output 1 pair feedback volume Frequency Output 1 pair feedback volume.	R				float	m3	ft3	float32	m3				
11164	Freq1FeedbackPrevDesiredVol	Frequency Output 1 pair previous desired volume Frequency Output 1 pair previous desired volume.	R				float	m3	ft3	float32	m3				
11166	Freq1FeedbackVolErr	Frequency Output 1 pair feedback volume error Frequency Output 1 pair feedback volume error.	R				float	m3	ft3	float32	m3				
11168	Freq1FeedbackDesiredVol	Frequency Output 1 pair desired volume Frequency Output 1 pair desired volume.	R				float	m3	ft3	float32	m3				
11170	Freq1TTLVFRErr	Frequency Output 1 pair total volumetric flow rate error Frequency Output 1 pair total volumetric flow rate error.	R				float	volume/time	volume/time	float32	m3/hr				
11172	Freq1VFRErrComp	Frequency Output 1 pair volumetric flow rate error compensation Frequency Output 1 pair volumetric flow rate error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
11174	Freq1AbsVFR	Frequency Output 1 pair absolute volumetric flow rate Frequency Output 1 pair absolute volumetric flow rate. This is the absolute value of the volumetric flow rate represented by the Frequency Output 1 pair and does not include any feedback error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
11176	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
12000	ZeroCut	Flow velocity below which the flow rate is considered zero This value is used along with the pipe area (PipeArea) to compute the volumetric flow cutoff (QCutOff) below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. Also, when the average weighted flow velocity (AvgWtdFlowVel) is below this threshold the flow direction (FlowDirection) will not change. The flow analysis lower limit (FlowAnalysisLowFlowLmt) may not be set lower than this value.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0.1	0	1
12002	SSMax	Maximum speed of sound Maximum speed of sound. This is used to define the area to search for a signal when in acquisition mode. The minimum (SSMin) and this maximum speed of sound may need to be adjusted to prevent problems acquiring the signal.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		450	150	1500
12004	SSMin	Minimum speed of sound Minimum speed of sound. This is used to define the area to search for a signal when in acquisition mode and is also used in emission rate determination. This minimum and the maximum speed of sound (SSMax) may need to be adjusted to prevent problems acquiring the signal.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		300	150	1500
12006	EmRateDesired	Desired transducer firing (emission) rate The desired emission rate or time between the firing of two transducers in sequence based on the firing order (FireSeq). The actual emission rate used (EmRateActual) will not be less than the meter's calculated minimum based on the meter's geometry (pipe diameter (PipeDiam)), distance between transducers (LA, LB, LC, LD), axial distance between transducers (XA, XB, XC, XD), the minimum speed of sound (SSMin) and the physical characteristics of the transducers themselves. The actual emission rate used may also be impacted by stacking (StackEmRateActual). A value of (0) ensures the use of fastest available rate determined by the meter.	RW	Y	Y	Y	float	ms	ms	float32	ms		0	0	64
12008	SampInterval	Sampling (rate) interval. Changing this value requires re-booting the meter The duration in nanoseconds of the signal sampling period. It is also used to compute the system delay (SystemDelay). Usually adjusted by setting the transducer type (SetXdcrType). A sample interval of 800 ns requires a standard Acquisition Module. A sample interval less than 800 ns requires a High Frequency Acquisition Module.	RW	Y	Y	Y	float	ns	ns	float32	ns		800	400	800
12010	XdcrFreq	Transducer frequency The output frequency of the transducers. Usually adjusted by setting the transducer type (SetXdcrType). A transducer frequency of 125 KHz requires a standard Acquisition Module. A transducer frequency higher than 125 KHz requires a High Frequency Acquisition Module.	RW	Y	Y	Y	float	KHz	KHz	float32	KHz		125	125	250
12012	MinPctGood	Minimum percentage of good measurements for working chord The minimum percentage of good measurements for a working chord. A chord with a percentage of good measurements less than this threshold is considered failed and its corresponding IsFailedForBatchA, IsFailedForBatchB, IsFailedForBatchC, IsFailedForBatchD is set to TRUE (1). The percentage of good measurements for a chord may vary slightly from the individual path good measurements (PctGoodA1, PctGoodA2, PctGoodB1, PctGoodB2, PctGoodC1, PctGoodC2, PctGoodD1, PctGoodD2) since both the upstream and downstream paths must be good at the same time for a chord to be considered good.	RW	Y	Y	Y	float	%	%	uint8	%		65	0	90
12014	MinHoldTime	Minimum sampling hold time The minimum sampling hold time limit. This is the minimum amount of time the meter waits after firing a transducer before sampling the receiving transducer's signal. This value should only be changed at the factory or under the direction of Emerson Flow Support. After a firmware upgrade, this value may be automatically adjusted to be within the required limits.	RW	Y	Y	Y	float	us	us	float32	us		208	208	32000
12016	Pk1Pct	Parameter used to locate the signal start The percentage of the maximum signal amplitude used as a threshold to find the first peak which is then used to determine the starting position of the sampled waveform. If conditions exist that make the start of the signal difficult to detect (peak switching) this level may be adjusted to get a stable signal.	RW	Y	Y	Y	float	%	%	uint8	%		60	40	100
12018	MinSigQlty	Minimum acceptable signal quality The minimum acceptable signal quality based on signal and noise energies. When either path in a chord's signal quality (as measured by signal to noise ratios) is below this threshold, the chord's signal quality status, IsSigQltyBadA, IsSigQltyBadB, IsSigQltyBadC, IsSigQltyBadD is set to TRUE (1).	RW	Y	Y	Y	float	-	-	uint8	-		13	5	30
12020	DltChk	Maximum delta time check parameter The maximum amount of time allowed for delta times (the difference between the up stream and down stream signal transit time). Usually adjusted by setting the transducer type (SetXdcrType). It is converted to sample interval units (DltChkSI) internally for use by the meter. When a chord's delta check value exceeds this limit, the chord's time check error status, DidDltTmChkFailA, DidDltTmChkFailB, DidDltTmChkFailC, DidDltTmChkFailD is set to TRUE (1).	RW	Y	Y	Y	float	us	us	float32	us		5.6	2.8	32

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12022	SpecBatchUpdtPeriod	Specified batch update period (may be overridden if stacking is selected) Specifies the minimum batch update period when there is no stacking (StackSize). The "Rapid" update period can be selected only when there is no bandpass filtering (Filter) and may cause greater uncertainty in the measured flow rate.	RW	Y	Y	Y	float	ms	ms	uint16	ms	Standard - 1000 ms (1000) Rapid - 250 ms (250)	1000	250	1000
12024	NegSpan	Minimum negative pulse width The minimum time the signal must remain negative adjacent to a zero crossing. Usually adjusted by setting the transducer type (SetXdcrType). It is converted to sample interval units (NegSpanSI) internally for use by the meter. This parameter is used to detect distorted waveforms and incorrect measurements. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		2.4	1	10
12026	PosSpan	Minimum positive pulse width The minimum time the signal must remain positive adjacent to a zero crossing. It is converted to sample interval units (PosSpanSI) internally for use by the meter. Usually adjusted by setting the transducer type (SetXdcrType). This parameter is used to detect distorted waveforms and incorrect measurements. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		3.2	1	10
12028	TmDevLow1	Transit time standard deviation threshold for measurement quality check The minimum standard deviation value of the transit time for which the quality check (TmDevFctr1) is evaluated. Paths with times closer to the mean are assumed to be valid without further evaluation. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		2	0	10
12032	CRange	Maximum percentage chord speed of sound deviation Maximum percentage chord speed of sound deviation. If a chord's speed of sound measurement relative to the average speed of sound is above this threshold, IsMeasSndSpdRangeA, IsMeasSndSpdRangeB, IsMeasSndSpdRangeC, IsMeasSndSpdRangeD, is set to TRUE (1).	RW	Y	Y	Y	float	%	%	float32	%		0.5	0	10
12038	Pk1Wdth	Maximum selected peak pulse width The maximum time between zero crossings (one half cycle) used as the distance to search for the next peak value. This value is converted internally to sample intervals for use (PkPlsWdthSI). Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		5.6	1	10
12040	TmDevFctr1	Measurement Quality check deviation factor Measurement Quality check transit time standard deviation factor. When a path's transit time is more than this number of standard deviations from the path's median transit time for the batch, the individual measurement is flagged as bad and the corresponding chord's DidTmDevChkFailA, DidTmDevChkFailB, DidTmDevChkFailC, DidTmDevChkFailD are set to TRUE (1). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		2	1	100
12048	StackEmRateDesired	Desired stacking transducer firing (emission) rate The desired emission rate or time between firing of the same transducer when stacking is turned on, that is the stack size (StackSize) is not equal to (1). The actual emission rate used (StackEmRateActual) will not be less than the meter's calculated minimum based on the meter's geometry (pipe diameter (PipeDiam)), distance between transducers (LA, LB, LC, LD), axial distance between transducers (XA, XB, XC, XD), the minimum speed of sound (SSMin) and the physical characteristics of the transducers themselves. This value may impact the overall transducer to transducer emission rate selected by the emission rate desired (EmRateDesired). A value of (0) ensures the use of fastest available rate determined by the meter.	RW	Y	Y	Y	float	ms	ms	float32	ms		0	0	64
12050	TampLo	Tracking target normalized amplitude low limit The lower limit or floor for the magnitude (absolute value of) the default (Tamp) and the individual path (TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1, TampD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		30	0	100
12052	TspfLo	Tracking target Pf distance low limit The lower limit or floor for the default (Tspf) and the individual path (TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2) computed values. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		8	0	37
12054	TspeLo	Tracking target Pe distance low limit The lower limit or floor for the default (Tspe) and the individual path (TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		-8	-25	25
12056	Tspf	Default tracking target Pf distance The default for the targeted SPF which is the time in sample intervals (SI) or distance between the first motion (Pf) and the signal the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TspfLo) and (TspfHi).	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		15	0	37
12058	Tspe	Default tracking target Pe distance The default for the targeted SPE which is the time in sample intervals (SI) or distance between the first energy position (Pe) and the signal the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TspeLo) and (TspeHi).	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		8	-25	25
12060	Tamp	Default tracking target normalized amplitude The default for the targeted Amp which is the value of the peak following the zero crossing detection point (P1). When the meter is first started or when ResetTrkParam is set TRUE (1) this value is used as the initial value used to compute TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1, TampD2. It is also the value used for inactive paths. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support. See also (TampLo) and (TampHi).	RW	Y	Y	Y	float	%	%	int8	%		-70	-100	100
12062	TspfSen	Tracking target Pf sensitivity The sensitivity applied to the comparison of the individual peaks SPF to the paths targeted SPF, TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2. The sensitivity is used to generate similar magnitudes to the SPE and Amp comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		10	6	37
12064	TspeSen	Tracking target Pe sensitivity The sensitivity applied to the comparison of the individual peaks SPE to the paths targeted SPE, TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2. The sensitivity is used to generate similar magnitudes to the SPF and Amp comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		18	6	37
12066	TampSen	Tracking target normalized amplitude sensitivity The sensitivity applied to the comparison of the individual peaks Amp to the paths targeted Amp, TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1. The sensitivity is used to generate similar magnitudes to the SPE and SPF comparisons used to score peaks in the process of selecting P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		30	5	100

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12068	TspfWt	Tracking target Pf weighting factor The weighting applied to the score generated by TspfSen when summed with TspeWt * TspeSen score and TampWt * TampSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		2	0	3
12070	TspeWt	Tracking target Pe weighting factor The weighting applied to the score generated by TspeSen when summed with TspfWt * TspfSen score and TampWt * TampSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		0	0	3
12072	TampWt	Tracking target normalized amplitude weighting factor The weighting applied to the score generated by TampSen when summed with TspeWt * TspeSen score and TspfWt * TspfSen score to generate an overall rating to select P1. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	-	-	float32	-		0.5	0	3
12074	TspeLmt	Tracking target abs(Pe-Pf) limit The Tspf and Tspe calculations are not performed if the distance (in SI) between Pe and Pf exceed this amount. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint16	sample intervals		25	0	30
12076	TampHi	Tracking target normalized amplitude high limit The upper limit or ceiling for the magnitude (absolute value of) the default (Tamp) and the individual path (TampA1, TampA2, TampB1, TampB2, TampC1, TampC2, TampD1) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	%	%	uint8	%		100	0	100
12078	TspfHi	Tracking target Pf distance high limit The upper limit or ceiling for the default (Tspf) and the individual path (TspfA1, TspfA2, TspfB1, TspfB2, TspfC1, TspfC2, TspfD1, TspfD2) computed values. Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	uint8	sample intervals		25	0	37
12080	TspeHi	Tracking target Pe distance high limit The upper limit or ceiling for the default (Tspe) and the individual path (TspeA1, TspeA2, TspeB1, TspeB2, TspeC1, TspeC2, TspeD1, TspeD2) computed values. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	sample intervals	sample intervals	int8	sample intervals		20	-25	25
12084	FwdA0	Dry calibration forward flow A0 coefficient The forward flow A0 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
12086	FwdA1	Dry calibration forward flow A1 coefficient The forward flow A1 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12088	FwdA2	Dry calibration forward flow A2 coefficient The forward flow A2 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
12090	FwdA3	Dry calibration forward flow A3 coefficient The forward flow A3 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
12092	RevA0	Dry calibration reverse flow A0 coefficient The forward flow A0 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
12094	RevA1	Dry calibration reverse flow A1 coefficient The reverse flow A1 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12096	RevA2	Dry calibration reverse flow A2 coefficient The reverse flow A2 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
12098	RevA3	Dry calibration reverse flow A3 coefficient The reverse flow A3 coefficient used in dry calibration. The dry calibration "A" coefficients are always applied to the flow velocity to generate average flow velocity (AvgFlow).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
12102	PipeDiam	Pipe inside diameter The pipe inside diameter used to calculate the pipe area (PipeArea) and port angle (PortAngle).	RW	Y	Y	Y	float	m	in	float32	m		0.1524	0.0254	2
12104	XA	Chord A "X" dimension Chord A "X" dimension (component of LA in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.1778	0	2
12106	XB	Chord B "X" dimension Chord B "X" dimension (component of LB in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.28575	0	2
12108	XC	Chord C "X" dimension Chord C "X" dimension (component of LC in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.28575	0	2
12110	XD	Chord D "X" dimension Chord D "X" dimension (component of LD in the direction of flow within the meter bore). The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.1778	0	2
12112	LA	Chord A length ("L" dimension) The distance between the transducer faces on chord A. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
12114	LB	Chord B length ("L" dimension) The distance between the transducer faces on chord B. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5
12116	LC	Chord C length ("L" dimension) The distance between the transducer faces on chord C. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5
12118	LD	Chord D length ("L" dimension) The distance between the transducer faces on chord D. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
12132	AvgDlyA	Chord A average delay time The chord-specific delay for chord A primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12134	AvgDlyB	Chord B average delay time The chord-specific delay for chord B primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
12136	AvgDlyC	Chord C average delay time The chord-specific delay for chord C primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
12138	AvgDlyD	Chord D average delay time The chord-specific delay for chord D primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
12140	DltDlyA	Chord A difference in upstream and downstream delay times The adjustment to the chord A delta times (the individual times used for DltTmA (DltTmA)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
12142	DltDlyB	Chord B difference in upstream and downstream delay times The adjustment to the chord B delta times (the individual times used for DltTmB (DltTmB)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
12144	DltDlyC	Chord C difference in upstream and downstream delay times The adjustment to the chord C delta times (the individual times used for DltTmC (DltTmC)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
12146	DltDlyD	Chord D difference in upstream and downstream delay times The adjustment to the chord D delta times (the individual times used for DltTmD (DltTmD)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
12148	SystemDelay	System delay time The portion of the signal transit time due to the physical characteristics of the electronics. It is computed as seven times the sample interval (SampInterval) plus an electronics delay constant. It is used in conjunction with the chord specific delay times (AvgDlyA, AvgDlyB, AvgDlyC, AvgDlyD).	R	Y			float	us	us	float32	us				
12150	IsConfigProtected	Indicates the state of the write protect switch This indicates the state of the write protect switch (CPU Module switch position 3). When CPU Module switch position 3 is in the "ON" position, data points protected by the switch (Write Protected by Switch=Yes) cannot be written to the meter and this data point is TRUE (1). This is also applied to write protecting HART parameters.	R	Y			int	-	-	boolean	-	Configuration not protected (FALSE) Configuration protected (TRUE)			
12151	DhcpServerEnabledStatus	Is the DHCP Server enabled Shows the current status of the DHCP server switch (CPU Module switch position 2). When the switch is in the "ON" position, the meter has IP address 192.168.135.100 and is enabled to act as a DHCP server for DHCP clients connected to the Ethernet port. A maximum of 10 DHCP clients can connect to the meter and the range of client IP addresses assigned is 192.168.135.35 to 192.168.135.44. This can be used for direct or stand alone local network connections between the meter and client PCs.	R				int	-	-	boolean	-	DHCP disabled (FALSE) DHCP enabled (TRUE)			
12152	IsWarmStartReq	Meter warm start (restart) required The meter configuration has changed and requires a restart for the change to take effect. Recommended Actions: 1. If you are unaware of changes made to the meter's configuration, collect the Audit log using Archive Logs in MeterLink™ to review the configuration changes. If the changes are valid, momentarily remove power from the meter to allow it to restart which will clear this alarm. 2. If the Audit log shows no changes, contact your local area Emerson Flow service representative for assistance.	R				int	-	-	boolean	-	No warm start required (FALSE) Warm start required (TRUE)			
12153	DidResetUsers	User database reset, latched until acknowledged The user database has been reset to a single user "administrator" with the privilege to perform user management and default password as "Administrator-<CPUBdSerialNumber>". The default password is based on CPU Module serial number (CPUBdSerialNumber) mentioned on a label on the CPU Module. Recommended Actions: 1. Reconfigure the meter's users. It is recommended that the default Administrator password should be changed. Other users can be reconfigured manually or imported from a previously exported encrypted user database file. 2. The alarm must be acknowledged to clear it from the list of alarms. 3. If facing any user management related issue, then contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Reset users cleared (FALSE) Reset users indicated (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12156	IsPortAAvail	Communication port A available Communication port A available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12157	IsPortBAvail	Communication port B available Communication port B available indicator based on the optional I/O Module (OptIOModule1Type) configuration.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12158	IsPortCAvail	Communication port C available Communication port C available indicator based on the optional I/O Module (OptIOModule2Type) configuration.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12160	IsEth1Avail	Ethernet port 1 available Ethernet port 1 available indicator based on the CPU Module's I/O Board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12161	MaxConnDBAPI	Maximum number of DB API connections This is the upper limit to the number of DB API connections.	RW	Y	Y		int	-	-	uint8	-		10	10	40
12162	Reserved		R				int								
12163	Reserved		R				int								
12164	Reserved		R				int								
12165	Reserved		R				int								
12166	Reserved		R				int								
12167	IsFODO1Avail	Frequency/Digital Output 1 available Frequency/Digital Output 1 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 1 source selector (FODO1Source) and the output levels by the Frequency/Digital Output 1 mode selector (FODO1Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12168	IsFODO2Avail	Frequency/Digital Output 2 available Frequency/Digital Output 2 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 2 source selector (FODO2Source) and the output levels by the Frequency/Digital Output 2 mode selector (FODO2Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12169	IsFODO3Avail	Frequency/Digital Output 3 available Frequency/Digital Output 3 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 3 source selector (FODO3Source) and the output levels by the Frequency/Digital Output 3 mode selector (FODO3Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12171	IsDI1Avail	Digital Input 1 available Digital Input 1 available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12172	IsAO1Avail	Analog Output 1 available Analog Output 1 available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12173	IsAI1Avail	Analog Input 1 (temperature) available Analog Input 1, live flow-condition temperature (LiveFlowTemperature), available indicator based on the CPU Module's I/O board revision. The connectors for this input are designated as ANALOG IN TT- and TT+.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12174	IsAI2Avail	Analog Input 2 (pressure) available Analog Input 2, live flow-condition pressure (LiveFlowPressure), available indicator based on the CPU Module's I/O board revision. The connectors for this input are designated as ANALOG IN PT- and PT+.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12175	IsAI3Avail	Analog input 3 available Analog input 3 available indicator based on the Optional I/O Module (OptIOModule1Type, OptIOModule2Type) configuration. The connectors for this input are designated as ANALOG IN AI3- and AI3+.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12176	IsFODO4Avail	Frequency/Digital Output 4 available Frequency/Digital Output 4 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 4 source selector (FODO4Source) and the output levels by the Frequency/Digital Output 4 mode selector (FODO4Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12177	IsFODO5Avail	Frequency/Digital Output 5 available Frequency/Digital Output 5 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 5 source selector (FODO5Source) and the output levels by the Frequency/Digital Output 5 mode selector (FODO5Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12178	IsFODO6Avail	Frequency/Digital Output 6 available Frequency/Digital Output 6 available indicator based on the CPU Module's I/O board revision. The content is selected by the Frequency/Digital Output 6 source selector (FODO6Source) and the output levels by the Frequency/Digital Output 6 mode selector (FODO6Mode).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
12179	DidWarmStart	Meter warm started, latched until acknowledged The meter has warm started due to a Program Download, configuration data point change requiring meter warm start or due to a user-initiated meter warm start (DoWarmStart). The Audit log in the meter will indicate the meter reset time (MeterResetTime). Recommended Actions: 1. If this is due to Program Download, configuration change requiring meter warm start or user-initiated meter warm start just acknowledge this alarm. 2. The alarm must be acknowledged to clear it from the list of alarms. 3. If this was an unexpected restart of the meter, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Did not warm start or warm start acknowledged (FALSE) Did warm start (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12180	DidColdStart	Meter cold started, latched until acknowledged The meter has performed a cold start. The meter configuration has reset to default values, meter archive logs are erased, user database is reset, and Smart Meter Verification reports are deleted. The meter is not configured correctly to measure flow. The user database has been reset to a single user "administrator" with the privilege to perform user management and default password is "Administrator-<CPUBdSerialNumber>". The default password is based on CPU Module serial number (CPUBdSerialNumber) mentioned on the label on the CPU Module. Recommended Actions: 1. If the cold start occurred unexpectedly, i.e. not due to firmware upgrade/downgrade or user-initiated in meter reset mode, we recommend replacing the CPU Module. Contact your local area Emerson Flow service representative. 2. If the cold start occurred after a firmware upgrade or is done using MeterLink™ to cold start the CPU Module, you must fully re-configure the meter from a previously saved configuration using Edit/Compare Configuration in MeterLink™ and reconfigure the meter's users using Manage Users in MeterLink™. 3. The alarm must be acknowledged to clear it from the list of alarms. 4. If the issue is unresolved, contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Cold start cleared (FALSE) Cold start indicated (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12181	DidPowerFail	Power failure, latched until acknowledged The meter has had power removed for a period of time. The Audit log in the meter will indicate the meter reset time (MeterResetTime). Recommended Actions: 1. If this was a known power fail of the meter, simply acknowledge this alarm. 2. If this was an unexpected power failure, verify the integrity of the power to the meter and make sure that the voltage level is in the range of 11-36 VDC at the meter. A long cable distance between power source and meter can induce a significant voltage drop at the meter. 3. The alarm must be acknowledged to clear it from the list of alarms. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	Did not fail or failure acknowledged (FALSE) Did fail (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12182	DidCnfgChksumChg	Configuration changed, latched until acknowledged The configuration checksum value (CnfgChksumValue) has changed. This indicates that one or more parameters have been modified in the meter's configuration. The timestamp of the most recent change is in the configuration checksum date (CnfgChksumDate). Recommended Actions: 1. Collect an Audit log using MeterLink™ to see what configuration parameters changed and when they changed. 2. The alarm must be acknowledged to clear it from the list of alarms.	RW	Y	Y		int	-	-	boolean	-	Unchanged or change acknowledged (FALSE) Changed (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12183	IsCorePresent	Diagnostic core file generated, latched until acknowledged A diagnostic core file has been generated which may indicate a problem with the meter. Recommended Actions: 1. The alarm must be acknowledged to clear it from the list of alarms. 2. Collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	RW	Y	Y		int	-	-	boolean	-	No diagnostic file (FALSE) Diagnostic file present (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12184	Reserved		R				int								
12185	WatchDogReset	Watchdog reset, latched until acknowledged The software watchdog initiated a meter warm start. The watchdog keeps track of the performance of all metrology processes in the meter to ensure reliable measurement. When a process stops responding, the watchdog forces the meter to restart. The Audit log in the meter will indicate the meter reset time (MeterResetTime). Recommended Actions: 1. Collect a complete Archive Log using MeterLink™ and contact your local area Emerson Flow service representative. 2. The alarm must be acknowledged to clear it from the list of alarms.	RW	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
12186	Reserved		R				int								
12187	Reserved		R				int								
12190	AlarmTurnOffHysterisisCount	Alarm log hysteresis filter number of occurrences Alarm log repetitive alarm filter count. This point, along with alarm log hysteresis filter time span (AlarmTurnOffHysterisisTimeSpan), is used to prevent the alarm log from filling up in the event of a very repetitive alarm (such as the flow temperature fluctuating around one of its alarm limits). If a data point being monitored for the alarm log has this number of alarms within a specified length of time (AlarmTurnOffHysterisisTimeSpan), then alarming is turned off for that point until no new alarms are received for that point within the specified length of time.	RW	Y	Y		int	-	-	uint16	-		4	2	20
12191	AlarmTurnOffHysterisisTimeSpan	Alarm log hysteresis filter time span Alarm log repetitive alarm filter time. This point, along with alarm log hysteresis filter number of occurrences (AlarmTurnOffHysterisisCount), is used to prevent the alarm log from filling up in the event of a very repetitive alarm (such as the flow temperature fluctuating around one of its alarm limits). If a data point being monitored for the alarm log has alarm log hysteresis filter number of occurrences (AlarmTurnOffHysterisisCount) alarms within this specified length of time, then alarming is turned off for that point until no new alarms are received for that point for this length of time.	RW	Y	Y		int	sec	sec	uint16	sec		600	1	3600
12192	BatchSize	Sequences between gain/hold time/tracking updates Number of completed firing sequences between updating the signal gain, hold time and tracking values. The default value is 20 firing sequences (minimum is 5 and maximum is 120).	RW	Y	Y	Y	int	-	-	uint8	-		20	5	120
12193	BatchPercentSmoothing	Batch smoothing factor: specifies percentage total data to be taken from previous data Batch smoothing factor. This is used to "smooth" the velocity measurement by averaging "new" and "old" data. This specifies the percentage of a batch's total data to be taken from previous batch period(s). When set to zero, then only new data will be used for a batch update. For example, if the batch smoothing factor is set to 20% and there are 32 new data sequences (BatchNewSeq), then 8 sequences from the most recent batch(es) (BatchOldSeq) will also be used for the current batch (8=20% of (32+8)).	RW	Y	Y		int	-	-	uint8	%	0 (0) 20 (20) 40 (40) 60 (60) 80 (80)	0	0	80
12194	MaxNoDataBatches	Maximum number of consecutive batches without new data Maximum number of consecutive batches without new data before no data received by batch System log is generated. This can be caused if the Acquisition Module is disconnected or not communicating with the CPU Module (IsAcqModuleError).	RW	Y	Y	Y	int	-	-	uint8	-		20	1	255
12195	PropUpdtBatches	Number of consecutive batches without chord failures required for updating chord proportions Number of consecutive batches without chord failures required for updating chord proportions. It is computed from the time that must elapse without chord failures required for updating chord proportions (PropUpdtSeconds) divided by the batch update period (BatchUpdatePeriod).	R	Y			int	-	-	uint16	-				
12196	NumVals	Chord proportion update factor Chord proportion update factor. This controls how quickly the chord proportions change relative to the current velocity proportion values. The lower the factor, the more quickly the proportions change.	RW	Y	Y	Y	int	-	-	uint16	-		10	1	1000
12197	SpecBatchUpdtPeriod	Specified batch update period (may be overridden if stacking is selected) Specifies the minimum batch update period when there is no stacking (StackSize). The "Rapid" update period can be selected only when there is no bandpass filtering (Filter) and may cause greater uncertainty in the measured flow rate.	RW	Y	Y	Y	int	ms	ms	uint16	ms	Standard - 1000 ms (1000) Rapid - 250 ms (250)	1000	250	1000
12198	Reserved		R				int								
12199	DoUpdtTrigDeltaVols	Trigger for updating "triggered" delta volumes Trigger for updating "triggered" delta volumes. When set to TRUE (1), the triggered delta volume points, TrigDeltaPosVolFlow, TrigDeltaNegVolFlow, TrigDeltaPosVolBase, TrigDeltaNegVolBase, TrigPrevPosVolFlow, TrigPrevNegVolFlow, TrigPrevPosVolBase and TrigPrevNegVolBase are updated with the appropriate volume since the previous trigger. The meter clears this point to FALSE (0) when the triggered delta volume points have been updated.	RW				int	-	-	boolean	-	Do not update (FALSE) Do update (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12200	DitherEnable	Enables dithering (progressive jitter after each transducer firing) Turns dithering on when set to TRUE (1) which minutely alters the firing time to prevent problems associated with resonance from building up.	RW	Y	Y	Y	int	-	-	uint8	-	Disable (0) Enable (1)	1	0	1
12201	AsyncEnable	Enables asynchronous firing sequences (progressive jitter after each firing sequence) Enables asynchronous firing sequences (progressive jitter after each firing sequence).	RW	Y		Y	int	-	-	uint8	-	Disable (0) Enable (1)	0	0	1
12202	DampEnable	Enables firing transducer dampening Enables firing transducer dampening.	RW	Y		Y	int	-	-	uint8	-	Disable (0) Enable (1)	0	0	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12203	DoUpdtPathDiag	Signal processing diagnostic data (path tracking) update control When set to TRUE (1), signal processing diagnostic data (path tracking information) is updated. The diagnostic data include following data points: Maximum signal quality value (MsqvA1..MsqvD2) Maximum signal quality position (MsqpA1..MsqpD2) Critical point value (PfvA1..PfvD2) Selected peak zero crossing position (P1A1..P1D2) Selected peak width (PwA1..PwD2) Energy arrival position (QpefA1..QpefD2) Critical point position (PfA1..PfD2) Peak 1 zero crossing position (Pp1A1..Pp1D2) Peak 2 zero crossing position (Pp2A1..Pp2D2) Peak 3 zero crossing position (Pp3A1..Pp3D2) Peak 4 zero crossing position (Pp4A1..Pp4D2) Peak 1 normalized amplitude (Ap1A1..Ap1D2) Peak 2 normalized amplitude (Ap2A1..Ap2D2) Peak 3 normalized amplitude (Ap3A1..Ap3D2) Peak 4 normalized amplitude (Ap4A1..Ap4D2) Peak 1 score (Pf1A1..Pf1D2) Peak 2 score (Pf2A1..Pf2D2) Peak 3 score (Pf3A1..Pf3D2) Peak 4 score (Pf4A1..Pf4D2) Peak 5 score (Pf5A1..Pf5D2) Selected peak (SelPkA1..SelPkD2) Energy arrival position (QpefA1..QpefD2)	RW				int	-	-	boolean	-	Do not update diagnostic data (FALSE) Do update diagnostic data (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12208	IsAuditLogFixedDataPointsEnabled	Enables or disables audit log for fixed value configuration data points When set to TRUE (1), audit logging of fixed value configuration data point is enabled. Enables audit logging of MoleFractionNHeptane, MoleFractionH2S, MoleFractionArgon, MoleFractionN2Method2, MoleFractionCO2, MoleFractionH2, MoleFractionCO, MoleFractionMethane, MoleFractionNNonane, MoleFractionNOctane, MoleFractionHelium, MoleFractionWater, MoleFractionEthane, MoleFractionPropane, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNDecane, MoleFractionOxygen, MeasVolGrossHeatingVal, SpecZFlow, SpecZBase, SpecificGravity, SpecFlowPressure, SpecFlowTemperature and SpecRhoMixFlow.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12209	DoWarmStart	Forces the system to perform a warm-start This selection forces the system to perform a warm-start. A warm start differs from a cold start (DidColdStart) in that the nonvolatile configuration points retain their values. A warm start is required (IsWarmStartReq) when changes are made to the transducer characteristics, sample rates, the device number . See also: XdcrFreq SetXdcrType XdcrNumDriveCycles SampInterval SampPerCycle DeviceNumber ColocMeterMode IsDiagnosticChordEnabled	RW				int	-	-	boolean	-	Do not warm start (FALSE) Do warm start (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12210	RTCSecondsSinceEpochSet	Used to set the system time This is used to set the system time in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970 local time) within the range from the firmware release date to midnight January 19, 2038. Use the real-time clock read data point (RTCSecondsSinceEpochRead) to read the system time. When the system time is set then the meter's real-time clock is also updated. The system time might be adjusted for the following reasons: 1. Clock drift (the system time is different from the required time). 2. The meter is installed in a time zone that is different from the meter manufacturer's time zone or if a replacement CPU Module is installed in a time zone that is different from the meter manufacturer's time zone. 3. Adjustments for the start and end of daylight saving time. (This may cause two hourly logs to be generated with the same timestamp or may cause hourly logs for an hour to be skipped.)	RW				long	sec	sec	int32	Epoch sec		1041400800	1041400800	2147472000
12230	IsClkInvalid	Clock is not set correctly The meter's real-time clock is set to a date in the past. Recommended Actions: 1. The real-time clock has a power backup of about 2 weeks. If the meter has been without power for more than 2 weeks, the real-time clock will first stop updating and later reset back to January 1, 2000. If this is the issue, use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. If this does not correct the problem, the real-time clock or its backup power source may be damaged, and the CPU Module should be replaced. 2. The real-time clock has been set to a date that is older than the CPU Module's firmware, i.e. a date in the past. Use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. 3. Contact your local area Emerson Flow service representative for assistance in getting a replacement CPU Module.	R				long	-	-	boolean	-	Clock is valid (FALSE) Clock is invalid (TRUE)			
12232	RTCSecondsSinceEpochRead	System time (read-only) This is used to read the system time in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970 local time). Use the real-time clock set data point (RTCSecondsSinceEpochSet) to set the system time.	R	Y			long	sec	sec	int32	Epoch sec				
12234	MeterResetTime	Time of the last meter reset Time of the last meter reset in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970) due to power failure (DidPowerFail), meter warm start (DidWarmStart) or software watchdog reset (WatchDogReset).	R	Y			long	sec	sec	int32	Epoch sec				
12236	CnfgChksumDate	Configuration checksum date Configuration checksum date. This is the date and time of the last configuration change in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970).	R	Y			long	sec	sec	int32	Epoch sec				
12238	CnfgChksumValue	Configuration checksum value This is the checksum of the meter's configuration. All non-STRING write-protected data points are included in the checksum. The timestamp of the most recent change is in configuration checksum date (CnfgChksumDate).	R	Y			long	-	-	uint32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12240	BaudPortA	Communication Port A baud rate The baud rate used for serial port A.	RW	Y	Y		long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	19200	1200	115200
12242	ModbusIDPortA	Comm Port A Modbus address The Modbus address used by communication Port A. The Modbus address is also used as a basis for the meter's IP address in the form 172.16.17.ModbusID when the meter is running a PPP server on the serial port.	RW	Y	Y		long	-	-	uint8	-		32	1	247
12244	CommRspDlyPortA	Comm Port A response delay Communication Port A response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		long	ms	ms	uint8	ms		0	0	100
12246	CommTimeoutPortA	Comm Port A communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		long	sec	sec	uint8	sec		4	0	255
12248	Reserved		R				long								
12250	IsHWFlowControlEnabledPortA	Enables comm port A hardware flow control When TRUE (1), enables communication Port A hardware flow control (RTS/CTS).	RW	Y	Y		long	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12252	RTSOffDelayPortA	Comm Port A handshaking RTS off delay time Communication Port A handshaking RTS off delay time. The meter will hold RTS active for this amount of time after sending the reply.	RW	Y	Y		long	ms	ms	uint16	ms		0	0	1000
12254	RTSOnDelayPortA	Comm Port A handshaking RTS on delay time Communication Port A handshaking RTS on delay time. The meter will activate RTS for this amount of time before sending out the message.	RW	Y	Y		long	ms	ms	uint16	ms		0	0	1000
12256	CommTCPTimeoutPortA	Inactivity timeout for PPP connections, port A Specifies the inactivity timeout (no TCP/IP packets) before the meter automatically disconnects a PPP connection (direct serial or modem connection) on Port A.	RW	Y	Y		long	sec	sec	uint8	sec		15	1	60
12258	DriverSelectionPortA	Hardware protocol on Port A Hardware protocol on Port A.	RW	Y	Y		long	-	-	uint8	-	RS-232 (0) RS-485 half-duplex (1) RS-485 full-duplex (2)	0	0	2
12260	SetPortAToOverride	Comm Port A parameter override indicator Set to TRUE (1) when the CPU Module's switch position 1 is moved from "OFF" to "ON" position. The meter automatically sets Port A to an override configuration (hardware protocol RS-232, baud rate 19200, Modbus address 32). Port A's normal configuration is restored after 2 minutes unless a PPP connection, established while override mode is in progress, in which case Port A's normal configuration is restored after the PPP connection ends. The Port A override mode is effective regardless of the Port A's configuration as master or slave.	R	Y			long	-	-	boolean	-	Use normal parameters (FALSE) Use override parameters (TRUE)			
12262	CommTCPMaxDatagramSizePortA	Max datagram size port A The maximum MTU and MRU bytes in a datagram on serial port A.	RW	Y	Y		long	-	-	uint16	-		576	128	16384
12264	ReadWriteModePortA	Serial port A read and write mode Indicate serial port A access level. When Read-write mode (0) is set, all valid read and write request will be performed. When Read-only mode (1) is set, all valid read requests will be performed and all write requests will be rejected. The serial port can be configured to allow PPP protocol only or to allow Modbus and PPP protocols (ProtocolPortA).	RW	Y	Y	Y	long	-	-	uint8	-	Read-write mode (0) Read-only mode (1)	0	0	1
12270	BaudPortB	Communication Port B baud rate The baud rate used for serial port B.	RW	Y	Y		long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	19200	1200	115200
12272	ModbusIDPortB	Comm Port B Modbus address The Modbus address used by communication Port B. The Modbus address is also used as a basis for the meter's IP address in the form 172.16.17.ModbusID when the meter is running a PPP server on the serial port.	RW	Y	Y		long	-	-	uint8	-		32	1	247
12274	CommRspDlyPortB	Comm Port B response delay Communication Port B response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		long	ms	ms	uint8	ms		0	0	100
12276	CommTimeoutPortB	Comm Port B communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		long	sec	sec	uint8	sec		4	0	255
12278	Reserved		R				long								
12280	Reserved		R				long								
12282	Reserved		R				long								
12284	Reserved		R				long								
12286	Reserved		R				long								
12288	CommTCPTimeoutPortB	Inactivity timeout for PPP connections, port B Specifies the inactivity timeout (no TCP/IP packets) before the meter automatically disconnects a PPP connection (direct serial or modem connection) on Port B.	RW	Y	Y		long	sec	sec	uint8	sec		15	1	60
12290	CommTCPMaxDatagramSizePortB	Max datagram size port B The maximum MTU and MRU bytes in a datagram on serial port B.	RW	Y	Y		long	-	-	uint16	-		576	128	16384
12292	Reserved		R				long								
12294	ReadWriteModePortB	Serial port B read and write mode Indicate serial port B access level. When Read-write mode (0) is set, all valid read and write request will be performed. When Read-only mode (1) is set, all valid read requests will be performed and all write requests will be rejected. The serial port can be configured to allow PPP protocol only or to allow Modbus and PPP protocols (ProtocolPortB).	RW	Y	Y	Y	long	-	-	uint8	-	Read-write mode (0) Read-only mode (1)	0	0	1
12298	CommTCPMaxDatagramSizePortC	Max datagram size port C The maximum MTU and MRU bytes in a datagram on serial port C.	RW	Y	Y		long	-	-	uint16	-		576	128	16384

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12300	BaudPortC	Communication Port C Slave mode baud rate The baud rate used for serial port C.	RW	Y	Y		long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	19200	1200	115200
12302	ModbusIDPortC	Comm Port C Slave mode Modbus address The Modbus address used by communication Port C. The Modbus address is also used as a basis for the meter's IP address in the form 172.16.17.ModbusID when the meter is running a PPP server on the serial port.	RW	Y	Y		long	-	-	uint8	-		32	1	247
12304	CommRspDlyPortC	Comm Port C response delay Communication Port C response delay. The communication port will wait the specified amount of time before sending a response.	RW	Y	Y		long	ms	ms	uint8	ms		0	0	100
12306	CommTimeoutPortC	Comm Port C communication timeout value The meter must respond to Modbus request messages within this time limit; if it cannot it will not respond at all.	RW	Y	Y		long	sec	sec	uint8	sec		4	0	255
12308	Reserved		R				long								
12310	ReadWriteModePortC	Serial port C read and write mode Indicate serial port C access level. When Read-write mode (0) is set, all valid read and write request will be performed. When Read-only mode (1) is set, all valid read requests will be performed and all write requests will be rejected. The serial port can be configured to allow PPP protocol only or to allow Modbus and PPP protocols (ProtocolPortC).	RW	Y	Y	Y	long	-	-	uint8	-	Read-write mode (0) Read-only mode (1)	0	0	1
12312	Reserved		R				long								
12314	Reserved		R				long								
12316	CommTCPTimeoutPortC	Inactivity timeout for PPP connections, port C Specifies the inactivity timeout (no TCP/IP packets) before the meter automatically disconnects a PPP connection (direct serial or modem connection) on Port C.	RW	Y	Y		long	sec	sec	uint8	sec		15	1	60
12318	Eth1AltModbusPort	Alternate TCP port used for Modbus TCP The TCP/IP port used for Modbus TCP in addition to port 502. The alternate port cannot be set to any of the reserved or well-known ports 1, 7, 20, 21, 23, 42, 53, 67, 68, 502, 10000, 10001, 10002, 10003, 11000 or 11001. The alternate port cannot be set equal to HTTP server port (HTTPServerPort) or FTP server control port (FTPServerControlPort). If the alternate port is changed while there are open connections on it, then the connections shall be closed. The alternate port cannot be set to zero when Modbus TCP alternate port slave read and write mode (Eth1AltModbusReadWriteMode) is set to a non-zero value.	RW	Y	Y		long	-	-	uint32	-		0	0	65535
12320	Eth1ModbusID	Ethernet port Modbus address The Modbus address for Modbus TCP/IP on the Ethernet port. This is the "unit identifier" that is used if the Modbus TCP/IP network has a bridge to a serial Modbus network.	RW	Y	Y		long	-	-	uint8	-		255	1	255
12322	PropUpdtBatches	Number of consecutive batches without chord failures required for updating chord proportions Number of consecutive batches without chord failures required for updating chord proportions. It is computed from the time that must elapse without chord failures required for updating chord proportions (PropUpdtSeconds) divided by the batch update period (BatchUpdatePeriod).	R	Y			long	-	-	uint16	-				
12324	PropUpdtSeconds	Time that must elapse without chord failures required for updating chord proportions The number of seconds that must elapse without any chord failures before changes to the chord proportion bins for velocity estimation will occur ((IsPropUpdtActive) set to TRUE). This time is converted to the number of equivalent batch cycles (PropUpdtBatches) for comparison to the number of consecutive batches without chord failures (CurrPropUpdateBatches). This also specifies the number of seconds that must elapse while transducer maintenance is suspected (IsXdcrMaintenanceSuspectedA..IsXdcrMaintenanceSuspectedD) before the transducer maintenance required alarm is activated ((IsXdcrMaintenanceRequired) is set to TRUE).	RW	Y	Y	Y	long	sec	sec	uint16	sec		3600	10	3600
12326	PropUpdtSecondsOverride	Override time required for updating chord proportions When enabled, the number of failure free seconds required (PropUpdtSeconds) is overridden such that chord proportion bins shall be updated (IsPropUpdtActive) whenever the number of consecutive batches without chord failures (CurrPropUpdateBatches) is greater than 24. The purpose of this override is to allow testing of chord proportions before the required time has elapsed since the last chord failure (PropUpdtSeconds). This should only be enabled under the direction of Emerson Flow Support.	RW			Y	long	-	-	uint16	-		0	0	65535
12328	DriverSelectionPortB	Hardware protocol on Port B Hardware protocol on Port B. This configuration is ignored when RS-232 or RS-485 Module is connected and needed when Expansion I/O Module is connected.	RW	Y	Y		long	-	-	uint8	-	RS-232 (0) RS-485 half-duplex (1)	0	0	1
12330	DriverSelectionPortC	Hardware protocol on Port C Hardware protocol on Port C. This configuration is ignored when RS-232 or RS-485 Module is connected and needed when Expansion I/O Module is connected.	RW	Y	Y		long	-	-	uint8	-	RS-232 (0) RS-485 half-duplex (1)	0	0	1
12332	HTTPServerPort	TCP port used for HTTP server The TCP/IP port used by the HTTP server. The port cannot be set to any of the reserved or well-known ports 1, 7, 20, 21, 23, 42, 53, 67, 68, 502, 10000, 10001, 10002, 10003, 11000, or 11001. Also the HTTP port cannot be set equal to Modbus TCP alternate port (Eth1AltModbusPort) or FTP server control port (FTPServerControlPort). The HTTP server restarts when the port number is changed. The HTTP server terminates if the port is set to zero.	RW	Y	Y	Y	long	-	-	uint16	-		80	0	65535
12334	FTPServerControlPort	FTP server control port The port on which the FTP server listens for client connection requests. The port cannot be set to any of the reserved or well-known ports 1, 7, 20, 23, 42, 53, 67, 68, 502, 10000, 10001, 10002, 10003, 11000, or 11001. Also, the port cannot be set equal to Modbus TCP alternate port (Eth1AltModbusPort) or HTTP server port (HTTPServerPort). The FTP server restarts when the port is changed. The FTP server terminates if the port is set to zero.	RW	Y	Y	Y	long	-	-	uint16	-		21	0	65535
12336	ISOModbusProcessDataTimeout	ISO 17089 Modbus process data timeout Sets ISO 17089 Modbus process data timeout value. When process data values, flow-condition absolute pressure (AbsFlowPressure) and flow-condition temperature (FlowTemperature), are written via ISO 17089 Modbus registers then a timer loaded with this value monitors loss of communication with the Modbus client. After first write to ISO 17089 process data Modbus register, if the meter doesn't receive process data value updates before timer expires then the flow-condition pressure validity (PressureValidity) and the flow-condition temperature validity (TemperatureValidity) are set to FALSE (0). The timer is reloaded when update is received. Setting value as 0 disables the timer and clears the flow-condition pressure validity alarm (PressureInvalid) and the flow-condition temperature validity alarm (TemperatureInvalid) alarm if those are active due to loss of communication with the Modbus client.	RW	Y	Y		long	min	min	uint8	min		0	0	60

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12360	Freq1Content	Frequency Output 1 pair content Selects the data to be represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)) to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
12362	Freq1Dir	Selects the flow direction represented by the Frequency Output 1 pair (Freq1A, Freq1B) Selects the flow direction represented by the Frequency Output 1 pair (Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
12364	Freq1MaxFrequency	Frequency Output 1 pair maximum (full-scale) frequency Selects the Frequency Output 1 pair maximum (full-scale) frequency used in determining the K-factor and inverse K-factor.	RW	Y	Y	Y	float	Hz	Hz	uint16	Hz	1000 (1000) 5000 (5000)	1000	1000	5000
12366	Freq1FullScaleVolFlowRate	Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair volumetric flow rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when Frequency Output 1 pair content (Freq1Content) is set to a volumetric flow rate.	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
12368	Freq1MinVel	Frequency Output 1 pair velocity corresponding to zero frequency Specifies the Frequency Output 1 pair velocity corresponding to the minimum frequency (0 Hz) when the Frequency Output 1 pair content (Freq1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
12370	Freq1MaxVel	Frequency Output 1 pair velocity corresponding to the maximum frequency Specifies the Frequency Output 1 pair velocity corresponding to the maximum frequency selected (Freq1MaxFrequency) when the Frequency Output 1 pair content (Freq1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500
12372	Freq1BPhase	Frequency Output 1B phase relative to 1A Selects the Frequency Output 1 pair channel B phase relative to the channel A phase based on the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Lag forward, Lead reverse (0) Lead forward, Lag reverse (1)	0	0	1
12374	IsFreq1BZeroedOnErr	Frequency Output 1B forced to zero when invalid control When TRUE (1), forces the Frequency Output 1 channel B frequency to zero when the frequency pair's data is invalid.	RW	Y	Y	Y	float	-	-	boolean	-	Not forced to zero on error (FALSE) Forced to zero on error (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12376	Freq1FeedbackCorrectionPcnt	Frequency Output 1 pair volume feedback percentage Specifies the Frequency Output 1 pair percentage of error (determined by frequency feedback) to adjust for per batch. This only applies when the frequency pair content is selected to be a rate.	RW	Y	Y	Y	float	%	%	uint8	%		1	0	100
12378	IsFreq1EnableTest	Frequency Output 1 pair test enable Frequency Output 1 is in test mode which means the pulses output do not reflect the process flow through the meter. Test mode allows the connection from this output to a flow computer to be verified. When the frequency output is in test mode, the frequency outputs are fixed at the percentage of full scale specified by the test mode output percentage configuration point (Freq1TestModeOutputPercent). If a frequency pair remains in test mode for the length of time configured by the normal mode timeout (NonNormalModeTimeout), the test mode is automatically exited and the frequency output returns to normal operation. Recommended Actions: 1. Use the Meter Outputs screen in MeterLink™ to disable the test mode for Frequency Output 1 to clear this alarm and return the meter back to its normal mode of operation. 2. Unless MeterLink™ or another application through Modbus is re-enabling the test mode, the output will revert back to the normal mode of operation in a user configured timeout period (NonNormalModeTimeout) which can be up to 30 minutes.	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12380	Freq1TestModeOutputPercent	Frequency Output 1 pair test mode percentage of full-scale Specifies the Frequency Output 1 pair test mode percentage of full-scale. This specifies the frequency (as a percentage of the full-scale frequency (Freq1MaxFrequency)) to force Freq1A (Freq1ChnlA) and Freq1B (Freq1ChnlB) when in the frequency test mode (IsFreq1EnableTest).	RW				float	%	%	uint8	%		50	0	150
12382	Freq1FullScaleEnergyRate	Frequency Output 1 pair energy rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair energy rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when the Frequency Output 1 pair content (Freq1Content) is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38
12384	Freq1FullScaleMassRate	Frequency Output 1 pair mass rate corresponding to the maximum frequency Specifies the Frequency Output 1 pair mass rate corresponding to the maximum frequency selected (Freq1MaxFrequency) when the Frequency Output 1 pair content (Freq1Content) is set to mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
12388	DO1AContent	Digital Output 1A content selector Selects the content (Freq1 Validity (0), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 1A to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq1 Validity is Freq1DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr). Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 1 validity (0) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	0	0	4
12390	DO1AIsInvPolarity	Digital Output 1A polarity control Selects the Digital Output 1A polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the Digital Output 1A content selector (DO1AContent)). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12392	DO1ATestVal	Digital Output 1A test mode value Specifies the value (state) of Digital Output 1A when in the test mode (DO1PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
12394	DO1BContent	Digital Output 1B content selector Selects the content (Freq1 Validity (0), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 1B to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq1 Validity is Freq1DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr) Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 1 validity (0) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	2	0	4

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12396	DO1BIsInvPolarity	Digital Output 1B polarity control Selects the Digital Output 1B polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the Digital Output 1B content selector (DO1BContent)). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12398	DO1BTestVal	Digital Output 1B test mode value Specifies the value (state) of Digital Output 1B when in the test mode (DO1PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
12400	DO1PairTestEnable	Enables test mode for Digital Output 1 pair Used to enable the test mode for Digital Output 1 pair (DO1A and DO1B). When set to TRUE (1), the test mode is enabled and digital outputs 1A and 1B are set to the levels specified by DO1A test mode value (DO1ATestVal) and DO1B test mode value (DO1BTestVal). When this point is set to TRUE (1), the digital output pair remains in the test mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the test mode is explicitly exited by setting this point to FALSE (0).	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12402	DI1IsInvPolarity	Digital Input 1 polarity control This value sets the polarity of Digital Input 1 (DI1). A TRUE (1) value is normal polarity (default). A FALSE (0) value is inverted polarity.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12404	IsDI1UsedForCal	Determines digital input 1 functionality Specifies whether digital input 1 (DI1) is used for general purpose when set to FALSE (0) or for synchronizing calibration when set to TRUE (1). If used for calibration, the polarity is determined by the IsDI1ForCalActiveLow data point and the gating edge is determined by the IsDI1ForCalStateGated data point.	RW				float	-	-	boolean	-	General purpose (FALSE) Used for calibration (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12406	IsDI1ForCalActiveLow	Determines digital input 1 polarity for calibration use This point specifies the polarity for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. See also IsDI1ForCalStateGated.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate active high (FALSE) Digital Input 1 calibrate active low (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12408	IsDI1ForCalStateGated	Determines digital input 1 gating for calibration use This point specifies the calibration gating for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. When FALSE (0), the calibration is started/stopped via an inactive->active edge; when TRUE (1), the calibration is started via an inactive->active state change and stopped via an active->inactive state change. The active edge/state is specified via IsDI1ForCalActiveLow.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate edge gated (FALSE) Digital Input 1 calibrate state gated (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12410	Freq2Content	Frequency Output 2 pair content Selects the data to be represented by the Frequency Output 2 pair (Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB)) to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
12412	Freq2Dir	Selects the flow direction represented by the Frequency Output 2 pair (Freq2A, Freq2B) Selects the flow direction represented by the Frequency Output 2 pair (Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB)). When set to "Reverse" or "Forward", both channels A and B represent the specified content when the flow is in selected direction. When set to "Absolute", both channels A and B represent the specified content regardless of the flow direction. When set to "Bidirectional", channel A represents the specified content when the flow is in the forward direction and channel B represents the specified content when flow is in the reverse direction. See Gas Ultrasonic Installation, Operations or Maintenance and Troubleshooting manuals. Mark II upgrade note: this data point is similar (but not identical) in function to the Mark II Freq1Content register.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2) Bidirectional (3)	1	0	3
12414	Freq2MaxFrequency	Frequency Output 2 pair maximum (full-scale) frequency Selects the Frequency Output 2 pair maximum (full-scale) frequency used in determining the K-factor and inverse K-factor.	RW	Y	Y	Y	float	Hz	Hz	uint16	Hz	1000 (1000) 5000 (5000)	1000	1000	5000
12416	Freq2FullScaleVolFlowRate	Frequency Output 2 pair volumetric flow rate corresponding to the maximum frequency Specifies the Frequency Output 2 pair volumetric flow rate corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to a volumetric flow rate.	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
12418	Freq1MinVel	Frequency Output 1 pair velocity corresponding to zero frequency Specifies the Frequency Output 1 pair velocity corresponding to the minimum frequency (0 Hz) when the Frequency Output 1 pair content (Freq1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
12420	Freq2MaxVel	Frequency Output 2 pair velocity corresponding to the maximum frequency Specifies the Frequency Output 2 pair velocity corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500
12422	Freq2BPhase	Frequency Output 2B phase relative to 2A Selects the Frequency Output 2 pair channel B phase relative to the channel A phase based on the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Lag forward, Lead reverse (0) Lead forward, Lag reverse (1)	0	0	1
12424	IsFreq2BZeroedOnErr	Frequency Output 2B forced to zero when invalid control When TRUE (1), forces the Frequency Output 2 channel B frequency to zero when the frequency pair's data is invalid.	RW	Y	Y	Y	float	-	-	boolean	-	Not forced to zero on error (FALSE) Forced to zero on error (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12426	Freq2FeedbackCorrectionPcnt	Frequency Output 2 pair volume feedback percentage Specifies the Frequency Output 2 pair percentage of error (determined by frequency feedback) to adjust for per batch. This only applies when the frequency pair content is selected to be a rate.	RW	Y	Y	Y	float	%	%	uint8	%		1	0	100
12428	IsFreq2EnableTest	Frequency Output 2 pair test enable Frequency Output 2 is in test mode which means the pulses output do not reflect the process flow through the meter. Test mode allows the connection from this output to a flow computer to be verified. When the frequency output is in test mode, the frequency outputs are fixed at the percentage of full scale specified by the test mode output percentage configuration point (Freq2TestModeOutputPercent). If a frequency pair remains in test mode for the length of time configured by the normal mode timeout (NonNormalModeTimeout), the test mode is automatically exited and the frequency output returns to normal operation. Recommended Actions: 1. Use the Meter Outputs screen in MeterLink™ to disable the test mode for Frequency Output 2 to clear this alarm and return the meter back to its normal mode of operation. 2. Unless MeterLink™ or another application through Modbus is re-enabling the test mode, the output will revert back to the normal mode of operation in a user configured timeout period (NonNormalModeTimeout) which can be up to 30 minutes.	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12430	Freq2TestModeOutputPercent	Frequency Output 2 pair test mode percentage of full-scale Specifies the Frequency Output 2 pair test mode percentage of full-scale. This specifies the frequency (as a percentage of the full-scale frequency (Freq2MaxFrequency)) to force Freq2A (Freq2ChnlA) and Freq2B (Freq2ChnlB) when in the frequency test mode (IsFreq2EnableTest).	RW				float	%	%	uint8	%		50	0	150
12432	Freq2FullScaleEnergyRate	Frequency Output 2 pair energy rate corresponding to the maximum frequency Specifies the Frequency Output 2 pair energy rate corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12434	Freq2FullScaleMassRate	Frequency Output 2 pair mass rate corresponding to the maximum frequency Specifies the Frequency Output 2 pair mass rate corresponding to the maximum frequency selected (Freq2MaxFrequency) when the Frequency Output 2 pair content (Freq2Content) is set to mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
12438	DO2AContent	Digital Output 2A content selector Selects the content (Freq2 Validity (1), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 2A to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq2 Validity is Freq2DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr) Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 2 validity (1) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	1	1	4
12440	DO2AIsInvPolarity	Digital Output 2A polarity control Selects the Digital Output 2A polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the content DO2AContent). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12442	DO2ATestVal	Digital Output 2A test mode value Specifies the value (state) of Digital Output 2A when in the test mode (DO2PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
12444	DO2BContent	Digital Output 2B content selector Selects the content (Freq2 Validity (1), Flow Direction (2), Dual-Configuration meter flow rate range validity (3), or Process Validity (4)) for Digital Output 2B to be directed to Frequency/Digital Output 1 (FODO1Source), Frequency/Digital Output 2 (FODO2Source), Frequency/Digital Output 3 (FODO3Source), Frequency/Digital Output 4 (FODO4Source), Frequency/Digital Output 5 (FODO5Source) or Frequency/Digital Output 6 (FODO6Source). Freq2 Validity is Freq2DataValidity. Flow Direction is FlowDir. Dual-Configuration meter flow rate range validity is the inverse of IsColocMeterQFlowRangeErr. Process Validity is the inverse of the 'OR' of the continuous flow analysis validities (IsAbnormalProfileDetected, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, IsSndVelCompErr) Process Validity is only selectable on device numbers (DeviceNumber) that support CFA (3418 and 3414).	RW	Y	Y	Y	float	-	-	int32	-	Frequency Output 2 validity (1) Flow direction (2) Dual-Configuration meter flow rate range validity (3) Process validity (4)	2	1	4
12446	DO2BIsInvPolarity	Digital Output 2B polarity control Selects the Digital Output 2B polarity as "Normal" or "Inverted". For "Normal" polarity, a high output indicates either valid frequency data or forward flow (depending upon the content selected via the Digital Output 2B content (DO2BContent) data point). For "Inverted" polarity, a low output indicates either valid frequency data or forward flow.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12448	DO2BTestVal	Digital Output 2B test mode value Specifies the value (state) of Digital Output 2B when in the test mode (DO2PairTestEnable).	RW				float	-	-	uint8	-	Test low (0) Test high (1)	0	0	1
12450	DO2PairTestEnable	Enables test mode for Digital Output 2 pair Used to enable the test mode for Digital Output 2 pair (DO2A and DO2B). When set to TRUE, the test mode is enabled and digital outputs 2A and 2B are set to the levels specified by DO2A test mode value (DO2ATestVal) and DO2B test mode value (DO2BTestVal). When this point is set to TRUE (1), the digital output pair remains in the test mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the test mode is explicitly exited by setting this point to FALSE (0).	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12452	DI1IsInvPolarity	Digital Input 1 polarity control This value sets the polarity of Digital Input 1 (DI1). A TRUE (1) value is normal polarity (default). A FALSE (0) value is inverted polarity.	RW	Y	Y	Y	float	-	-	boolean	-	Normal (FALSE) Inverted (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12454	IsDI1UsedForCal	Determines digital input 1 functionality Specifies whether digital input 1 (DI1) is used for general purpose when set to FALSE (0) or for synchronizing calibration when set to TRUE (1). If used for calibration, the polarity is determined by the IsDI1ForCalActiveLow data point and the gating edge is determined by the IsDI1ForCalStateGated data point.	RW				float	-	-	boolean	-	General purpose (FALSE) Used for calibration (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12456	IsDI1ForCalActiveLow	Determines digital input 1 polarity for calibration use This point specifies the polarity for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. See also IsDI1ForCalStateGated.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate active high (FALSE) Digital Input 1 calibrate active low (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12458	IsDI1ForCalStateGated	Determines digital input 1 gating for calibration use This point specifies the calibration gating for digital input 1 (DI1) when it is configured via IsDI1UsedForCal for use in synchronizing a calibration. When FALSE (0), the calibration is started/stopped via an inactive->active edge; when TRUE (1), the calibration is started via an inactive->active state change and stopped via an active->inactive state change. The active edge/state is specified via IsDI1ForCalActiveLow.	RW	Y	Y		float	-	-	boolean	-	Digital Input 1 calibrate edge gated (FALSE) Digital Input 1 calibrate state gated (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
12460	FlowDirection	Flow direction Flow direction indicator.	R				float	-	-	boolean	-	Reverse (FALSE) Forward (TRUE)			
12462	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
12466	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
12468	Freq1ChnlA	Frequency Output 1A value Frequency Output 1 channel A value.	R				float	Hz	Hz	float32	Hz				
12470	Freq1ChnlB	Frequency Output 1B value Frequency Output 1 channel B value.	R				float	Hz	Hz	float32	Hz				
12472	Freq1KFactor	Frequency Output 1 pair K-Factor Frequency Output 1 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
12474	Freq1InvKFactor	Frequency Output 1 pair inverse K-Factor Frequency Output 1 pair inverse K-Factor.	R				float	m3/pulse	ft3/pulse	float32	m3/pulse				
12476	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	sec	sec	float32	sec				
12478	AvgBatchTimeHours	Average batch time Average batch time. The average is computed over the previous 8 batches.	R				float	hr	hr	float32	hr				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12480	Freq1FeedbackStatus	Frequency Output 1 pair feedback status Frequency Output 1 pair feedback status.	R				float	-	-	uint8	-	Forward (0) Reverse (1)			
12482	Freq1FeedbackPulseCnt	Frequency Output 1 pair feedback pulse count Frequency Output 1 pair feedback pulse count.	R				float	MkIII time pulses	MkIII time pulses	uint16	MkIII time pulses				
12484	Freq1FeedbackVol	Frequency Output 1 pair feedback volume Frequency Output 1 pair feedback volume.	R				float	m3	ft3	float32	m3				
12486	Freq1FeedbackPrevDesiredVol	Frequency Output 1 pair previous desired volume Frequency Output 1 pair previous desired volume.	R				float	m3	ft3	float32	m3				
12488	Freq1FeedbackVolErr	Frequency Output 1 pair feedback volume error Frequency Output 1 pair feedback volume error.	R				float	m3	ft3	float32	m3				
12490	Freq1FeedbackDesiredVol	Frequency Output 1 pair desired volume Frequency Output 1 pair desired volume.	R				float	m3	ft3	float32	m3				
12492	Freq1TTLVFRErr	Frequency Output 1 pair total volumetric flow rate error Frequency Output 1 pair total volumetric flow rate error.	R				float	volume/time	volume/time	float32	m3/hr				
12494	Freq1VFRErrComp	Frequency Output 1 pair volumetric flow rate error compensation Frequency Output 1 pair volumetric flow rate error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
12496	Freq1AbsVFR	Frequency Output 1 pair absolute volumetric flow rate Frequency Output 1 pair absolute volumetric flow rate. This is the absolute value of the volumetric flow rate represented by the Frequency Output 1 pair and does not include any feedback error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
12498	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
12500	DO1A	Digital Output 1A value Digital Output 1A value. This value is based on the selected content (DO1AContent) and polarity (DO1AIsInvPolarity).	R				float	-	-	uint8	-				
12502	DO1B	Digital Output 1B value Digital Output 1B value. This value is based on the selected content (DO1BContent) and polarity (DO1BIsInvPolarity).	R				float	-	-	uint8	-				
12504	DI1	Digital Input 1 value Digital Input 1 value.	R				float	-	-	boolean	-				
12506	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
12510	FlowDirection	Flow direction Flow direction indicator.	R				float	-	-	boolean	-	Reverse (FALSE) Forward (TRUE)			
12512	Freq2OutputVFR	Frequency Output 2 pair output volumetric flow rate Frequency Output 2 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
12516	Freq2DataValidity	Frequency Output 2 data invalid The parameter which the Frequency Output 2 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 2 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
12518	Freq2ChnlA	Frequency Output 2A value Frequency Output 2 channel A value.	R				float	Hz	Hz	float32	Hz				
12520	Freq2ChnlB	Frequency Output 2B value Frequency Output 2 channel B value.	R				float	Hz	Hz	float32	Hz				
12522	Freq2KFactor	Frequency Output 2 pair K-Factor Frequency Output 2 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
12524	Freq2InvKFactor	Frequency Output 2 pair inverse K-Factor Frequency Output 2 pair inverse K-Factor.	R				float	m3/pulse	ft3/pulse	float32	m3/pulse				
12526	BatchTimeSec	Elapsed time for all firing sequences processed in batch cycle This is calculated as difference of the timestamps of the last sequence of previous batch cycle and the last sequence of current batch cycle. This will vary from batch to batch around the desired duration (BatchUpdatePeriod) and depends on number of new sequences received by batch (BatchNewSeq).	R				float	sec	sec	float32	sec				
12528	AvgBatchTimeHours	Average batch time Average batch time. The average is computed over the previous 8 batches.	R				float	hr	hr	float32	hr				
12530	Freq2FeedbackStatus	Frequency Output 2 pair feedback status Frequency Output 2 pair feedback status.	R				float	-	-	uint8	-	Forward (0) Reverse (1)			
12532	Freq2FeedbackPulseCnt	Frequency Output 2 pair feedback pulse count Frequency Output 2 pair feedback pulse count.	R				float	MkIII time pulses	MkIII time pulses	uint16	MkIII time pulses				
12534	Freq2FeedbackVol	Frequency Output 2 pair feedback volume Frequency Output 2 pair feedback volume.	R				float	m3	ft3	float32	m3				
12536	Freq2FeedbackPrevDesiredVol	Frequency Output 2 pair previous desired volume Frequency Output 2 pair previous desired volume.	R				float	m3	ft3	float32	m3				
12538	Freq2FeedbackVolErr	Frequency Output 2 pair feedback volume error Frequency Output 2 pair feedback volume error.	R				float	m3	ft3	float32	m3				
12540	Freq2FeedbackDesiredVol	Frequency Output 2 pair desired volume Frequency Output 2 pair desired volume.	R				float	m3	ft3	float32	m3				
12542	Freq2TTLVFRErr	Frequency Output 2 pair total volumetric flow rate error Frequency Output 2 pair total volumetric flow rate error.	R				float	volume/time	volume/time	float32	m3/hr				
12544	Freq2VFRErrComp	Frequency Output 2 pair volumetric flow rate error compensation Frequency Output 2 pair volumetric flow rate error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
12546	Freq2AbsVFR	Frequency Output 2 pair absolute volumetric flow rate Frequency Output 2 pair absolute volumetric flow rate. This is the absolute value of the volumetric flow rate represented by the Frequency Output 2 pair and does not include any feedback error compensation.	R				float	volume/time	volume/time	float32	m3/hr				
12548	Freq2OutputVFR	Frequency Output 2 pair output volumetric flow rate Frequency Output 2 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12550	DO2A	Digital Output 2A value Digital Output 2A value. This value is based on the selected content (DO2AContent) and polarity (DO2AIsInvPolarity).	R				float	-	-	uint8	-				
12552	DO2B	Digital Output 2B value Digital Output 2B value. This value is based on the selected content (DO2BContent) and polarity (DO2BIsInvPolarity).	R				float	-	-	uint8	-				
12554	DI1	Digital Input 1 value Digital Input 1 value.	R				float	-	-	boolean	-				
12556	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
12560	DoOverwriteUnreadAlarmLog	Old unread alarm log records can be overwritten by new records when TRUE Old (unread) alarm log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12561	DoOverwriteUnreadAuditLog	Old unread audit log records can be overwritten by new records when TRUE Old (unread) audit log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12562	DoOverwriteUnreadHourlyLog	Old unread hourly log records can be overwritten by new records when TRUE Old (unread) hourly log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12563	DoOverwriteUnreadDailyLog	Old unread daily log records can be overwritten by new records when TRUE Old (unread) daily log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12564	DoOverwriteUnreadSystemLog	Old unread system log records can be overwritten by new records when TRUE Old (unread) system log records can be overwritten by new records when TRUE (1). If FALSE (0) and the log becomes full, logging will stop until oldest log records are marked as read to make room for new records.	RW	Y	Y		int	-	-	boolean	-	Do not overwrite old records (FALSE) Overwrite old records (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
12566	C6PlusHexaneFrac	C6+ Hexane gas component mole fraction C6+ Hexane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0.47466	0	1
12568	C6PlusHeptaneFrac	C6+ Heptane gas component mole fraction C6+ Heptane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0.3534	0	1
12570	C6PlusOctaneFrac	C6+ Octane gas component mole fraction C6+ Octane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0.17194	0	1
12572	C6PlusNonaneFrac	C6+ Nonane gas component mole fraction C6+ Nonane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0	0	1
12574	C6PlusDecaneFrac	C6+ Decane gas component mole fraction C6+ Decane gas component mole fraction value to be used if C6+ gas component index (C6PlusComponentIndex) is other than 8, 9, 10 or 11. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	float	mole %	mole %	float32	mole fraction		0	0	1
12576	MeasVolGrossHeatingVal	Volumetric gross heating value Volumetric gross heating value (required when AGA8 calculation method (HCH_Method) is "Gross Method 1"). These gas property values are either fixed (heating value and its reference temperature are user specified) or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1". Reading the gas property data from a GC requires the interface to GC to be enabled (IsOptionalGCInterfaceEnabled) and the GC communication port (GCSerialPort) to be configured. See also RefTemperatureHV. Gas property data can be read from Transmitter Head 1 of a Dual-Configuration meter only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter.	RW	Y	Y		float	kJ/dm3	Btu/ft3	float32	kJ/dm3		38.6022	15	50
12578	SpecificGravity	Gas specific gravity (relative density) Gas specific gravity (relative density) (required when AGA8 calculation method (HCH_Method) is either "Gross Method 1" or "Gross Method 2"). Specific gravity value is either a fixed (user specified) value or read from GC when the gas properties source selector (GasPropertiesSrcSel) is "Live - GC" or read from Transmitter Head 1 of a Dual-Configuration meter when the gas properties source selector (GasPropertiesSrcSel) is "Transmitter Head 1".	RW	Y	Y		float	-	-	float32	-		0.581078	0	2
12580	MoleFractionMethane	Methane gas component Methane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12582	MoleFractionN2Method2	Nitrogen gas component The nitrogen gas component is calculated only when AGA8 method selector (HCH_Method) is Gross Method 1. It is assigned value of (N2InUse) for Gross Method 2, and is not calculated for other AGA8 methods.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12584	MoleFractionCO2	Carbon dioxide gas component Carbon dioxide gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12586	MoleFractionEthane	Ethane gas component Ethane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12588	MoleFractionPropane	Propane gas component Propane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12590	MoleFractionWater	Water gas component Water gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12592	MoleFractionH2S	Hydrogen sulfide gas component Hydrogen sulphide gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12594	MoleFractionH2	Hydrogen gas component Hydrogen gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12596	MoleFractionCO	Carbon monoxide gas component Carbon monoxide gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12598	MoleFractionOxygen	Oxygen gas component Oxygen gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12600	MoleFractionIsoButane	Isobutane gas component Isobutane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12602	MoleFractionNButane	N-Butane gas component N-Butane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12604	MoleFractionIsoPentane	Isopentane gas component Isopentane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12606	MoleFractionNPentane	N-Pentane gas component N-Pentane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12608	MoleFractionNHexane	N-Hexane gas component N-Hexane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12610	MoleFractionNHeptane	N-Heptane gas component N-Heptane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12612	MoleFractionNOctane	N-Octane gas component N-Octane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12614	MoleFractionNNonane	N-Nonane gas component N-Nonane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12616	MoleFractionNDecane	N-Decane gas component N-Decane gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12618	MoleFractionHelium	Helium gas component Helium gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12620	MoleFractionArgon	Argon gas component Argon gas component mole fraction.	RW	Y	Y		float	mole %	mole %	float32	mole fraction		0	0	1
12630	CalMethod	Flow calibration method selector Selects the flow calibration method to apply to the velocity measurement. If set to "None" then the flow calibration has the same value as the dry calibration. If set to "Polynomial Coefficients" then the "C" calibration coefficients are applied (FwdC0, FwdC1, FwdC2, FwdC3, RevC0, RevC1, RevC2 and RevC3). If set to "Piecewise Linear" then the piecewise linearization flow rate and meter factor parameters (FwdFlwRt1..FwdFlwRt12, RevFlwRt1..RevFlwRt12, FwdMtrFctr1..FwdMtrFctr12 and RevMtrFctr1..RevMtrFctr12) are used to calculate the meter factor to be applied, readable via piecewise linearization meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	-	-	uint8	-	None (0) Polynomial (1) Piecewise linear (2)	0	0	2
12632	FwdC0	Flow calibration forward flow C0 coefficient The forward flow C0 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
12634	FwdC1	Flow calibration forward flow C1 coefficient The forward flow C1 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12636	FwdC2	Flow calibration forward flow C2 coefficient The forward flow C2 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
12638	FwdC3	Flow calibration forward flow C3 coefficient The forward flow C3 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
12640	RevC0	Flow calibration reverse flow C0 coefficient The reverse flow C0 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-1	1
12642	RevC1	Flow calibration reverse flow C1 coefficient The reverse flow C1 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12644	RevC2	Flow calibration reverse flow C2 coefficient The reverse flow C2 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s/m	sec/ft	float32	s/m		0	-0.1	0.1
12646	RevC3	Flow calibration reverse flow C3 coefficient The reverse flow C3 coefficient used in flow calibration. The flow calibration "C" coefficients are applied to the flow velocity to produce average flow velocity (AvgFlow) when selected via the flow calibration method selector (CalMethod).	RW	Y	Y	Y	float	s2/m2	sec2/ft2	float32	s2/m2		0	-0.1	0.1
12660	FwdFlwRt1	Piecewise linearization fwd vol flow rate 1 The first and highest forward flow rate used for piecewise linearization. It is paired with forward meter factor 1 (FwdMtrFctr1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero. Flow rates above this point will simply apply forward meter factor 1 (FwdMtrFctr1) as the linear meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12662	FwdMtrFctr1	Piecewise linearization forward meter factor 1 The first forward meter factor used for piecewise linearization. It is paired with forward flow rate 1 (FwdFlwRt1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12664	FwdFlwRt2	Piecewise linearization fwd vol flow rate 2 The second forward flow rate used for piecewise linearization. It is paired with forward meter factor 2 (FwdMtrFctr2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12666	FwdMtrFctr2	Piecewise linearization forward meter factor 2 The second forward meter factor used for piecewise linearization. It is paired with forward flow rate 2 (FwdFlwRt2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12668	FwdFlwRt3	Piecewise linearization fwd vol flow rate 3 The third forward flow rate used for piecewise linearization. It is paired with forward meter factor 3 (FwdMtrFctr3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12670	FwdMtrFctr3	Piecewise linearization forward meter factor 3 The third forward meter factor used for piecewise linearization. It is paired with forward flow rate 3 (FwdFlwRt3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12672	FwdFlwRt4	Piecewise linearization fwd vol flow rate 4 The fourth forward flow rate used for piecewise linearization. It is paired with forward meter factor 4 (FwdMtrFctr4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12674	FwdMtrFctr4	Piecewise linearization forward meter factor 4 The fourth forward meter factor used for piecewise linearization. It is paired with forward flow rate 4 (FwdFlwRt4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12676	FwdFlwRt5	Piecewise linearization fwd vol flow rate 5 The fifth forward flow rate used for piecewise linearization. It is paired with forward meter factor 5 (FwdMtrFctr5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12678	FwdMtrFctr5	Piecewise linearization forward meter factor 5 The fifth forward meter factor used for piecewise linearization. It is paired with forward flow rate 5 (FwdFlwRt5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12680	FwdFlwRt6	Piecewise linearization fwd vol flow rate 6 The sixth forward flow rate used for piecewise linearization. It is paired with forward meter factor 6 (FwdMtrFctr6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12682	FwdMtrFctr6	Piecewise linearization forward meter factor 6 The sixth forward meter factor used for piecewise linearization. It is paired with forward flow rate 6 (FwdFlwRt6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12684	FwdFlwRt7	Piecewise linearization fwd vol flow rate 7 The seventh forward flow rate used for piecewise linearization. It is paired with forward meter factor 7 (FwdMtrFctr7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12686	FwdMtrFctr7	Piecewise linearization forward meter factor 7 The seventh forward meter factor used for piecewise linearization. It is paired with forward flow rate 7 (FwdFlwRt7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12688	FwdFlwRt8	Piecewise linearization fwd vol flow rate 8 The eighth forward flow rate used for piecewise linearization. It is paired with forward meter factor 8 (FwdMtrFctr8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12690	FwdMtrFctr8	Piecewise linearization forward meter factor 8 The eighth forward meter factor used for piecewise linearization. It is paired with forward flow rate 8 (FwdFlwRt8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12692	FwdFlwRt9	Piecewise linearization fwd vol flow rate 9 The ninth forward flow rate used for piecewise linearization. It is paired with forward meter factor 9 (FwdMtrFctr9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12694	FwdMtrFctr9	Piecewise linearization forward meter factor 9 The ninth forward meter factor used for piecewise linearization. It is paired with forward flow rate 9 (FwdFlwRt9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12696	FwdFlwRt10	Piecewise linearization fwd vol flow rate 10 The tenth forward flow rate used for piecewise linearization. It is paired with forward meter factor 10 (FwdMtrFctr10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12698	FwdMtrFctr10	Piecewise linearization forward meter factor 10 The tenth forward meter factor used for piecewise linearization. It is paired with forward flow rate 10 (FwdFlwRt10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12700	FwdFlwRt11	Piecewise linearization fwd vol flow rate 11 The eleventh forward flow rate used for piecewise linearization. It is paired with forward meter factor 11 (FwdMtrFctr11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12702	FwdMtrFctr11	Piecewise linearization forward meter factor 11 The eleventh forward meter factor used for piecewise linearization. It is paired with forward flow rate 11 (FwdFlwRt11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12704	FwdFlwRt12	Piecewise linearization fwd vol flow rate 12 The twelfth and lowest forward flow rate used for piecewise linearization. It is paired with forward meter factor 12 (FwdMtrFctr12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12706	FwdMtrFctr12	Piecewise linearization forward meter factor 12 The twelfth forward meter factor used for piecewise linearization. It is paired with forward flow rate 12 (FwdFlwRt12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12720	RevFlwRt1	Piecewise linearization rev vol flow rate 1 The first and highest reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 1 (RevMtrFctr1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero. Flow rates above this point will simply apply reverse meter factor 1 (RevMtrFctr1) as the linear meter factor (LinearMtrFctr).	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12722	RevMtrFctr1	Piecewise linearization reverse meter factor 1 The first reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 1 (RevFlwRt1) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12724	RevFlwRt2	Piecewise linearization rev vol flow rate 2 The second reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 2 (RevMtrFctr2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12726	RevMtrFctr2	Piecewise linearization reverse meter factor 2 The second reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 2 (RevFlwRt2) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12728	RevFlwRt3	Piecewise linearization rev vol flow rate 3 The third reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 3 (RevMtrFctr3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12730	RevMtrFctr3	Piecewise linearization reverse meter factor 3 The third reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 3 (RevFlwRt3) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12732	RevFlwRt4	Piecewise linearization rev vol flow rate 4 The fourth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 4 (RevMtrFctr4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12734	RevMtrFctr4	Piecewise linearization reverse meter factor 4 The fourth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 4 (RevFlwRt4) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12736	RevFlwRt5	Piecewise linearization rev vol flow rate 5 The fifth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 5 (RevMtrFctr5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12738	RevMtrFctr5	Piecewise linearization reverse meter factor 5 The fifth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 5 (RevFlwRt5) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12740	RevFlwRt6	Piecewise linearization rev vol flow rate 6 The sixth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 6 (RevMtrFctr6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12742	RevMtrFctr6	Piecewise linearization reverse meter factor 6 The sixth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 6 (RevFlwRt6) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12744	RevFlwRt7	Piecewise linearization rev vol flow rate 7 The seventh reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 7 (RevMtrFctr7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12746	RevMtrFctr7	Piecewise linearization reverse meter factor 7 The seventh reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 7 (RevFlwRt7) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12748	RevFlwRt8	Piecewise linearization rev vol flow rate 8 The eighth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 8 (RevMtrFctr8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12750	RevMtrFctr8	Piecewise linearization reverse meter factor 8 The eighth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 8 (RevFlwRt8) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12752	RevFlwRt9	Piecewise linearization rev vol flow rate 9 The ninth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 9 (RevMtrFctr9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12754	RevMtrFctr9	Piecewise linearization reverse meter factor 9 The ninth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 9 (RevFlwRt9) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12756	RevFlwRt10	Piecewise linearization rev vol flow rate 10 The tenth reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 10 (RevMtrFctr10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12758	RevMtrFctr10	Piecewise linearization reverse meter factor 10 The tenth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 10 (RevFlwRt10) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12760	RevFlwRt11	Piecewise linearization rev vol flow rate 11 The eleventh reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 11 (RevMtrFctr11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12762	RevMtrFctr11	Piecewise linearization reverse meter factor 11 The eleventh reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 11 (RevFlwRt11) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12764	RevFlwRt12	Piecewise linearization rev vol flow rate 12 The twelfth and lowest reverse flow rate used for piecewise linearization. It is paired with reverse meter factor 12 (RevMtrFctr12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to zero.	RW	Y	Y	Y	float	m3/hr	ft3/hr	float32	m3/hr		0	0	200000
12766	RevMtrFctr12	Piecewise linearization reverse meter factor 12 The twelfth reverse meter factor used for piecewise linearization. It is paired with reverse flow rate 12 (RevFlwRt12) to form an endpoint of a line segment to the next lowest endpoint. This line segment is used to interpolate the linear meter factor (LinearMtrFctr) based on the dry calibration flow velocity. If it is unused it should be set to unity (1).	RW	Y	Y	Y	float	-	-	float32	-		1	0.95	1.05
12780	Reserved		R				float								
12782	Reserved		R				float								
12784	Reserved		R				float								
12786	Reserved		R				float								
12788	Reserved		R				float								
12790	Reserved		R				float								
12792	Reserved		R				float								
12794	Reserved		R				float								
12796	Reserved		R				float								
12798	Reserved		R				float								
12800	Reserved		R				float								
12802	Reserved		R				float								
12804	Reserved		R				float								
12806	Reserved		R				float								
12808	Reserved		R				float								
12810	Reserved		R				float								
12812	Reserved		R				float								
12814	Reserved		R				float								
12816	Reserved		R				float								
12818	Reserved		R				float								
12820	Reserved		R				float								
12822	Reserved		R				float								
12824	Reserved		R				float								
12826	Reserved		R				float								
12828	Reserved		R				float								
12830	Reserved		R				float								
12832	Reserved		R				float								
12834	Reserved		R				float								
12836	Reserved		R				float								
12838	Reserved		R				float								
12840	Reserved		R				float								
12842	Reserved		R				float								
12844	Reserved		R				float								
12846	Reserved		R				float								
12848	Reserved		R				float								
12850	Reserved		R				float								
12852	Reserved		R				float								
12854	Reserved		R				float								
12856	Reserved		R				float								
12860	AI1Input	Analog input 1 (temperature) current value Analog input 1 (temperature) current value, represents live flow-condition temperature (LiveFlowTemperature).	R				float	ma	ma	float32	ma				
12862	AI2Input	Analog input 2 (pressure) current value Analog input 2 (pressure) current value, represents live flow-condition pressure (LiveFlowPressure).	R				float	ma	ma	float32	ma				
12864	AI3Input	Analog input 3 current value Analog input 3 current value, available when Expansion I/O Module is connected.	R				float	ma	ma	float32	ma				
12880	Reserved		R				float								
12882	Reserved		R				float								
12884	Reserved		R				float								
12886	Reserved		R				float								
12888	Reserved		R				float								
12890	Reserved		R				float								
12892	Reserved		R				float								
12894	Reserved		R				float								
12896	Reserved		R				float								
12898	Reserved		R				float								
12900	Reserved		R				float								
12902	Reserved		R				float								
12904	Reserved		R				float								
12906	Reserved		R				float								
12908	Reserved		R				float								
12910	Reserved		R				float								
12912	Reserved		R				float								
12914	Reserved		R				float								

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
12916	Reserved		R				float								
12918	Reserved		R				float								
12920	Reserved		R				float								
12922	Reserved		R				float								
12924	Reserved		R				float								
12926	Reserved		R				float								
12928	Reserved		R				float								
12930	Reserved		R				float								
12932	Reserved		R				float								
12934	Reserved		R				float								
12936	Reserved		R				float								
12938	Reserved		R				float								
12940	Reserved		R				float								
12942	Reserved		R				float								
12944	Reserved		R				float								
12946	Reserved		R				float								
12948	Reserved		R				float								
12950	Reserved		R				float								
12952	Reserved		R				float								
12954	Reserved		R				float								
12956	Reserved		R				float								
12980	IsFwdPropADfltBin1	Fwd chord A bin 1 default proportion indicator Forward direction chord A bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
12982	FwdPropVelABin1	Proportion update fwd direction chord A bin 1 velocity Proportion update forward direction chord A bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
12984	FwdPropABin1	Fwd direction chord A bin 1 proportion Forward direction chord A bin 1 proportion.	R	Y			float	-	-	float32	-				
12986	IsFwdPropBDfltBin1	Fwd chord B bin 1 default proportion indicator Forward direction chord B bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
12988	FwdPropVelBBin1	Proportion update fwd direction chord B bin 1 velocity Proportion update forward direction chord B bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
12990	FwdPropBBin1	Fwd direction chord B bin 1 proportion Forward direction chord B bin 1 proportion.	R	Y			float	-	-	float32	-				
12992	IsFwdPropCDfltBin1	Fwd chord C bin 1 default proportion indicator Forward direction chord C bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
12994	FwdPropVelCBin1	Proportion update fwd direction chord C bin 1 velocity Proportion update forward direction chord C bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
12996	FwdPropCBin1	Fwd direction chord C bin 1 proportion Forward direction chord C bin 1 proportion.	R	Y			float	-	-	float32	-				
12998	IsFwdPropDDfltBin1	Fwd chord D bin 1 default proportion indicator Forward direction chord D bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
13000	FwdPropVelDBin1	Proportion update fwd direction chord D bin 1 velocity Proportion update forward direction chord D bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13002	FwdPropDBin1	Fwd direction chord D bin 1 proportion Forward direction chord D bin 1 proportion.	R	Y			float	-	-	float32	-				
13004	IsFwdPropADfltBin2	Fwd chord A bin 2 default proportion indicator Forward direction chord A bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13006	FwdPropVelABin2	Proportion update fwd direction chord A bin 2 velocity Proportion update forward direction chord A bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13008	FwdPropABin2	Fwd direction chord A bin 2 proportion Forward direction chord A bin 2 proportion.	R	Y			float	-	-	float32	-				
13010	IsFwdPropBDfltBin2	Fwd chord B bin 2 default proportion indicator Forward direction chord B bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13012	FwdPropVelBBin2	Proportion update fwd direction chord B bin 2 velocity Proportion update forward direction chord B bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13014	FwdPropBBin2	Fwd direction chord B bin 2 proportion Forward direction chord B bin 2 proportion.	R	Y			float	-	-	float32	-				
13016	IsFwdPropCDfltBin2	Fwd chord C bin 2 default proportion indicator Forward direction chord C bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13018	FwdPropVelCBin2	Proportion update fwd direction chord C bin 2 velocity Proportion update forward direction chord C bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13020	FwdPropCBin2	Fwd direction chord C bin 2 proportion Forward direction chord C bin 2 proportion.	R	Y			float	-	-	float32	-				
13022	IsFwdPropDDfltBin2	Fwd chord D bin 2 default proportion indicator Forward direction chord D bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13024	FwdPropVelDBin2	Proportion update fwd direction chord D bin 2 velocity Proportion update forward direction chord D bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13026	FwdPropDBin2	Fwd direction chord D bin 2 proportion Forward direction chord D bin 2 proportion.	R	Y			float	-	-	float32	-				
13028	IsFwdPropADfltBin3	Fwd chord A bin 3 default proportion indicator Forward direction chord A bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13030	FwdPropVelABin3	Proportion update fwd direction chord A bin 3 velocity Proportion update forward direction chord A bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13032	FwdPropABin3	Fwd direction chord A bin 3 proportion Forward direction chord A bin 3 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13034	IsFwdPropBDfltBin3	Fwd chord B bin 3 default proportion indicator Forward direction chord B bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13036	FwdPropVelBBin3	Proportion update fwd direction chord B bin 3 velocity Proportion update forward direction chord B bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13038	FwdPropBBin3	Fwd direction chord B bin 3 proportion Forward direction chord B bin 3 proportion.	R	Y			float	-	-	float32	-				
13040	IsFwdPropCDfltBin3	Fwd chord C bin 3 default proportion indicator Forward direction chord C bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13042	FwdPropVelCBin3	Proportion update fwd direction chord C bin 3 velocity Proportion update forward direction chord C bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13044	FwdPropCBin3	Fwd direction chord C bin 3 proportion Forward direction chord C bin 3 proportion.	R	Y			float	-	-	float32	-				
13046	IsFwdPropDDfltBin3	Fwd chord D bin 3 default proportion indicator Forward direction chord D bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13048	FwdPropVelDBin3	Proportion update fwd direction chord D bin 3 velocity Proportion update forward direction chord D bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13050	FwdPropDBin3	Fwd direction chord D bin 3 proportion Forward direction chord D bin 3 proportion.	R	Y			float	-	-	float32	-				
13052	IsFwdPropADfltBin4	Fwd chord A bin 4 default proportion indicator Forward direction chord A bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13054	FwdPropVelABin4	Proportion update fwd direction chord A bin 4 velocity Proportion update forward direction chord A bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13056	FwdPropABin4	Fwd direction chord A bin 4 proportion Forward direction chord A bin 4 proportion.	R	Y			float	-	-	float32	-				
13058	IsFwdPropBDfltBin4	Fwd chord B bin 4 default proportion indicator Forward direction chord B bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13060	FwdPropVelBBin4	Proportion update fwd direction chord B bin 4 velocity Proportion update forward direction chord B bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13062	FwdPropBBin4	Fwd direction chord B bin 4 proportion Forward direction chord B bin 4 proportion.	R	Y			float	-	-	float32	-				
13064	IsFwdPropCDfltBin4	Fwd chord C bin 4 default proportion indicator Forward direction chord C bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13066	FwdPropVelCBin4	Proportion update fwd direction chord C bin 4 velocity Proportion update forward direction chord C bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13068	FwdPropCBin4	Fwd direction chord C bin 4 proportion Forward direction chord C bin 4 proportion.	R	Y			float	-	-	float32	-				
13070	IsFwdPropDDfltBin4	Fwd chord D bin 4 default proportion indicator Forward direction chord D bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13072	FwdPropVelDBin4	Proportion update fwd direction chord D bin 4 velocity Proportion update forward direction chord D bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13074	FwdPropDBin4	Fwd direction chord D bin 4 proportion Forward direction chord D bin 4 proportion.	R	Y			float	-	-	float32	-				
13076	IsFwdPropADfltBin5	Fwd chord A bin 5 default proportion indicator Forward direction chord A bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13078	FwdPropVelABin5	Proportion update fwd direction chord A bin 5 velocity Proportion update forward direction chord A bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13080	FwdPropABin5	Fwd direction chord A bin 5 proportion Forward direction chord A bin 5 proportion.	R	Y			float	-	-	float32	-				
13082	IsFwdPropBDfltBin5	Fwd chord B bin 5 default proportion indicator Forward direction chord B bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13084	FwdPropVelBBin5	Proportion update fwd direction chord B bin 5 velocity Proportion update forward direction chord B bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13086	FwdPropBBin5	Fwd direction chord B bin 5 proportion Forward direction chord B bin 5 proportion.	R	Y			float	-	-	float32	-				
13088	IsFwdPropCDfltBin5	Fwd chord C bin 5 default proportion indicator Forward direction chord C bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13090	FwdPropVelCBin5	Proportion update fwd direction chord C bin 5 velocity Proportion update forward direction chord C bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13092	FwdPropCBin5	Fwd direction chord C bin 5 proportion Forward direction chord C bin 5 proportion.	R	Y			float	-	-	float32	-				
13094	IsFwdPropDDfltBin5	Fwd chord D bin 5 default proportion indicator Forward direction chord D bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13096	FwdPropVelDBin5	Proportion update fwd direction chord D bin 5 velocity Proportion update forward direction chord D bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13098	FwdPropDBin5	Fwd direction chord D bin 5 proportion Forward direction chord D bin 5 proportion.	R	Y			float	-	-	float32	-				
13100	IsFwdPropADfltBin6	Fwd chord A bin 6 default proportion indicator Forward direction chord A bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13102	FwdPropVelABin6	Proportion update fwd direction chord A bin 6 velocity Proportion update forward direction chord A bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13104	FwdPropABin6	Fwd direction chord A bin 6 proportion Forward direction chord A bin 6 proportion.	R	Y			float	-	-	float32	-				
13106	IsFwdPropBDfltBin6	Fwd chord B bin 6 default proportion indicator Forward direction chord B bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13108	FwdPropVelBBin6	Proportion update fwd direction chord B bin 6 velocity Proportion update forward direction chord B bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13110	FwdPropBBin6	Fwd direction chord B bin 6 proportion Forward direction chord B bin 6 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13112	IsFwdPropCDfltBin6	Fwd chord C bin 6 default proportion indicator Forward direction chord C bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13114	FwdPropVelCBin6	Proportion update fwd direction chord C bin 6 velocity Proportion update forward direction chord C bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13116	FwdPropCBin6	Fwd direction chord C bin 6 proportion Forward direction chord C bin 6 proportion.	R	Y			float	-	-	float32	-				
13118	IsFwdPropDDfltBin6	Fwd chord D bin 6 default proportion indicator Forward direction chord D bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13120	FwdPropVelDBin6	Proportion update fwd direction chord D bin 6 velocity Proportion update forward direction chord D bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13122	FwdPropDBin6	Fwd direction chord D bin 6 proportion Forward direction chord D bin 6 proportion.	R	Y			float	-	-	float32	-				
13124	IsFwdPropADfltBin7	Fwd chord A bin 7 default proportion indicator Forward direction chord A bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13126	FwdPropVelABin7	Proportion update fwd direction chord A bin 7 velocity Proportion update forward direction chord A bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13128	FwdPropABin7	Fwd direction chord A bin 7 proportion Forward direction chord A bin 7 proportion.	R	Y			float	-	-	float32	-				
13130	IsFwdPropBDfltBin7	Fwd chord B bin 7 default proportion indicator Forward direction chord B bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13132	FwdPropVelBBin7	Proportion update fwd direction chord B bin 7 velocity Proportion update forward direction chord B bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13134	FwdPropBBin7	Fwd direction chord B bin 7 proportion Forward direction chord B bin 7 proportion.	R	Y			float	-	-	float32	-				
13136	IsFwdPropCDfltBin7	Fwd chord C bin 7 default proportion indicator Forward direction chord C bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13138	FwdPropVelCBin7	Proportion update fwd direction chord C bin 7 velocity Proportion update forward direction chord C bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13140	FwdPropCBin7	Fwd direction chord C bin 7 proportion Forward direction chord C bin 7 proportion.	R	Y			float	-	-	float32	-				
13142	IsFwdPropDDfltBin7	Fwd chord D bin 7 default proportion indicator Forward direction chord D bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13144	FwdPropVelDBin7	Proportion update fwd direction chord D bin 7 velocity Proportion update forward direction chord D bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13146	FwdPropDBin7	Fwd direction chord D bin 7 proportion Forward direction chord D bin 7 proportion.	R	Y			float	-	-	float32	-				
13148	IsFwdPropADfltBin8	Fwd chord A bin 8 default proportion indicator Forward direction chord A bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13150	FwdPropVelABin8	Proportion update fwd direction chord A bin 8 velocity Proportion update forward direction chord A bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13152	FwdPropABin8	Fwd direction chord A bin 8 proportion Forward direction chord A bin 8 proportion.	R	Y			float	-	-	float32	-				
13154	IsFwdPropBDfltBin8	Fwd chord B bin 8 default proportion indicator Forward direction chord B bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13156	FwdPropVelBBin8	Proportion update fwd direction chord B bin 8 velocity Proportion update forward direction chord B bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13158	FwdPropBBin8	Fwd direction chord B bin 8 proportion Forward direction chord B bin 8 proportion.	R	Y			float	-	-	float32	-				
13160	IsFwdPropCDfltBin8	Fwd chord C bin 8 default proportion indicator Forward direction chord C bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13162	FwdPropVelCBin8	Proportion update fwd direction chord C bin 8 velocity Proportion update forward direction chord C bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13164	FwdPropCBin8	Fwd direction chord C bin 8 proportion Forward direction chord C bin 8 proportion.	R	Y			float	-	-	float32	-				
13166	IsFwdPropDDfltBin8	Fwd chord D bin 8 default proportion indicator Forward direction chord D bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13168	FwdPropVelDBin8	Proportion update fwd direction chord D bin 8 velocity Proportion update forward direction chord D bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13170	FwdPropDBin8	Fwd direction chord D bin 8 proportion Forward direction chord D bin 8 proportion.	R	Y			float	-	-	float32	-				
13172	IsFwdPropADfltBin9	Fwd chord A bin 9 default proportion indicator Forward direction chord A bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13174	FwdPropVelABin9	Proportion update fwd direction chord A bin 9 velocity Proportion update forward direction chord A bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13176	FwdPropABin9	Fwd direction chord A bin 9 proportion Forward direction chord A bin 9 proportion.	R	Y			float	-	-	float32	-				
13178	IsFwdPropBDfltBin9	Fwd chord B bin 9 default proportion indicator Forward direction chord B bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13180	FwdPropVelBBin9	Proportion update fwd direction chord B bin 9 velocity Proportion update forward direction chord B bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13182	FwdPropBBin9	Fwd direction chord B bin 9 proportion Forward direction chord B bin 9 proportion.	R	Y			float	-	-	float32	-				
13184	IsFwdPropCDfltBin9	Fwd chord C bin 9 default proportion indicator Forward direction chord C bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13186	FwdPropVelCBin9	Proportion update fwd direction chord C bin 9 velocity Proportion update forward direction chord C bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13188	FwdPropCBin9	Fwd direction chord C bin 9 proportion Forward direction chord C bin 9 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13190	IsFwdPropDDfltBin9	Fwd chord D bin 9 default proportion indicator Forward direction chord D bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13192	FwdPropVelDBin9	Proportion update fwd direction chord D bin 9 velocity Proportion update forward direction chord D bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13194	FwdPropDBin9	Fwd direction chord D bin 9 proportion Forward direction chord D bin 9 proportion.	R	Y			float	-	-	float32	-				
13196	IsFwdPropADfltBin10	Fwd chord A bin 10 default proportion indicator Forward direction chord A bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13198	FwdPropVelABin10	Proportion update fwd direction chord A bin 10 velocity Proportion update forward direction chord A bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13200	FwdPropABin10	Fwd direction chord A bin 10 proportion Forward direction chord A bin 10 proportion.	R	Y			float	-	-	float32	-				
13202	IsFwdPropBDfltBin10	Fwd chord B bin 10 default proportion indicator Forward direction chord B bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13204	FwdPropVelBBin10	Proportion update fwd direction chord B bin 10 velocity Proportion update forward direction chord B bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13206	FwdPropBBin10	Fwd direction chord B bin 10 proportion Forward direction chord B bin 10 proportion.	R	Y			float	-	-	float32	-				
13208	IsFwdPropCDfltBin10	Fwd chord C bin 10 default proportion indicator Forward direction chord C bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13210	FwdPropVelCBin10	Proportion update fwd direction chord C bin 10 velocity Proportion update forward direction chord C bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13212	FwdPropCBin10	Fwd direction chord C bin 10 proportion Forward direction chord C bin 10 proportion.	R	Y			float	-	-	float32	-				
13214	IsFwdPropDDfltBin10	Fwd chord D bin 10 default proportion indicator Forward direction chord D bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13216	FwdPropVelDBin10	Proportion update fwd direction chord D bin 10 velocity Proportion update forward direction chord D bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13218	FwdPropDBin10	Fwd direction chord D bin 10 proportion Forward direction chord D bin 10 proportion.	R	Y			float	-	-	float32	-				
13270	IsRevPropADfltBin1	Rev chord A bin 1 default proportion indicator Reverse direction chord A bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
13272	RevPropVelABin1	Proportion update rev direction chord A bin 1 velocity Proportion update reverse direction chord A bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13274	RevPropABin1	Rev direction chord A bin 1 proportion Reverse direction chord A bin 1 proportion.	R	Y			float	-	-	float32	-				
13276	IsRevPropBDfltBin1	Rev chord B bin 1 default proportion indicator Reverse direction chord B bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
13278	RevPropVelBBin1	Proportion update rev direction chord B bin 1 velocity Proportion update reverse direction chord B bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13280	RevPropBBin1	Rev direction chord B bin 1 proportion Reverse direction chord B bin 1 proportion.	R	Y			float	-	-	float32	-				
13282	IsRevPropCDfltBin1	Rev chord C bin 1 default proportion indicator Reverse direction chord C bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
13284	RevPropVelCBin1	Proportion update rev direction chord C bin 1 velocity Proportion update reverse direction chord C bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13286	RevPropCBin1	Rev direction chord C bin 1 proportion Reverse direction chord C bin 1 proportion.	R	Y			float	-	-	float32	-				
13288	IsRevPropDDfltBin1	Rev chord D bin 1 default proportion indicator Reverse direction chord D bin 1 default proportion indicator.	R	Y			float	-	-	boolean	-				
13290	RevPropVelDBin1	Proportion update rev direction chord D bin 1 velocity Proportion update reverse direction chord D bin 1 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13292	RevPropDBin1	Rev direction chord D bin 1 proportion Reverse direction chord D bin 1 proportion.	R	Y			float	-	-	float32	-				
13294	IsRevPropADfltBin2	Rev chord A bin 2 default proportion indicator Reverse direction chord A bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13296	RevPropVelABin2	Proportion update rev direction chord A bin 2 velocity Proportion update reverse direction chord A bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13298	RevPropABin2	Rev direction chord A bin 2 proportion Reverse direction chord A bin 2 proportion.	R	Y			float	-	-	float32	-				
13300	IsRevPropBDfltBin2	Rev chord B bin 2 default proportion indicator Reverse direction chord B bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13302	RevPropVelBBin2	Proportion update rev direction chord B bin 2 velocity Proportion update reverse direction chord B bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13304	RevPropBBin2	Rev direction chord B bin 2 proportion Reverse direction chord B bin 2 proportion.	R	Y			float	-	-	float32	-				
13306	IsRevPropCDfltBin2	Rev chord C bin 2 default proportion indicator Reverse direction chord C bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13308	RevPropVelCBin2	Proportion update rev direction chord C bin 2 velocity Proportion update reverse direction chord C bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13310	RevPropCBin2	Rev direction chord C bin 2 proportion Reverse direction chord C bin 2 proportion.	R	Y			float	-	-	float32	-				
13312	IsRevPropDDfltBin2	Rev chord D bin 2 default proportion indicator Reverse direction chord D bin 2 default proportion indicator.	R	Y			float	-	-	boolean	-				
13314	RevPropVelDBin2	Proportion update rev direction chord D bin 2 velocity Proportion update reverse direction chord D bin 2 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13316	RevPropDBin2	Rev direction chord D bin 2 proportion Reverse direction chord D bin 2 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13318	IsRevPropADfltBin3	Rev chord A bin 3 default proportion indicator Reverse direction chord A bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13320	RevPropVelABin3	Proportion update rev direction chord A bin 3 velocity Proportion update reverse direction chord A bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13322	RevPropABin3	Rev direction chord A bin 3 proportion Reverse direction chord A bin 3 proportion.	R	Y			float	-	-	float32	-				
13324	IsRevPropBDfltBin3	Rev chord B bin 3 default proportion indicator Reverse direction chord B bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13326	RevPropVelBBin3	Proportion update rev direction chord B bin 3 velocity Proportion update reverse direction chord B bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13328	RevPropBBin3	Rev direction chord B bin 3 proportion Reverse direction chord B bin 3 proportion.	R	Y			float	-	-	float32	-				
13330	IsRevPropCDfltBin3	Rev chord C bin 3 default proportion indicator Reverse direction chord C bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13332	RevPropVelCBin3	Proportion update rev direction chord C bin 3 velocity Proportion update reverse direction chord C bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13334	RevPropCBin3	Rev direction chord C bin 3 proportion Reverse direction chord C bin 3 proportion.	R	Y			float	-	-	float32	-				
13336	IsRevPropDDfltBin3	Rev chord D bin 3 default proportion indicator Reverse direction chord D bin 3 default proportion indicator.	R	Y			float	-	-	boolean	-				
13338	RevPropVelDBin3	Proportion update rev direction chord D bin 3 velocity Proportion update reverse direction chord D bin 3 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13340	RevPropDBin3	Rev direction chord D bin 3 proportion Reverse direction chord D bin 3 proportion.	R	Y			float	-	-	float32	-				
13342	IsRevPropADfltBin4	Rev chord A bin 4 default proportion indicator Reverse direction chord A bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13344	RevPropVelABin4	Proportion update rev direction chord A bin 4 velocity Proportion update reverse direction chord A bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13346	RevPropABin4	Rev direction chord A bin 4 proportion Reverse direction chord A bin 4 proportion.	R	Y			float	-	-	float32	-				
13348	IsRevPropBDfltBin4	Rev chord B bin 4 default proportion indicator Reverse direction chord B bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13350	RevPropVelBBin4	Proportion update rev direction chord B bin 4 velocity Proportion update reverse direction chord B bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13352	RevPropBBin4	Rev direction chord B bin 4 proportion Reverse direction chord B bin 4 proportion.	R	Y			float	-	-	float32	-				
13354	IsRevPropCDfltBin4	Rev chord C bin 4 default proportion indicator Reverse direction chord C bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13356	RevPropVelCBin4	Proportion update rev direction chord C bin 4 velocity Proportion update reverse direction chord C bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13358	RevPropCBin4	Rev direction chord C bin 4 proportion Reverse direction chord C bin 4 proportion.	R	Y			float	-	-	float32	-				
13360	IsRevPropDDfltBin4	Rev chord D bin 4 default proportion indicator Reverse direction chord D bin 4 default proportion indicator.	R	Y			float	-	-	boolean	-				
13362	RevPropVelDBin4	Proportion update rev direction chord D bin 4 velocity Proportion update reverse direction chord D bin 4 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13364	RevPropDBin4	Rev direction chord D bin 4 proportion Reverse direction chord D bin 4 proportion.	R	Y			float	-	-	float32	-				
13366	IsRevPropADfltBin5	Rev chord A bin 5 default proportion indicator Reverse direction chord A bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13368	RevPropVelABin5	Proportion update rev direction chord A bin 5 velocity Proportion update reverse direction chord A bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13370	RevPropABin5	Rev direction chord A bin 5 proportion Reverse direction chord A bin 5 proportion.	R	Y			float	-	-	float32	-				
13372	IsRevPropBDfltBin5	Rev chord B bin 5 default proportion indicator Reverse direction chord B bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13374	RevPropVelBBin5	Proportion update rev direction chord B bin 5 velocity Proportion update reverse direction chord B bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13376	RevPropBBin5	Rev direction chord B bin 5 proportion Reverse direction chord B bin 5 proportion.	R	Y			float	-	-	float32	-				
13378	IsRevPropCDfltBin5	Rev chord C bin 5 default proportion indicator Reverse direction chord C bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13380	RevPropVelCBin5	Proportion update rev direction chord C bin 5 velocity Proportion update reverse direction chord C bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13382	RevPropCBin5	Rev direction chord C bin 5 proportion Reverse direction chord C bin 5 proportion.	R	Y			float	-	-	float32	-				
13384	IsRevPropDDfltBin5	Rev chord D bin 5 default proportion indicator Reverse direction chord D bin 5 default proportion indicator.	R	Y			float	-	-	boolean	-				
13386	RevPropVelDBin5	Proportion update rev direction chord D bin 5 velocity Proportion update reverse direction chord D bin 5 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13388	RevPropDBin5	Rev direction chord D bin 5 proportion Reverse direction chord D bin 5 proportion.	R	Y			float	-	-	float32	-				
13390	IsRevPropADfltBin6	Rev chord A bin 6 default proportion indicator Reverse direction chord A bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13392	RevPropVelABin6	Proportion update rev direction chord A bin 6 velocity Proportion update reverse direction chord A bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13394	RevPropABin6	Rev direction chord A bin 6 proportion Reverse direction chord A bin 6 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13396	IsRevPropBDfltBin6	Rev chord B bin 6 default proportion indicator Reverse direction chord B bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13398	RevPropVelBBin6	Proportion update rev direction chord B bin 6 velocity Proportion update reverse direction chord B bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13400	RevPropBBin6	Rev direction chord B bin 6 proportion Reverse direction chord B bin 6 proportion.	R	Y			float	-	-	float32	-				
13402	IsRevPropCDfltBin6	Rev chord C bin 6 default proportion indicator Reverse direction chord C bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13404	RevPropVelCBin6	Proportion update rev direction chord C bin 6 velocity Proportion update reverse direction chord C bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13406	RevPropCBin6	Rev direction chord C bin 6 proportion Reverse direction chord C bin 6 proportion.	R	Y			float	-	-	float32	-				
13408	IsRevPropDDfltBin6	Rev chord D bin 6 default proportion indicator Reverse direction chord D bin 6 default proportion indicator.	R	Y			float	-	-	boolean	-				
13410	RevPropVelDBin6	Proportion update rev direction chord D bin 6 velocity Proportion update reverse direction chord D bin 6 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13412	RevPropDBin6	Rev direction chord D bin 6 proportion Reverse direction chord D bin 6 proportion.	R	Y			float	-	-	float32	-				
13414	IsRevPropADfltBin7	Rev chord A bin 7 default proportion indicator Reverse direction chord A bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13416	RevPropVelABin7	Proportion update rev direction chord A bin 7 velocity Proportion update reverse direction chord A bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13418	RevPropABin7	Rev direction chord A bin 7 proportion Reverse direction chord A bin 7 proportion.	R	Y			float	-	-	float32	-				
13420	IsRevPropBDfltBin7	Rev chord B bin 7 default proportion indicator Reverse direction chord B bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13422	RevPropVelBBin7	Proportion update rev direction chord B bin 7 velocity Proportion update reverse direction chord B bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13424	RevPropBBin7	Rev direction chord B bin 7 proportion Reverse direction chord B bin 7 proportion.	R	Y			float	-	-	float32	-				
13426	IsRevPropCDfltBin7	Rev chord C bin 7 default proportion indicator Reverse direction chord C bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13428	RevPropVelCBin7	Proportion update rev direction chord C bin 7 velocity Proportion update reverse direction chord C bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13430	RevPropCBin7	Rev direction chord C bin 7 proportion Reverse direction chord C bin 7 proportion.	R	Y			float	-	-	float32	-				
13432	IsRevPropDDfltBin7	Rev chord D bin 7 default proportion indicator Reverse direction chord D bin 7 default proportion indicator.	R	Y			float	-	-	boolean	-				
13434	RevPropVelDBin7	Proportion update rev direction chord D bin 7 velocity Proportion update reverse direction chord D bin 7 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13436	RevPropDBin7	Rev direction chord D bin 7 proportion Reverse direction chord D bin 7 proportion.	R	Y			float	-	-	float32	-				
13438	IsRevPropADfltBin8	Rev chord A bin 8 default proportion indicator Reverse direction chord A bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13440	RevPropVelABin8	Proportion update rev direction chord A bin 8 velocity Proportion update reverse direction chord A bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13442	RevPropABin8	Rev direction chord A bin 8 proportion Reverse direction chord A bin 8 proportion.	R	Y			float	-	-	float32	-				
13444	IsRevPropBDfltBin8	Rev chord B bin 8 default proportion indicator Reverse direction chord B bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13446	RevPropVelBBin8	Proportion update rev direction chord B bin 8 velocity Proportion update reverse direction chord B bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13448	RevPropBBin8	Rev direction chord B bin 8 proportion Reverse direction chord B bin 8 proportion.	R	Y			float	-	-	float32	-				
13450	IsRevPropCDfltBin8	Rev chord C bin 8 default proportion indicator Reverse direction chord C bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13452	RevPropVelCBin8	Proportion update rev direction chord C bin 8 velocity Proportion update reverse direction chord C bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13454	RevPropCBin8	Rev direction chord C bin 8 proportion Reverse direction chord C bin 8 proportion.	R	Y			float	-	-	float32	-				
13456	IsRevPropDDfltBin8	Rev chord D bin 8 default proportion indicator Reverse direction chord D bin 8 default proportion indicator.	R	Y			float	-	-	boolean	-				
13458	RevPropVelDBin8	Proportion update rev direction chord D bin 8 velocity Proportion update reverse direction chord D bin 8 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13460	RevPropDBin8	Rev direction chord D bin 8 proportion Reverse direction chord D bin 8 proportion.	R	Y			float	-	-	float32	-				
13462	IsRevPropADfltBin9	Rev chord A bin 9 default proportion indicator Reverse direction chord A bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13464	RevPropVelABin9	Proportion update rev direction chord A bin 9 velocity Proportion update reverse direction chord A bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13466	RevPropABin9	Rev direction chord A bin 9 proportion Reverse direction chord A bin 9 proportion.	R	Y			float	-	-	float32	-				
13468	IsRevPropBDfltBin9	Rev chord B bin 9 default proportion indicator Reverse direction chord B bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13470	RevPropVelBBin9	Proportion update rev direction chord B bin 9 velocity Proportion update reverse direction chord B bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13472	RevPropBBin9	Rev direction chord B bin 9 proportion Reverse direction chord B bin 9 proportion.	R	Y			float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13474	IsRevPropCDfltBin9	Rev chord C bin 9 default proportion indicator Reverse direction chord C bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13476	RevPropVelCBin9	Proportion update rev direction chord C bin 9 velocity Proportion update reverse direction chord C bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13478	RevPropCBin9	Rev direction chord C bin 9 proportion Reverse direction chord C bin 9 proportion.	R	Y			float	-	-	float32	-				
13480	IsRevPropDDfltBin9	Rev chord D bin 9 default proportion indicator Reverse direction chord D bin 9 default proportion indicator.	R	Y			float	-	-	boolean	-				
13482	RevPropVelDBin9	Proportion update rev direction chord D bin 9 velocity Proportion update reverse direction chord D bin 9 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13484	RevPropDBin9	Rev direction chord D bin 9 proportion Reverse direction chord D bin 9 proportion.	R	Y			float	-	-	float32	-				
13486	IsRevPropADfltBin10	Rev chord A bin 10 default proportion indicator Reverse direction chord A bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13488	RevPropVelABin10	Proportion update rev direction chord A bin 10 velocity Proportion update reverse direction chord A bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13490	RevPropABin10	Rev direction chord A bin 10 proportion Reverse direction chord A bin 10 proportion.	R	Y			float	-	-	float32	-				
13492	IsRevPropBDfltBin10	Rev chord B bin 10 default proportion indicator Reverse direction chord B bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13494	RevPropVelBBin10	Proportion update rev direction chord B bin 10 velocity Proportion update reverse direction chord B bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13496	RevPropBBin10	Rev direction chord B bin 10 proportion Reverse direction chord B bin 10 proportion.	R	Y			float	-	-	float32	-				
13498	IsRevPropCDfltBin10	Rev chord C bin 10 default proportion indicator Reverse direction chord C bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13500	RevPropVelCBin10	Proportion update rev direction chord C bin 10 velocity Proportion update reverse direction chord C bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13502	RevPropCBin10	Rev direction chord C bin 10 proportion Reverse direction chord C bin 10 proportion.	R	Y			float	-	-	float32	-				
13504	IsRevPropDDfltBin10	Rev chord D bin 10 default proportion indicator Reverse direction chord D bin 10 default proportion indicator.	R	Y			float	-	-	boolean	-				
13506	RevPropVelDBin10	Proportion update rev direction chord D bin 10 velocity Proportion update reverse direction chord D bin 10 velocity.	R	Y			float	m/s	ft/s	float32	m/s				
13508	RevPropDBin10	Rev direction chord D bin 10 proportion Reverse direction chord D bin 10 proportion.	R	Y			float	-	-	float32	-				
13542	SpdSndSpread	Speed of sound path spread The difference between the maximum and minimum speeds of sound of the velocity measurement chords (SndVelA..SndVelD). It is not calculated when the average flow velocity (AvgFlow) is not between the minimum flow velocity for CRange test (SndSpdChkMinVel) and the maximum flow velocity for CRange test (SndSpdChkMaxVel).	R				float	m/s	ft/s	float32	m/s				
13544	SndVelDiffA	Chord A speed of sound difference from average speed of sound The chord A speed of sound (SndVelA) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
13546	SndVelDiffB	Chord B speed of sound difference from average speed of sound The chord B speed of sound (SndVelB) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
13548	SndVelDiffC	Chord C speed of sound difference from average speed of sound The chord C speed of sound (SndVelC) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
13550	SndVelDiffD	Chord D speed of sound difference from average speed of sound The chord D speed of sound (SndVelD) difference from the average speed of sound (AvgSndVel).	R				float	m/s	ft/s	float32	m/s				
13552	FlowVelRatioA	Chord A flow velocity ratio Ratio of chord A flow velocity (FlowVelA) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
13554	FlowVelRatioB	Chord B flow velocity ratio Ratio of chord B flow velocity (FlowVelB) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
13556	FlowVelRatioC	Chord C flow velocity ratio Ratio of chord C flow velocity (FlowVelC) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
13558	FlowVelRatioD	Chord D flow velocity ratio Ratio of chord D flow velocity (FlowVelD) to the average flow velocity (AvgFlow). It is calculated as 0 when the uncorrected volumetric flow rate (QMeter) is below the volumetric flow rate threshold (QCutOff).	R				float	-	-	float32	-				
13560	FlowVelA	Flow velocity for chord A Chord A flow velocity.	R				float	m/s	ft/s	float32	m/s				
13562	FlowVelB	Flow velocity for chord B Chord B flow velocity.	R				float	m/s	ft/s	float32	m/s				
13564	FlowVelC	Flow velocity for chord C Chord C flow velocity.	R				float	m/s	ft/s	float32	m/s				
13566	FlowVelD	Flow velocity for chord D Chord D flow velocity.	R				float	m/s	ft/s	float32	m/s				
13568	AvgWtdFlowVel	Average weighted flow velocity (no calibration applied) Average weighted flow velocity (per batch). When all active chords are non-failed, the average weighted flow velocity is a weighted sum of the chord velocity measurements, WtA, WtB, WtC, WtD, where the chord weights are determined by the meter geometry. The diagnostic chord is not included in the average. See also FlowVelA, FlowVelB, FlowVelC, FlowVelD.	R				float	m/s	ft/s	float32	m/s				
13570	DryCalVel	Flow velocity after dry cal and before flow cal Flow velocity after application of dry-calibration coefficients (A coefficients FwdA0, FwdA1, FwdA2, FwdA3, RevA0, RevA1, RevA2 and RevA3) and before application of the flow calibration method (CalMethod) to the average weighted flow velocity (AvgWtdFlowVel).	R				float	m/s	ft/s	float32	m/s				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13572	LinearMtrFctr	Piecewise linearization meter factor Piecewise linearization meter factor. This meter factor is only applied to the flow velocity when the piecewise linearization method is selected via the calibration method (CalMethod) data point. It is computed from the piecewise velocities and the corresponding gains plus the offsets.	R				float	-	-	float32	-				
13574	AvgFlow	Average flow velocity (dry and flow calibration applied) Average flow velocity (per batch). This is the dry cal velocity (DryCalVel) with any selected flow calibration method (CalMethod) as well as the flow profile correction factor (CorrectionFactor) applied.	R				float	m/s	ft/s	float32	m/s				
13576	WtA	Chord A weight for calculating average weighted velocity Chord A weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
13578	WtB	Chord B weight for calculating average weighted velocity Chord B weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
13580	WtC	Chord C weight for calculating average weighted velocity Chord C weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
13582	WtD	Chord D weight for calculating average weighted velocity Chord D weight for calculating average weighted velocity (set by the meter based on the device number (DeviceNumber)).	R	Y			float	-	-	float32	-				
13584	PortAngle	Meter port angle for speed of sound correction The meter port angle for the speed of sound port angle factor correction. The port angle is computed from chord "X" dimension (XA) and pipe ID dimension (PipeDiam). See also the speed of sound correction factor (SOSGeometryCorrFctrA, SOSGeometryCorrFctrB, SOSGeometryCorrFctrC, SOSGeometryCorrFctrD) data points.	R				float	deg	deg	float32	deg				
13586	SndVelA	Speed of sound for chord A Speed of sound for chord A including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrA).	R				float	m/s	ft/s	float32	m/s				
13588	SndVelB	Speed of sound for chord B Speed of sound for chord B including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrB).	R				float	m/s	ft/s	float32	m/s				
13590	SndVelC	Speed of sound for chord C Speed of sound for chord C including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrC).	R				float	m/s	ft/s	float32	m/s				
13592	SndVelD	Speed of sound for chord D Speed of sound for chord D including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrD).	R				float	m/s	ft/s	float32	m/s				
13594	AvgSndVel	Average speed of sound Average speed of sound (per batch) of all non-failed velocity measurement chords. The diagnostic chord's (IsDiagnosticChordEnabled) speed of sound is not included in the average.	R	Y			float	m/s	ft/s	float32	m/s				
13596	CalVol	Calibration accumulated uncorrected volume Calibration accumulated uncorrected volume. This is the accumulation of the uncorrected volume while the CalFlag data point is set to TRUE (1) or the DI1 gates the calibration with IsDI1UsedForCal as indicated by IsCalOnBatch.	R				float	m3	ft3	float32	m3				
13598	CalTime	Calibration elapsed time Calibration elapsed time. This is the elapsed time while the CalFlag data point is set to TRUE (1) or the DI1 gates the calibration with IsDI1UsedForCal as indicated by IsCalOnBatch. Note that the native units UNIT_MKIII_PULSES are counted in 1000 pulses/second while the Modbus UNIT_MKII_PULSES are counted as 1 pulse/0.1048575 seconds	R				float	MkII time pulses	MkII time pulses	float32	MkIII time pulses				
13600	AGA10SndVelStatus	Status of calculation of speed of sound from gas composition Status of optional calculation of speed of sound from gas composition. Value Description 0 Calculations successful. 1 Calculations not performed as the feature is not enabled (IsOptionalAGA10CalcEnabled). 2 Calculations not performed as the AGA8 method is not the Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017). 3 Calculations not performed as the AGA8 calculations are invalid (AGA8BaseCalcValidity, AGA8FlowCalcValidity). 4 Calculations not performed due to encountered division by zero.	R				float	-	-	uint8	-				
13602	AGA10SndVel	Speed of sound from gas mixture Speed of sound from gas mixture that is calculated when the speed of sound from gas composition calculation is enabled (IsOptionalAGA10CalcEnabled). When the AGA8 method selector (HCH_Method) is Detail then speed of sound is calculated as per AGA10, 2003 specification. When the AGA8 method selector (HCH_Method) is configured as GERG-2008 then speed of sound is calculated as per AGA8 Part 2, 2017 specification.	R				float	m/s	ft/s	float32	m/s				
13604	Symmetry	Symmetry measurement Meter measure of symmetry. This compares the upper chord velocities (FlowVelA + FlowVelB) to the lower chord velocities (FlowVelC + FlowVelD). For perfectly symmetrical flow, this value equals 1.0. See also CrossFlow and ProfileFactor. This is only applicable when meter device number (DeviceNumber) is 3414 or 3418.	R				float	-	-	float32	-				
13606	CrossFlow	Cross-flow measurement Meter measure of cross-flow. This compares the flow velocities from one side of the meter (FlowVelA + FlowVelC) to the other side (FlowVelB + FlowVelD). This value is equal to 1.0 when there is no cross-flow. See also Symmetry and ProfileFactor. This is only applicable when meter device number (DeviceNumber) is 3414 or 3418.	R				float	-	-	float32	-				
13608	TurbulenceA	Chord A turbulence measurement Meter turbulence A is the standard deviation of delta time (SDevDltTmA) as a percentage of delta time (DltTmA) for chord A. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
13610	TurbulenceB	Chord B turbulence measurement Meter turbulence B is the standard deviation of delta time (SDevDltTmB) as a percentage of delta time (DltTmB) for chord B. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
13612	TurbulenceC	Chord C turbulence measurement Meter turbulence C is the standard deviation of delta time (SDevDltTmC) as a percentage of delta time (DltTmC) for chord C. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
13614	TurbulenceD	Chord D turbulence measurement Meter turbulence D is the standard deviation of delta time (SDevDltTmD) as a percentage of delta time (DltTmD) for chord D. The turbulence value for chord is calculated when the volumetric flow rate (QMeter) is above the cutoff (QCutOff). A value of 0% indicates no turbulence.	R				float	%	%	float32	%				
13616	ProfileFactor	Profile factor measurement The ratio of the sum of the velocities of the inner chords (FlowVelB and FlowVelC) to the sum of the velocities of the outer chords (FlowVelA and FlowVelD). This ratio is a numerical representation of the velocities taken in cross section in the direction of flow. When out of tolerance (AbnormalProfileDetectionLmt or LiquidDetectionSDevProfileFactorLmt), it may be used to diagnose abnormal flow conditions. This is only applicable when meter device number (DeviceNumber) is 3414 or 3418.	R				float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13618	SwirlAngle	Swirl angle measurement The arctangent of the ratio of the tangential velocity, computed from the individual chordal velocities (FlowVelA, FlowVelB, FlowVelC and FlowVelD) to the average flow velocity (AvgFlow). This is only applicable when meter device number (DeviceNumber) is 3414 or 3418. See also CrossFlow, Symmetry and ProfileFactor.	R				float	deg	deg	int8	deg				
13620	AccumFlowTime	Accumulated flow time Accumulated time when flow is greater than the cutoff.	R				float	sec	sec	uint32	sec				
13622	QCutOff	Volumetric flow rate threshold below which the flow rate is considered zero The volumetric flow rate below which the flow-condition volumetric flow rate (QFlow) is considered zero, chord turbulence values are not calculated (TurbulenceA..TurbulenceD) (except for diagnostic chord. See IsDiagnosticChordEnabled) and "flow gated" (FLOW_GATED) values are not accumulated. This value is computed by multiplying the flow velocity low cutoff (ZeroCut) by the meter inside pipe area (PipeArea). When the flow rate is above this threshold, the cutoff indicator (IsFlowAboveCutoff) is TRUE (1).	R				float	volume/time	volume/time	float32	m3/hr				
13624	QMeter	Volumetric flow rate (no expansion correction) Volumetric flow rate (no expansion correction). Computed as average flow (AvgFlow) times pipe area (PipeArea).	R				float	volume/time	volume/time	float32	m3/hr				
13626	ExpCorrPressure	Pressure expansion correction factor Pressure expansion correction factor. If pressure expansion correction is enabled via the Enable for pressure expansion correction (EnableExpCorrPress), then this value, is computed as (1.0 + (3.0 x strain per unit stress (StrainPerUnitStress) x (absolute flow pressure (AbsFlowPressure) - reference pressure (RefPressExpCoef)))), otherwise this value is unity (1.0) Along with temperature expansion correction factor (ExpCorrTemperature), this value is used to compute the corrected flow (QExpCorr) from the uncorrected flow (QMeter).	R				float	-	-	float32	-				
13628	ExpCorrTemperature	Temperature expansion correction factor in three dimensions The temperature expansion correction factor used to correct volumes. If temperature expansion correction is enabled (EnableExpCorrTemp), then this value is calculated, otherwise it is set to 1. This correction factor is computed from the linear expansion coefficient (LinearExpansionCoef), the reference temperature (RefTempLinearExpCoef) and the flow temperature (FlowTemperature) as: (1 + 3 * linear expansion coefficient * (flow temperature - reference temperature)) Typically, this correction factor is applied to the volumetric flows (QExpCorr and those derived from it, QFlow and QBase).	R				float	-	-	float32	-				
13630	QExpCorr	Expansion corrected (flow-condition) vol flow Expansion corrected (flow-condition) volumetric flow rate, the volumetric flow rate with no expansion correction (QMeter) with pressure expansion correction (ExpCorrPressure) and temperature expansion correction (ExpCorrTemperature) applied.	R				float	volume/time	volume/time	float32	m3/hr				
13632	CorrectionFactor	Flow profile correction factor Flow profile correction factor (for single and dual-path meters only) either manually entered (SpecCorrectionFactor) or calculated by the meter.	R				float	-	-	float32	-				
13634	QFlow	Volumetric flow rate at flow condition Flow-condition volumetric flow rate, corrected for flow-condition expansion (QExpCorr) and flow profile correction factor (CorrectionFactor).	R				float	volume/time	volume/time	float32	m3/hr				
13636	AGA8FlowToBaseConversion	AGA8-calculated flow- to base-condition conversion factor AGA8-calculated flow- to base-condition conversion factor is calculated as AbsFlowPressure (AbsFlowPressure) / PBase (PBase) * TBase (TBase) / FlowTemperature (FlowTemperature) * Zbase (ZBase) / Zflow (ZFlow). This is used for calculating base-condition (corrected) volumetric flow rate (QBase) from the flow-condition volumetric flow rate (QFlow).	R				float	-	-	float32	-				
13638	QBase	Volumetric flow rate at base condition The base-condition volumetric flow rate. QBase = Qflow (QFlow) * AGA8FlowToBaseConversion (AGA8FlowToBaseConversion)	R				float	volume/time	volume/time	float32	m3/hr				
13640	EnergyRate	Energy flow rate Energy rate. This is applicable when the heating value is fixed (specified) or read from a gas chromatograph. It is computed as QBase with HeatingValueInUse applied.	R				float	energy/time	energy/time	float32	MJ/hr				
13642	MassRate	Mass flow rate Mass flow rate. This is applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (AGA8 calculation method (HCH_Method) is not set to "None"). It is computed as QFlow with RhoMixFlow applied.	R				float	mass/time	mass/time	float32	kg/hr				
13644	ExpCorrTemperatureForVel	Temperature expansion correction factor in a single dimension The temperature expansion correction factor for linear measurements. If temperature expansion correction is enabled (EnableExpCorrTemp), then this value is calculated, otherwise it is set to 1. This correction factor is computed from the linear expansion coefficient (LinearExpansionCoef), the reference temperature (RefTempLinearExpCoef) and the flow temperature (FlowTemperature) as: (1 + linear expansion coefficient * (flow temperature - reference temperature)) Typically, this correction factor is applied to the speeds of sound (SndVelA, SndVelB, SndVelC, SndVelD) to correct for changes in the L distances (LA, LB, LC, LD) .	R				float	-	-	float32	-				
13650	EmRateActual	Actual transducer firing (emission) rate Actual transducer firing (emission) rate. This is the time between firing two different transducers.	R	Y			float	ms	ms	float32	ms				
13652	StackEmRateActual	Actual stacking transducer firing (emission) rate Actual stacking transducer firing (emission) rate. The meter will wait this amount of time before firing the same transducer if stacking is set to >1.	R	Y			float	ms	ms	float32	ms				
13654	BatchUpdatePeriod	Desired batch update period Desired batch update period based on the configured batch update period (SpecBatchUpdtPeriod) and stack size (StackSize). The actual duration (BatchTimeSec) will vary slightly around this value from batch to batch.	R				float	ms	ms	float32	sec				
13680	SysTemp	System temperature System temperature. The temperature is measured on the CPU Module and will read higher than the ambient due to internal heat rise. The alarm limits are system temperature low limit (SysTempLoLmt) and system temperature high limit (SysTempHiLmt). The alarm is IsElecTempOutOfRange.	R				float	deg C	deg F	float32	deg C				
13682	SysVoltage2V5	System 2.5V reading Actual voltage of the system 2.5V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage2V5LoLmt and SysVoltage2V5HiLmt.	R				float	V	V	float32	V				
13684	SysVoltage3V3	System 3.3V reading Actual voltage of the system 3.3V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage3V3LoLmt and SysVoltage3V3HiLmt.	R				float	V	V	float32	V				
13686	Reserved		R				float								

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13688	SysVoltage1V	System 1.0V reading Actual voltage of the system 1.0V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage1VLoLmt and SysVoltage1VHiLmt.	R				float	V	V	float32	V				
13690	SysVoltage1V2	System 1.2V reading Actual voltage of the system 1.2V supply. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage1V2LoLmt and SysVoltage1V2HiLmt.	R				float	V	V	float32	V				
13692	SysTempAcqModule	System temperature - Acquisition Module The temperature is measured in the Acquisition Module will read higher than the ambient due to internal heat rise. The alarm limits are system temperature low limit (SysTempAcqModuleLoLmt) and system temperature high limit (SysTempAcqModuleHiLmt). The alarm is IsElecTempOutOfRange.	R				float	deg C	deg F	float32	deg C				
13694	SysVoltageAcqModule1V2	Acquisition Module 1.2V reading Actual voltage of the system 1.2V supply in the Acquisition Module. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage1V2LoLmt and SysVoltage1V2HiLmt.	R				float	V	V	float32	V				
13696	SysVoltageAcqModule2V5	Acquisition Module 2.5V reading Actual voltage of the system 2.5V supply in the Acquisition Module. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage2V5LoLmt and SysVoltage2V5HiLmt.	R				float	V	V	float32	V				
13698	SysVoltageAcqModule3V3	Acquisition Module 3.3V reading Actual voltage of the system 3.3V supply in the Acquisition Module. The alarm is IsElecVoltOutOfRange. The alarm limits are SysVoltage3V3LoLmt and SysVoltage3V3HiLmt.	R				float	V	V	float32	V				
13700	SEA1	Batch average signal energy (A1) Average batch signal energy (A1).	R				float	energy	energy	float32	energy				
13702	SEA2	Batch average signal energy (A2) Average batch signal energy (A2).	R				float	energy	energy	float32	energy				
13704	SEB1	Batch average signal energy (B1) Average batch signal energy (B1).	R				float	energy	energy	float32	energy				
13706	SEB2	Batch average signal energy (B2) Average batch signal energy (B2).	R				float	energy	energy	float32	energy				
13708	SEC1	Batch average signal energy (C1) Average batch signal energy (C1).	R				float	energy	energy	float32	energy				
13710	SEC2	Batch average signal energy (C2) Average batch signal energy (C2).	R				float	energy	energy	float32	energy				
13712	SED1	Batch average signal energy (D1) Average batch signal energy (D1).	R				float	energy	energy	float32	energy				
13714	SED2	Batch average signal energy (D2) Average batch signal energy (D2).	R				float	energy	energy	float32	energy				
13716	NEA1	Batch average noise energy (A1) Average batch noise energy (A1).	R				float	energy	energy	float32	energy				
13718	NEA2	Batch average noise energy (A2) Average batch noise energy (A2).	R				float	energy	energy	float32	energy				
13720	NEB1	Batch average noise energy (B1) Average batch noise energy (B1).	R				float	energy	energy	float32	energy				
13722	NEB2	Batch average noise energy (B2) Average batch noise energy (B2).	R				float	energy	energy	float32	energy				
13724	NEC1	Batch average noise energy (C1) Average batch noise energy (C1).	R				float	energy	energy	float32	energy				
13726	NEC2	Batch average noise energy (C2) Average batch noise energy (C2).	R				float	energy	energy	float32	energy				
13728	NED1	Batch average noise energy (D1) Average batch noise energy (D1).	R				float	energy	energy	float32	energy				
13730	NED2	Batch average noise energy (D2) Average batch noise energy (D2).	R				float	energy	energy	float32	energy				
13732	SNRA1	Average signal-to-noise ratio (A1) Average signal-to-noise ratio (A1).	R				float	dB	dB	float32	dB				
13734	SNRA2	Average signal-to-noise ratio (A2) Average signal-to-noise ratio (A2).	R				float	dB	dB	float32	dB				
13736	SNRB1	Average signal-to-noise ratio (B1) Average signal-to-noise ratio (B1).	R				float	dB	dB	float32	dB				
13738	SNRB2	Average signal-to-noise ratio (B2) Average signal-to-noise ratio (B2).	R				float	dB	dB	float32	dB				
13740	SNRC1	Average signal-to-noise ratio (C1) Average signal-to-noise ratio (C1).	R				float	dB	dB	float32	dB				
13742	SNRC2	Average signal-to-noise ratio (C2) Average signal-to-noise ratio (C2).	R				float	dB	dB	float32	dB				
13744	SNRD1	Average signal-to-noise ratio (D1) Average signal-to-noise ratio (D1).	R				float	dB	dB	float32	dB				
13746	SNRD2	Average signal-to-noise ratio (D2) Average signal-to-noise ratio (D2).	R				float	dB	dB	float32	dB				
13750	EtaStatusBA	Peak switch detection status - BA (BG meters only) Peak switch detection status - BA (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			
13752	EtaStatusCA	Peak switch detection status - CA (BG meters only) Peak switch detection status - CA (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13754	EtaStatusBD	Peak switch detection status - BD (BG meters only) Peak switch detection status - BD (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			
13756	EtaStatusCD	Peak switch detection status - CD (BG meters only) Peak switch detection status - CD (BG meters only).	R				float	-	-	uint8	-	Success (0) Not a BG style meter (1) Invalid chord lengths (2) Chord inactive (3) Speed of sound unusable (4) No valid sequences (5)			
13760	Reserved		R				float								
13762	Reserved		R				float								
13764	Reserved		R				float								
13766	SNRatioDB	Minimum signal-to-noise threshold in decibels Represents the conversion of the minimum signal-to-noise threshold (SNRatio) to decibels by multiplying ten times the log base ten.	R				float	dB	dB	float32	dB				
13768	EtaBA	Chord B to chord A peak switch detector value Value computed by comparing chords A and B which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusBA. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
13770	EtaCA	Chord C to chord A peak switch detector value Value computed by comparing chords A and C which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusCA. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
13772	EtaBD	Chord B to chord D peak switch detector value Value computed by comparing chords B and D which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusBD. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
13774	EtaCD	Chord C to chord D peak switch detector value Value computed by comparing chords C and D which is used to detect peak switching as indicated by IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC and IsPeakSwitchDetectedD. The status of this comparison is found in EtaStatusCD. This value is computed for BG style meters only. Note: Starting with firmware version (CPUBdSwVer) 1.18 the value is normalized based on the transducer frequency (XdcrFreq) and may be substantially different from the value reported by earlier firmware versions.	R				float	-	-	float32	-				
13776	XdcrMaintenanceGainRange	Gain range for transducer maintenance The maximum allowed difference between a path's gain (GainA1..GainD2) in dB from the lowest gain path. If chordal configuration (ChordalConfig) set to "BG", the gain value of inner chord path is compared with lowest path gain from the inner chords (Chord B, Chord C) and the gain value of outer chord path is compared with lowest gain from the other chords (Chord A, Chord D). If chordal configuration set to "Dual-X" or "N/A", the path gain is compared with the lowest gain path from all meter type chords. This check is used to set the chord's transducer maintenance required indicator (IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD).	RW	Y	Y	Y	float	gain (h/w)	gain (h/w)	float32	gain (dB)		20	1	40
13778	XdcrMaintenanceGainRange	Gain range for transducer maintenance The maximum allowed difference between a path's gain (GainA1..GainD2) in dB from the lowest gain path. If chordal configuration (ChordalConfig) set to "BG", the gain value of inner chord path is compared with lowest path gain from the inner chords (Chord B, Chord C) and the gain value of outer chord path is compared with lowest gain from the other chords (Chord A, Chord D). If chordal configuration set to "Dual-X" or "N/A", the path gain is compared with the lowest gain path from all meter type chords. This check is used to set the chord's transducer maintenance required indicator (IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD).	RW	Y	Y	Y	float	gain (dB)	gain (dB)	float32	gain (dB)		20	1	40
13780	XdcrMaintenanceSNRRange	SNR range for transducer maintenance The maximum allowed difference between a path's SNR (SNRA1..SNRD2) in dB from the highest SNR of any other path. If chordal configuration (ChordalConfig) set to "BG", the SNR value of inner chord path is compared with highest path SNR from the inner chords (Chord B, Chord C) and the SNR value of outer chord path is compared with highest SNR from the other chords (Chord A, Chord D). If chordal configuration set to "Dual-X" or "N/A", the path SNR is compared with the highest SNR path from all meter type chords. This check is used to set the chord's transducer maintenance required indicator (IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD).	RW	Y	Y	Y	float	dB	dB	float32	dB		20	1	3.40E+38
13800	TrigDeltaPosVolFlow	Amount of forward flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				
13802	TrigDeltaPosVolFlow	Amount of forward flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
13804	TrigDeltaNegVolFlow	Amount of reverse flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13806	TrigDeltaNegVolFlow	Amount of reverse flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
13808	TrigDeltaPosVolBase	Amount of forward base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				
13810	TrigDeltaPosVolBase	Amount of forward base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
13812	TrigDeltaNegVolBase	Amount of reverse base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	m3	ft3	float64	m3				
13814	TrigDeltaNegVolBase	Amount of reverse base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			long	number of rollovers in m3 (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in ft3 (multiply by 1,000,000,000 to add to accumulator)	float64	m3				
13816	TrigDeltaPosVolFlow	Amount of forward flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
13818	TrigDeltaNegVolFlow	Amount of reverse flow-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
13820	TrigDeltaPosVolBase	Amount of forward base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
13822	TrigDeltaNegVolBase	Amount of reverse base-condition volume between the last two delta volume triggers The value is updated only while the update triggered delta volumes control (DoUpdtTrigDeltaVols) is TRUE (1).	R	Y			float	m3	ft3	float64	m3				
13824	PosEnergy	Forward accumulated energy Accumulation of flow energy in the forward direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	MJ	MMBtu	uint64	MJ				
13826	PosEnergy	Forward accumulated energy Accumulation of flow energy in the forward direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in MJ (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in MMBtu (multiply by 1,000,000,000 to add to accumulator)	uint64	MJ				
13828	NegEnergy	Reverse accumulated energy Accumulation of flow energy in the reverse direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	MJ	MMBtu	uint64	MJ				
13830	NegEnergy	Reverse accumulated energy Accumulation of flow energy in the reverse direction. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 MJ). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in MJ (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in MMBtu (multiply by 1,000,000,000 to add to accumulator)	uint64	MJ				
13832	PosMass	Forward accumulated mass Accumulation of flow mass in the forward direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	kg	lbm	uint64	kg				
13834	PosMass	Forward accumulated mass Accumulation of flow mass in the forward direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in kg (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in lbm (multiply by 1,000,000,000 to add to accumulator)	uint64	kg				
13836	NegMass	Reverse accumulated mass Accumulation of flow mass in the reverse direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	kg	lbm	uint64	kg				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13838	NegMass	Reverse accumulated mass Accumulation of flow mass in the reverse direction. This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 KG). However, when read via Modbus, the value rolls from 999,999,999 to 0.	R	Y			long	number of rollovers in kg (multiply by 1,000,000,000 to add to accumulator)	number of rollovers in lbm (multiply by 1,000,000,000 to add to accumulator)	uint64	kg				
13840	AvgSoundVelLoLmt	Speed of sound lo-alarm limit The low limit for the average speed of sound range error (IsAvgSoundVelRangeErr) alarm. It is used strictly for alarming purposes and does not impact any other meter functionality. This is different from the minimum acquisition mode speed of sound (SSMin).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		300	0	1500
13842	AvgSoundVelHiLmt	Speed of sound hi-alarm limit The high limit for the average speed of sound range error (IsAvgSoundVelRangeErr) alarm. It is used strictly for alarming purposes and does not impact any other meter functionality. This is different from the maximum acquisition mode speed of sound (SSMax).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		450	0	1500
13844	SndSpdChkMinVel	Minimum flow velocity for CRange test Minimum flow velocity for performing the inter-chord speed of sound check (CRange) and calculating speed of sound path spread (SpdSndSpread).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		1	1	50
13846	SndSpdChkMaxVel	Maximum flow velocity for CRange test Maximum flow velocity for performing the inter-chord speed of sound check (CRange) and calculating speed of sound path spread (SpdSndSpread).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		30	1	50
13848	LowFlowLmt	Minimum velocity for updating chord proportions Minimum velocity for updating chord proportions. Chord proportions are not updated when the flow velocity is below this value.	RW	Y	Y	Y	float	m/s	ft/s	uint8	m/s		1	1	30
13850	Reserved		R				float								
13852	MinHoldTime	Minimum sampling hold time The minimum sampling hold time limit. This is the minimum amount of time the meter waits after firing a transducer before sampling the receiving transducer's signal. This value should only be changed at the factory or under the direction of Emerson Flow Support. After a firmware upgrade, this value may be automatically adjusted to be within the required limits.	RW	Y	Y	Y	float	us	us	float32	us		208	208	32000
13854	MaxHoldTm	Maximum sampling hold time The maximum sampling hold time limit. This is the maximum amount of time the meter waits after firing a transducer before sampling the receiving transducer's signal. This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	float	us	us	float32	us		32000	16	32000
13856	MeterMaxVel	Maximum meter velocity The maximum for the meter's average flow velocity (AvgFlow). This limit is used to generate an alarm meter velocity above maximum limit (IsMeterVelAboveMaxLmt), when the average flow velocity magnitude is above this limit. Note, however, that this limit does not affect the meter's measurement.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	1	50
13866	SwirlAngleHighLmt	Swirl angle high limit The flow swirl angle limit above the baseline (FwdBaselineSwirlAngle, RevBaselineSwirlAngle) beyond which there is increased uncertainty in flow measurement. It is set internally when the swirl angle limit (SwirlAngleLmt) is set.	R	Y			int	deg	deg	int8	deg				
13867	SwirlAngleLowLmt	Swirl angle low limit The flow swirl angle limit below the baseline (FwdBaselineSwirlAngle, RevBaselineSwirlAngle) beyond which there is increased uncertainty in flow measurement. It is set internally when the swirl angle limit (SwirlAngleLmt) is set.	R				int	deg	deg	int8	deg				
13868	SwirlAngleLmt	Swirl angle limit The flow swirl angle limit around the baseline (FwdBaselineSwirlAngle, RevBaselineSwirlAngle, SwirlAngleLowLmt, SwirlAngleHighLmt) beyond which there is increased uncertainty in flow measurement.	RW	Y	Y	Y	int	deg	deg	uint8	deg		5	0	90
13879	IsEstimatedFlowVelocityInUse	Using estimated flow velocity The meter is using non-failed chordal flow velocities and associated chord proportions to calculate the average weighted flow velocity (AvgWtdFlowVel). Recommended Actions: 1. Check that if a chord is manually set to inactive (IsBatchInactiveA, IsBatchInactiveB, IsBatchInactiveC, IsBatchInactiveD) using the Status Summary from the Meter Monitor in MeterLink™. If a chord is manually set to inactive then use Edit/Compare Configuration dialog in MeterLink™ to set chord active. 2. Check that if a chord has failed for batch (IsFailedForBatchA, IsFailedForBatchB, IsFailedForBatchC, IsFailedForBatchD) using the Status Summary from the Meter Monitor in MeterLink™. If failed, try to resolve the issue. 3. If this issue is unresolved, collect a Maintenance Log, Configuration file, and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Flow velocity estimation is in use (TRUE) Flow velocity estimation is not in use (FALSE)			
13880	IsMeterVelAboveMaxLmt	Meter velocity is above the maximum limit Velocity is above the meter maximum velocity (MeterMaxVel) limit. Recommended Actions: 1. This alarm indicates that you are running above a safe velocity limit which could damage the meter run or it could indicate that you are running above your upper calibration limit where the meter uncertainty could increase. Lower the velocity of the meter. 2. Use the Edit/Compare configuration screen in MeterLink™ to change the value of the meter maximum velocity (MeterMaxVel) if desired. It is recommended to set this either to the maximum calibrated velocity of the meter or to the maximum safe operating velocity of the meter run. The maximum safe operating velocity is typically meant to prevent erosion of the internal diameter of the pipe and to prevent damage to protrusions such as thermal wells.	R				int	-	-	boolean	-	Meter velocity not above maximum limit (FALSE) Meter velocity above maximum limit (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13881	IsAvgSoundVelRangeErr	Average speed of sound out of limits The average speed of sound (AvgSndVel) measured by the meter is outside the user determined high or low speed of sound limits (AvgSoundVelLoLmt, AvgSoundVelHiLmt). For HART applications, the HART average speed of sound out of limits alarm (AvgSndVelIsOutOfLimits) is used. Recommended Actions: 1. Compare the average speed of sound of the meter to the speed of sound calculated from gas composition. If the values match, it is recommended that you move the limits to position the average speed of sound within the limits. Use the Edit/Compare Configuration in MeterLink™ to modify AvgSoundVelHiLmt and AvgSoundVelLoLmt. 2. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	SOS within range (FALSE) SOS out of range (TRUE)			
13882	IsAcqModuleError	Acquisition Module error An Acquisition Module-related error has been detected. The CPU Module's measurement LED (MEAS) will flash green when proper communications with the Acquisition Module are restored. Recommended Actions: 1. If the CPU Module's measurement LED (MEAS) is not flashing green, check the acquisition cable between the Acquisition Module and the CPU Module. This is the cable that runs from the CPU Module up in the cylindrical enclosure down to the Acquisition Module in the lower enclosure to which all the transducer cables attach. Use a screwdriver to verify all the connections are secure. 2. If the CPU Module's measurement LED (MEAS) is still not flashing green, check the Acquisition Module error reasons (AcqModuleErrorReasons). 3. Replace the Acquisition Module. Contact your local area Emerson Flow service representative for a replacement module if a spare is not available. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	No Acquisition Module error (FALSE) Acquisition Module error detected (TRUE)			
13884	IsDailyLogFull	Daily archive log is full The daily archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadDailyLog. Recommended Actions: 1. Collect the daily archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadDailyLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
13885	IsHourlyLogFull	Hourly archive log is full The hourly archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadHourlyLog. Recommended Actions: 1. Collect the hourly archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadHourlyLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
13886	IsAuditLogFull	Audit archive log is full The audit archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadAuditLog. Recommended Actions: 1. Collect the audit archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadAuditLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
13887	IsAlarmLogFull	Alarm archive log is full The alarm archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadAlarmLog. Recommended Actions: 1. Collect the alarm archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadAlarmLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
13888	IsSystemLogFull	System archive log is full The system archive log is full and the log is not configured to be overwritten automatically. This feature is configured using DoOverwriteUnreadSystemLog. Recommended Actions: 1. Collect the system archive log records using MeterLink™ and allow MeterLink™ to mark them as read which will allow them to be overwritten. 2. If it is desirable to let the meter automatically overwrite the oldest log record once the log is full, use the Edit/Compare configuration in MeterLink™ to change DoOverwriteUnreadSystemLog to overwrite old records.	R				int	-	-	boolean	-	Log not full (FALSE) Log full (TRUE)			
13889	IsSNRTooLow	Logical OR of SNR of active chords This alarm indicates Signal-to-noise ratio is below the minimum threshold for at least one chord. See also IsSNRTooLowA, IsSNRTooLowB, IsSNRTooLowC, IsSNRTooLowD.	R				int	-	-	boolean	-	SNR is acceptable (FALSE) SNR is too low (TRUE)			
13890	IsMeasSndSpdRange	Logical OR of active chords SOS out of range errors Logical ORing of measurement speed of sound out of range error for chords A, B, C, D. See also: IsMeasSndSpdRangeA, IsMeasSndSpdRangeB, IsMeasSndSpdRangeC, IsMeasSndSpdRangeD.	R				int	-	-	boolean	-	Chords SOS in range (FALSE) Chord SOS out of range (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13891	IsBatchDataRcvFailed	No data received by "batch" processing task This is used internally to reset the Acquisition Module when the "batch" processing task does not receive waveforms. Acquisition Module error (IsAcqModuleError) will always be present when this is set to TRUE (1).	R	Y			int	-	-	boolean	-	Batch receiving data (FALSE) Batch not receiving data (TRUE)			
13892	IsHardFailedA	Chord A hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			
13893	IsHardFailedB	Chord B hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13894	IsHardFailedC	Chord C hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			
13895	IsHardFailedD	Chord D hard failed The meter is unable to obtain measurement data from this pair of transducers for multiple consecutive batches (AlarmDef). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative. See also (DataQlty).	R				int	-	-	boolean	-	Chord not hard failed (FALSE) Chord hard failed (TRUE)			
13896	IsTooFewOperChords	Too few operating chords The number of operating chords is less than the minimum number required for a valid measurement (MinChord). Operating chords are those which are not manually set to inactive and not marked as failed. Recommended Actions: 1. Check the other alarms that indicate why a chord is hard failed (IsHardFailedA, IsHardFailedB, IsHardFailedC, IsHardFailedD). Resolving these should resolve this issue. 2. If this issue is unresolved, collect a Maintenance Log and Archive Log and contact your local area Emerson Flow service representative. See also MinChord and SystemStatus.	R				int	-	-	boolean	-	No error (FALSE) Error (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13897	IsElecTempOutOfRange	Electronics temperature is out of nominal range The temperature of the electronics is out of its nominal operating range. There are separate limits for the CPU and Acquisition Modules. For the CPU Module, the range is from the CPU temperature low limit (SysTempLoLmt) to the CPU temperature high limit (SysTempHiLmt). For the Acquisition Module, the range is from the Acquisition Module temperature low limit (SysTempAcqModuleLoLmt) to the Acquisition Module temperature high limit (SysTempAcqModuleHiLmt). Operating outside the nominal operating range could lead to a system failure. Recommended Actions: 1. Attempt to warm or cool the meter electronics housing. 2. If the electronics is mounted to the meter and the process fluid in the meter is over 65 °C, you must remote mount the electronics off from the meter body. 3. Collect a Maintenance Log using MeterLink™ while the meter is experiencing the issue, collect an Archive Log (Daily/Hourly/Alarm/Audit/System) using MeterLink™ from the meter and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Electronics temperature within range (FALSE) Electronics temperature out of range (TRUE)			
13898	IsElecVoltOutOfRange	Electronics voltage out of range The CPU Module system voltages or the Acquisition Module system voltages are out-of-range. Valid CPU Module voltages are SysVoltage1V, SysVoltage1V2, SysVoltage2V5, SysVoltage3V3 and valid Acquisition Module System voltages are SysVoltageAcqModule1V2, SysVoltageAcqModule2V5, SysVoltageAcqModule3V3. Recommended Actions: 1. Replace the CPU Module if one or more of the CPU voltages (SysVoltage1V, SysVoltage1V2, SysVoltage2V5 or SysVoltage3V3) is out-of-range. 2. Replace the Acquisition Module if one or more of the Acquisition Module voltages (SysVoltageAcqModule1V2, SysVoltageAcqModule2V5 or SysVoltageAcqModule3V3) is out-of-range. 3. If the issue is unresolved, contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	All electronics voltages within range (FALSE) One or more electronics voltages out of range (TRUE)			
13899	IsClkInvalid	Clock is not set correctly The meter's real-time clock is set to a date in the past. Recommended Actions: 1. The real-time clock has a power backup of about 2 weeks. If the meter has been without power for more than 2 weeks, the real-time clock will first stop updating and later reset back to January 1, 2000. If this is the issue, use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. If this does not correct the problem, the real-time clock or its backup power source may be damaged, and the CPU Module should be replaced. 2. The real-time clock has been set to a date that is older than the CPU Module's firmware, i.e. a date in the past. Use either the Field Setup Wizard or the Meter Monitor in MeterLink™ to set the correct date and time. 3. Contact your local area Emerson Flow service representative for assistance in getting a replacement CPU Module.	R				int	-	-	boolean	-	Clock is valid (FALSE) Clock is invalid (TRUE)			
13900	TemperatureInvalid	Flow temperature invalid Temperature is invalid if the flow-condition temperature (FlowTemperature) is outside the limits defined by the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). Temperature is invalid if the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Temperature is invalid if the meter is configured to receive the flow-condition temperature value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34052) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the temperature sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog temperature device, verify that the temperature sensor is properly wired to connector TB2-B pins 3 & 4 (ANALOG IN TT- & TT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write temperature to the meter, verify that it is properly writing the fixed flow temperature (SpecFlowTemperature) in the proper units. If flow-condition temperature value is updated through the ISO 17089 Modbus register, then the temperature unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed temperature in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter, make sure that the Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if the flow-condition temperature is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the temperature of the process fluid to within alarm limits. 2. If using an analog temperature device and input reading is 0, check if IsAI1Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or it is damaged. Reinstall or replace I/O board if this value is 0. 3. If using an analog temperature device, verify that the temperature sensor is working properly. 4. If using an analog temperature device, recheck the wiring and switch settings as noted above under First Time Setup Issues.	R				int	-	-	boolean	-	Temperature valid (FALSE) Temperature invalid (TRUE)			

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13901	PressureInvalid	Flow pressure invalid Pressure is invalid if the flow pressure (FlowPressure) is outside the limits defined by the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). Pressure is invalid if the meter is configured to read the flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Pressure is invalid if the meter is configured to receive the flow-condition pressure value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34050) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the pressure sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog pressure device, verify that the pressure sensor is properly wired to the connector TB2-B pins 1 & 2 (ANALOG IN PT- & PT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write pressure to the meter, verify that it is properly writing to fixed flow pressure (SpecFlowPressure) in the proper units. If flow-condition pressure value is updated through the ISO 17089 Modbus register, then the pressure unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed pressure in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if flow-condition pressure is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the pressure of the process fluid to within alarm limits. 2. If using an analog pressure device and the input reading is 0, check if IsAI2Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or is damaged. Reinstall or replace the board if this value is 0. 3. If using an analog pressure device, verify that the pressure sensor is working properly. 4. If using an analog pressure device, recheck wiring and switch settings as noted above under First Time Setup Issues. 5. If the external source is writing values to the fixed flow pressure (SpecFlowPressure), verify that the external source is still writing valid	R				int	-	-	boolean	-	Pressure valid (FALSE) Pressure invalid (TRUE)			
13902	AreGasPropertiesInvalidInUse	In-use gas composition, specific gravity and/or heating value invalid The in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse), specific gravity (SpecificGravityInUse) and/or heating value (HeatingValueInUse) are invalid due to one or more of the following conditions. 1. If the gas composition validation (IsGasCompositionValidationEnabled) is enabled and the AGA8 method (HCH_Method) is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is not within the range of 85% to 115%. 2. If the gas composition validation is enabled and the AGA8 method is "Detail Method" or "GERG-2008" and the in-use gas composition mole percentage post-normalization is outside range specified by GERG-2008 "intermediate quality range" when the AGA8 method is "GERG-2008" and AGA10 "expanded range" when the AGA8 method is "Detail Method". 3. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" or "Gross Method 2" and the in-use specific gravity is not within the range of 0.2 to 0.8. 4. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" and the in-use heating value is not within the range of 50 kJ/cubic dm to 15 kJ/cubic dm. 5. If the AGA8 method is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is zero. 6. If the gas composition source for AGA8 and AGA10 calculation (GasPropertiesSrcSel) is "Live - GC" and gas properties read from the GC are invalid (AreGasPropertiesInvalidGC). 7. If the gas composition source for AGA8 and AGA10 calculation is "Transmitter Head 1" and gas properties read from the other head are invalid or the Dual-Configuration meter communication error (IsColocMeterCommErr) is TRUE (1). Recommended Actions: 1. If the gas properties are from a live GC source, then verify that the gas properties read from the GC are invalid. Resolve it first and this alarm will clear. 2. If the gas properties are from a fixed source, check the fixed gas composition (MoleFractionMethane, MoleFractionN2Method2, MoleFractionCO2, MoleFractionEthane, MoleFractionPropane, MoleFractionWater, MoleFractionH2S, MoleFractionH2, MoleFractionCO, MoleFractionOxygen, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNHeptane, MoleFractionNOctane, MoleFractionNNonane, MoleFractionNDecane, MoleFractionHelium, MoleFractionArgon), the specific gravity (SpecificGravity) and the heating value (MeasVolGrossHeatingVal) are within the specified range using the Field Setup Wizard in MeterLink™. 3. If the meter is configured to read gas composition from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if in-use gas properties are invalid on Transmitter Head 1 of a Dual-Configuration meter. Resolve it first and this alarm will clear	R	Y			int	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
13903	Reserved		R				int								
13904	Reserved		R				int								
13910	BatchOldSeq	Number of old sequences in a batch The number of firing sequences from previous Batches used by (BatchPercentSmoothing).	R				long	-	-	uint16	-				
13912	BatchNewSeq	Number of new sequences in a batch The number of firing sequences since the previous Batch.	R				long	-	-	uint16	-				
13914	SeqPerUpdateNew	Expected number of new sequences per update Expected number of new sequences per batch update period (BatchUpdatePeriod). This value is determined from the (actual) emission rate (EmRateActual), (actual) stack emission rate (StackEmRateActual), stack size (StackSize) and active chords.	R	Y			long	-	-	uint16	-				
13916	SeqPerUpdateTotal	Expected number of total sequences (new+old) per update Expected number of total sequences per batch update period (BatchUpdatePeriod). It is the sum of new sequences (BatchNewSeq) and number of old sequences (BatchOldSeq) in a batch.	R	Y			long	-	-	uint16	-				
13930	HourlyMacro1	Hourly log macro 1 Hourly log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
13932	HourlyMacro2	Hourly log macro 2 Hourly log macro status indicator 2. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
13934	PrevHourFlowPosVol	Previous hour's forward volume at flow condition Previous hour's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13936	PrevHourFlowNegVol	Previous hour's reverse volume at flow condition Previous hour's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13938	PrevHourBasePosVol	Previous hour's forward volume at base condition Previous hour's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13940	PrevHourBaseNegVol	Previous hour's reverse volume at base condition Previous hour's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13942	PrevHourFlowTime	Previous hour's flow time Amount of time during the previous hour that flow was above the cutoff value.	R	Y			long	ms	ms	float32	min				
13944	Reserved		R				long								
13946	Reserved		R				long								
13948	DailyMacro1	Daily log macro 1 Daily log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
13950	DailyMacro2	Daily log macro 2 Daily log macro status indicator 2. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
13952	PrevDayFlowPosVol	Previous day's forward volume at flow condition Previous day's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13954	PrevDayFlowNegVol	Previous day's reverse volume at flow condition Previous day's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13956	PrevDayBasePosVol	Previous day's forward volume at base condition Previous day's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13958	PrevDayBaseNegVol	Previous day's reverse volume at base condition Previous day's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13960	PrevDayFlowTime	Previous day's flow time Amount of time during the previous day that flow was above the cutoff value.	R	Y			long	ms	ms	float32	min				
13962	Reserved		R				long								
13964	Reserved		R				long								
13966	CurrHourFlowPosVol	Current hour's flow-condition positive volume (int) Current hour's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13968	CurrHourFlowNegVol	Current hour's flow-condition negative volume (int) Current hour's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13970	CurrHourBasePosVol	Current hour's base-condition positive volume (int) Current hour's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13972	CurrHourBaseNegVol	Current hour's base-condition negative volume (int) Current hour's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13974	CurrHourFlowTime	Current hour's flow time Amount of time during the current hour that flow is above the cutoff value.	R	Y			long	ms	ms	float32	min				
13976	Reserved		R				long								
13978	Reserved		R				long								
13980	CurrDayFlowPosVol	Current day's flow-condition positive volume (int) Current day's flow-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13982	CurrDayFlowNegVol	Current day's flow-condition negative volume (int) Current day's flow-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13984	CurrDayBasePosVol	Current day's base-condition positive volume (int) Current day's base-condition positive volume (int).	R	Y			long	m3	ft3	uint32	m3				
13986	CurrDayBaseNegVol	Current day's base-condition negative volume (int) Current day's base-condition negative volume (int).	R	Y			long	m3	ft3	uint32	m3				
13988	CurrDayFlowTime	Current day's flow time Amount of time during the current day that flow is above the cutoff value. The start of the day is defined by the 'ContractHour' data point.	R	Y			long	ms	ms	float32	min				
13990	Reserved		R				long								
13992	Reserved		R				long								
13994	PrevHourPosEnergy	Previous hour's forward energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
13996	PrevHourNegEnergy	Previous hour's reverse energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
13998	PrevDayPosEnergy	Previous day's forward energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				
14000	PrevDayNegEnergy	Previous day's reverse energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				
14002	CurrHourPosEnergy	Current hour's forward energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
14004	CurrHourNegEnergy	Current hour's reverse energy This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MBtu	uint32	MJ				
14006	CurrDayPosEnergy	Current day's forward energy Current day's forward energy. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14008	CurrDayNegEnergy	Current day's reverse energy Current day's reverse energy. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			long	MJ	MMBtu	uint32	MJ				
14010	PrevHourPosMass	Previous hour's forward mass This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14012	PrevHourNegMass	Previous hour's reverse mass This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14014	PrevDayPosMass	Previous day's forward mass This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14016	PrevDayNegMass	Previous day's reverse mass This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14018	CurrHourPosMass	Current hour's forward mass This point is only applicable when the AGA8 calculations (HCH_Method) are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14020	CurrHourNegMass	Current hour's reverse mass This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14022	CurrDayPosMass	Current day's forward mass Current day's forward mass. This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14024	CurrDayNegMass	Current day's reverse mass Current day's reverse mass. This point is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow).	R	Y			long	kg	lbm	uint32	kg				
14026	AcqModuleErrorReasons	Reason for Acquisition Module error Reason for Acquisition Module error when (IsAcqModuleError) is indicated. A value of zero indicates no error. Bit Value Description: 0x00000001 AcqModuleExtendedStatusAvailable - Acquisition Module extended status is available. Check the further data in AcqModuleExtendedStatus 0x00000002 AcqModuleReprogrammingFailed - Acquisition Module reprogramming error. Check the AcqModuleMaxReprogramFail bit (below) to see if all attempts have failed. 0x00000004 AcqModuleCommNoLink - No Ethernet connection to the Acquisition Module. Check the interconnect cable between the Acquisition Module and the CPU Module. 0x00000008 AcqModuleCommNoComm - No communications to the Acquisition Module / unable to ping. Check the interconnect cable between the Acquisition Module and the CPU Module and/or cycle power to the meter. 0x00000010 AcqModuleCommFail - Acquisition Module communications failure. A command or response has failed. Check the interconnect cable between the Acquisition Module and the CPU Module and/or cycle power to the meter. 0x00000200 AcqModuleImageFailure - Acquisition Module loader file is corrupted. Download new firmware to the meter using Program Download in MeterLink™. 0x00000400 AcqModuleMaxReprogramFail - The maximum number of Acquisition Module reprogramming retries has been exceeded. Replace the Acquisition Module. If the issue is unresolved, contact your local area Emerson Flow service representative.	R				long	-	-	uint32	-				
14028	AcqModuleExtendedStatus	Extended status returned from Acquisition Module Status returned from Acquisition Module when the reason for the Acquisition Module error (AcqModuleErrorReasons) is ExtendedStatusAvailable (0x01) Bit Value Description: 0x00000000 ACQUISITION_NO_EXTENDED_ERROR 0x00000001 Not used 0x00000002 ACQUISITION_FLASH_POLL_TIMEOUT_ERROR 0x00000004 ACQUISITION_FLASH_INVALID_SECTOR_ERROR 0x00000008 ACQUISITION_FLASH_PROCESS_COMMAND_ERR_ERROR 0x00000010 ACQUISITION_FLASH_BUFFER_IS_NULL_ERROR 0x00000020 Not used 0x00000040 ACQUISITION_FLASH_VERIFY_WRITE_ERROR 0x00000080 ACQUISITION_FLASH_UNKNOWN_COMMAND_ERROR 0x00000100 ACQUISITION_FLASH_NO_ACCESS_SECTOR_ERROR 0x00000200 Not used 0x00000400 Not used 0x00000800 Not used 0x00001000 Not used 0x00002000 Not used 0x00004000 Not used 0x00008000 Not used 0x00010000 ACQUISITION_FPGA_LOAD_FAIL 0x00020000 Not used 0x00040000 ACQUISITION_RAM_FAIL 0x00080000 ACQUISITION_FLASH_FAIL 0x00100000 ACQUISITION_UPTIME_TEST_FAIL 0x00200000 ACQUISITION_ACQ_REPROGRAM_FAIL 0x00400000 Not used 0x00800000 Not used 0x01000000 ACQUISITION_WATCHDOG_OCCURRED 0x02000000 ACQUISITION_WAVEFORM_SEQUENCE_ERROR (Reserved for engineering) 0x04000000 Not used 0x08000000 Not used 0x10000000 Not used 0x20000000 Not used	R				long	-	-	uint32	-				
14046	Reserved		R				float								
14048	Reserved		R				float								

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14050	FlowPOrTSrcUponAlarm	Flow pressure and/or temperature source when in alarm Selects the flow-condition pressure and/or temperature source when the corresponding input is in alarm. Either the last good (i.e., non-alarm) value or a fixed (specified) value is used. To fix (specify) a value, use the appropriate data point: SpecFlowPressure or SpecFlowTemperature.	RW	Y	Y	Y	float	-	-	uint8	-	Use last good value (0) Use fixed value (1)	0	0	1
14052	EnablePressureInput	Flow-condition pressure input selector Selects the flow-condition pressure input. When set to "Live", the flow-condition pressure is read from an analog input signal. When set to "Fixed", the flow-condition pressure is specified (fixed) via the SpecFlowPressure data point, via a Modbus register or via the HART Command-132. An external source can update the flow-condition pressure through Modbus either by writing to the ISO 17089 Modbus register (34050) or by writing to a non-ISO 17089 Modbus register. The flow-condition pressure written via the ISO 17089 Modbus register is always absolute pressure. When set to "Transmitter Head 1", the flow-condition pressure is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition pressure input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition pressure is used for pressure expansion correction (if enabled). This value cannot be set to "None" if pressure expansion correction is enabled (EnableExpCorrPress) or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	float	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
14054	InputPressureUnit	Input pressure absolute/gage selector Specifies whether the input pressure is "Absolute" or "Gage" . If the input pressure is gage, then the absolute pressure is calculated as the sum of the input gage pressure and the atmospheric pressure (AtmosphericPress). When writing the flow-condition absolute pressure values via the ISO 17089 Modbus register then the input pressure unit has no effect and value is always considered as absolute pressure.	RW	Y	Y	Y	float	-	-	boolean	-	Gage (FALSE) Absolute (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
14056	AtmosphericPress	Atmospheric pressure Specifies the atmospheric pressure. This value is required when the input pressure absolute/gage selector (InputPressureUnit) is Gage, so that flow-condition absolute pressure (AbsFlowPressure) can be calculated.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.101325	0.03	0.1084
14058	LowPressureAlarm	Pressure alarm low limit Pressure alarm low limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or below this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0.001	0	280
14060	HighPressureAlarm	Pressure alarm high limit Pressure alarm high limit. The pressure is invalid (PressureValidity) when the input flow pressure (SpecFlowPressure, LiveFlowPressure) is at or above this limit.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		8.3	0	280
14062	SpecFlowPressure	Specified (fixed) flow-condition pressure Specifies the flow-condition pressure used in calculations when the enable pressure input (EnablePressureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	MPa	psi	float32	MPa		0.10156	0	280
14064	MinInputPressure	Live flow pressure value corresponding to 4 mA input signal Specifies the input flow pressure value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	0	280
14066	MaxInputPressure	Live flow pressure value corresponding to 20 mA input signal Specifies the input flow pressure value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		100	0	280
14068	LiveFlowPressureCalCtrl	Selects the value to use when calibrating the live pressure input source This turns the live pressure input calibration mode on or off. This point also specifies which pressure value to use when calibrating (FlowPressureWhileCal) by either choosing the source to be the last live input value prior to entering the calibration mode (freezing) or using a specified (fixed) flow-condition pressure (SpecFlowPressure). When the pressure value source is selected, the meter remains in the calibration mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the mode is explicitly exited by setting this point to Off (0).	RW				float	-	-	uint8	-	Off (0) Cal - Freeze input (1) Cal - Use fixed (2)	0	0	2
14070	LiveFlowPressureOffset	Live flow-condition pressure calibration offset value Live flow-condition pressure calibration offset value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by the live flow-condition pressure calibration gain value (LiveFlowPressureGain) and then adding this offset.	RW	Y	Y	Y	float	MPa	psi	float32	MPa		0	-280	280
14072	LiveFlowPressureGain	Live flow-condition pressure calibration gain value Live flow-condition pressure calibration gain value. The calibrated live pressure is calculated by multiplying the raw live pressure sample by this gain and then adding the live flow-condition pressure calibration offset value (LiveFlowPressureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
14074	EnableTemperatureInput	Flow-condition temperature input selector Selects the flow-condition temperature input. When set to "Live", the flow-condition temperature is read from an analog input signal. When set to "Fixed", the flow-condition temperature is specified (fixed) via the SpecFlowTemperature data point, via a Modbus register or via the HART Command-134. An external source can update the flow-condition temperature through Modbus either by writing to the ISO 17089 Modbus register (34052) or by writing to a non-ISO 17089 Modbus register. When set to "Transmitter Head 1", the flow-condition temperature is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress). The flow-condition temperature input selector can be "Transmitter Head 1" only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The flow-condition temperature is used for temperature expansion correction (if enabled), AGA8 calculations (if enabled) and AGA10 calculations (if enabled). This value cannot be set to "None" if temperature expansion correction (EnableExpCorrTemp) is enabled or if AGA8 method (HCH_Method) is not "None".	RW	Y	Y	Y	float	-	-	uint8	-	None (0) Live (1) Fixed (2) Transmitter Head 1 (3)	0	0	3
14076	LowTemperatureAlarm	Temperature alarm low limit Temperature alarm low limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or below this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	143.15	473.15
14078	HighTemperatureAlarm	Temperature alarm high limit Temperature alarm high limit. The temperature is invalid (TemperatureValidity) when the input flow temperature is at or above this limit.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	143.15	523.15
14080	SpecFlowTemperature	Specified (fixed) flow-condition temperature Specifies the flow-condition temperature used in calculations when the enable temperature input (EnableTemperatureInput) is set to Fixed (2). This value is also required if the flow-condition pressure and/or temperature source when the corresponding input is in alarm (FlowPOrTSrcUponAlarm) is set to Use fixed value (1).	RW	Y	Y		float	deg C	deg F	float32	K		273.15	143.15	473.15
14082	MinInputTemperature	Live temperature value corresponding to 4 mA input signal Specifies the input flow temperature value that corresponds to the minimum (4 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		233.15	0	473.15
14084	MaxInputTemperature	Live temperature value corresponding to 20 mA input signal Specifies the input flow temperature value that corresponds to the maximum (20 mA) input signal.	RW	Y	Y	Y	float	deg C	deg F	float32	K		473.15	0	523.15

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14086	LiveFlowTemperatureCalCtrl	Selects the value to use when calibrating the live temperature input source This turns the live temperature input calibration mode on or off. This point also specifies which temperature value to use when calibrating (FlowTemperatureWhileCal) by either choosing the source to be the last live input value prior to entering the calibration mode (freezing) or using a specified (fixed) flow-condition temperature (SpecFlowTemperature). When the temperature value source is selected, the meter remains in the calibration mode for a period of time set by non-normal operation timeout (NonNormalModeTimeout) unless the mode is explicitly exited by setting this point to Off (0).	RW				float	-	-	uint8	-	Off (0) Cal - Freeze input (1) Cal - Use fixed (2)	0	0	2
14088	LiveFlowTemperatureOffset	Live flow-condition temperature calibration offset value Live flow-condition temperature calibration offset value. The calibrated live temperature is calculated by multiplying the raw live temperature by the live flow-condition temperature calibration gain value (LiveFlowTemperatureGain) and then adding this offset. This value is applied to the temperature in Kelvin. Due to temperature conversion factors, use the MeterLink™ to set this parameter. MODIFYING THIS POINT VIA MODBUS IS NOT RECOMMENDED.	RW	Y	Y	Y	float	deg C	deg F	float32	K		0	-273.15	473.15
14090	LiveFlowTemperatureGain	Live flow-condition temperature calibration gain value Live flow-condition temperature calibration gain value. The calibrated live temperature is calculated by multiplying the raw live temperature by this gain and then adding the live flow-condition temperature calibration offset value (LiveFlowTemperatureOffset).	RW	Y	Y	Y	float	-	-	float32	-		1	0.9	1.1
14100	AreGasPropertiesInvalidInUse	In-use gas composition, specific gravity and/or heating value invalid The in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse), specific gravity (SpecificGravityInUse) and/or heating value (HeatingValueInUse) are invalid due to one or more of the following conditions. 1. If the gas composition validation (IsGasCompositionValidationEnabled) is enabled and the AGA8 method (HCH_Method) is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is not within the range of 85% to 115%. 2. If the gas composition validation is enabled and the AGA8 method is "Detail Method" or "GERG-2008" and the in-use gas composition mole percentage post-normalization is outside range specified by GERG-2008 "intermediate quality range" when the AGA8 method is "GERG-2008" and AGA10 "expanded range" when the AGA8 method is "Detail Method". 3. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" or "Gross Method 2" and the in-use specific gravity is not within the range of 0.2 to 0.8. 4. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" and the in-use heating value is not within the range of 50 kJ/cubic dm to 15 kJ/cubic dm. 5. If the AGA8 method is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is zero. 6. If the gas composition source for AGA8 and AGA10 calculation (GasPropertiesSrcSel) is "Live - GC" and gas properties read from the GC are invalid (AreGasPropertiesInvalidGC). 7. If the gas composition source for AGA8 and AGA10 calculation is "Transmitter Head 1" and gas properties read from the other head are invalid or the Dual-Configuration meter communication error (IsColocMeterCommErr) is TRUE (1). Recommended Actions: 1. If the gas properties are from a live GC source, then verify that the gas properties read from the GC are invalid. Resolve it first and this alarm will clear. 2. If the gas properties are from a fixed source, check the fixed gas composition (MoleFractionMethane, MoleFractionN2Method2, MoleFractionCO2, MoleFractionEthane, MoleFractionPropane, MoleFractionWater, MoleFractionH2S, MoleFractionH2, MoleFractionCO, MoleFractionOxygen, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNHeptane, MoleFractionNOctane, MoleFractionNNonane, MoleFractionNDecane, MoleFractionHelium, MoleFractionArgon), the specific gravity (SpecificGravity) and the heating value (MeasVolGrossHeatingVal) are within the specified range using the Field Setup Wizard in MeterLink™. 3. If the meter is configured to read gas composition from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if in-use gas properties are invalid on Transmitter Head 1 of a Dual-Configuration meter. Resolve it first and this alarm will clear	R	Y			float	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
14102	MethaneInUse	Methane gas component used for AGA8 and AGA10 calculations This is either a specified Methane value (MoleFractionMethane), the Methane value read from a GC (MethaneGC) or the Methane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14104	N2InUse	Nitrogen gas component used for AGA8 and AGA10 calculations This is either a specified N2 value (MoleFractionN2Method2), the N2 value read from a GC (N2GC) or the N2 value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14106	CO2InUse	Carbon dioxide gas component used for AGA8 and AGA10 calculations This is either a specified CO2 value (MoleFractionCO2), the CO2 value read from a GC (CO2GC) or the CO2 value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14108	EthaneInUse	Ethane gas component used for AGA8 and AGA10 calculations This is either a specified Ethane value (MoleFractionEthane), the Ethane value read from a GC (EthaneGC) or the Ethane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14110	PropaneInUse	Propane gas component used for AGA8 and AGA10 calculations This is either a specified Propane value (MoleFractionPropane), the Propane value read from a GC (PropaneGC) or the Propane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14112	WaterInUse	Water gas component used for AGA8 and AGA10 calculations This is either a specified Water value (MoleFractionWater), the Water value read from a GC (WaterGC) or the Water value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14114	H2SInUse	Hydrogen sulfide gas component used for AGA8 and AGA10 calculations This is either a specified H2S value (MoleFractionH2S), the H2S value read from a GC (H2SGC) or the H2S value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14116	H2InUse	Hydrogen gas component used for AGA8 and AGA10 calculations This is either a specified H2 value (MoleFractionH2), the H2 value read from a GC (H2GC) or the H2 value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14118	COInUse	Carbon monoxide gas component used for AGA8 and AGA10 calculations This is either a specified CO value (MoleFractionCO), the CO value read from a GC (COGC) or the CO value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14120	OxygenInUse	Oxygen gas component used for AGA8 and AGA10 calculations This is either a specified Oxygen value (MoleFractionOxygen), the Oxygen value read from a GC (OxygenGC) or the Oxygen value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14122	IsoButaneInUse	Isobutane gas component used for AGA8 and AGA10 calculations This is either a specified IsoButane value (MoleFractionIsoButane), the IsoButane value read from a GC (IsoButaneGC) or the IsoButane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14124	NButaneInUse	N-Butane gas component used for AGA8 and AGA10 calculations This is either a specified NButane value (MoleFractionNButane), the NButane value read from a GC (NButaneGC) or the NButance value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14126	IsoPentaneInUse	Isopentane gas component used for AGA8 and AGA10 calculations This is either a specified IsoPentane value (MoleFractionIsoPentane), the IsoPentane value read from a GC (IsoPentaneGC) or the IsoPentane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14128	NPentaneInUse	N-Pentane gas component used for AGA8 and AGA10 calculations This is either a specified NPentane value (MoleFractionNPentane), the NPentane value read from a GC (NPentaneGC) or the NPentane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14130	NHexaneInUse	N-Hexane gas component used for AGA8 and AGA10 calculations This is either a specified NHexane value (MoleFractionNHexane), the NHexane value read from a GC (NHexaneGC) or the NHexane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14132	NHeptaneInUse	N-Heptane gas component used for AGA8 and AGA10 calculations This is either a specified NHeptane value (MoleFractionNHeptane), the NHeptane value read from a GC (NHeptaneGC) or the NHeptane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14134	NOctaneInUse	N-Octane gas component used for AGA8 and AGA10 calculations This is either a specified NOctane value (MoleFractionNOctane), the NOctane value read from a GC (NOctaneGC) or the NOctane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14136	NNonaneInUse	N-Nonane gas component used for AGA8 and AGA10 calculations This is either a specified NNonane value (MoleFractionNNonane), the NNonane value read from a GC (NNonaneGC) or the NNonane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14138	NDecaneInUse	N-Decane gas component used for AGA8 and AGA10 calculations This is either a specified NDecane value (MoleFractionNDecane), the NDecane value read from a GC (NDecaneGC) or the NDecane value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14140	HeliumInUse	Helium gas component used for AGA8 and AGA10 calculations This is either a specified Helium value (MoleFractionHelium), the Helium value read from a GC (HeliumGC) or the Helium value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14142	ArgonInUse	Argon gas component used for AGA8 and AGA10 calculations This is either a specified Argon value (MoleFractionArgon), the Argon value read from a GC (ArgonGC) or the Argon value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	mole %	mole %	float32	mole fraction				
14144	HeatingValueInUse	Heating value used for energy calculations The heating value used for energy calculations. This is either a specified heating value (MeasVolGrossHeatingVal), the heating value read from a GC (HeatingValueGC) or the heating value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	kJ/dm3	Btu/ft3	float32	kJ/dm3				
14146	SpecificGravityInUse	Gas specific gravity (relative density) This is either a specified Specific Gravity value (SpecificGravity), the Specific Gravity value read from a GC (SpecificGravityGC) or the Specific Gravity value read from Transmitter Head 1 of a Dual-Configuration meter.	R	Y			float	-	-	float32	-				
14150	AreGasPropertiesInvalidGC	Gas composition, specific gravity and/or heating value from the GC invalid The gas composition (N2GC, CO2GC, H2GC, COGC, MethaneGC, EthaneGC, PropaneGC, IsoButaneGC, NButaneGC, IsoPentaneGC, NPentaneGC, NHexaneGC, NHeptaneGC, NOctaneGC, NNonaneGC, NDecaneGC, H2SGC, HeliumGC, WaterGC, OxygenGC, ArgonGC), the specific gravity (SpecificGravityGC) and/or the heating value (HeatingValueGC) read from the GC are invalid. Recommended Actions: 1. Verify that no GC alarms (IsGCCommErr, IsGCDataErr and IsGCAlarmPresent) are active. If present, then resolving those issues will fix this issue. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
14152	MethaneGC	Methane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Methane if the GC functionality is enabled via the (IsOptionalGCInterfaceEnabled) data point, the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14154	N2GC	Nitrogen gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Nitrogen if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14156	CO2GC	Carbon dioxide gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) CO2 if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14158	EthaneGC	Ethane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Ethane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14160	PropaneGC	Propane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Propane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14162	WaterGC	Water gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) H2O if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14164	H2SGC	Hydrogen sulfide gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) H2S if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14166	H2GC	Hydrogen gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Hydrogen if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14168	COGC	Carbon monoxide gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) CO if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14170	OxygenGC	Oxygen gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Oxygen if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14172	IsoButaneGC	Isobutane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) i-Butane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14174	NButaneGC	N-Butane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Butane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14176	IsoPentaneGC	Isopentane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) i-Pentane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14178	NPentaneGC	N-Pentane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Pentane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14180	NHexaneGC	N-Hexane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Hexane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14182	NHeptaneGC	N-Heptane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Heptane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14184	NOctaneGC	N-Octane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Octane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14186	NNonaneGC	N-Nonane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Nonane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14188	NDecaneGC	N-Decane gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) n-Decane if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14190	HeliumGC	Helium gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Helium if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14192	ArgonGC	Argon gas component read from the GC This value is copied to the 'in-use' gas component (GasPropertiesSrc) Argon if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14194	C6PlusGC	C6+ gas component read from the GC This value is divided into appropriate standard gas component(s) (according to the identification of the C6+ gas component via enable C6+ gas component index automatic detection(IsC6PlusAutoDetectionEnabled), C6+ gas component identifier (C6PlusGCComponentID) and C6+ gas component index (C6PlusComponentIndex)) if the GC functionality is enabled (IsOptionalGCInterfaceEnabled).	R	Y			float	mole %	mole %	float32	mole fraction				
14196	C6PlusGCComponentID	Automatically detected C6+ gas component identifier This is automatically detected C6+ gas component identifier used to divide C6+ gas component concentration (C6PlusGC) into appropriate standard gas component(s). If this value is 108 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.47466, 0.3534, 0.17194, 0.00 and 0.00 respectively. If this value is 109 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.50, 0.50, 0.00, 0.00 and 0.00 respectively. If this value is 110 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.60, 0.30, 0.10, 0.00 and 0.00 respectively. If this value is 111 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.57143, 0.28572, 0.14285, 0.00 and 0.00 respectively. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is enabled.	R	Y			float	-	-	uint8	-				
14198	NeoPentaneGC	Neo-pentane component read from the GC This value is divided into one or more of the 21 standard gas components if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC).	R	Y			float	mole %	mole %	float32	mole fraction				
14200	HeatingValueGC	Heating value read from the GC This value is copied to the 'in-use' heating value (HeatingValueInUse) if the GC functionality is enabled (IsOptionalGCInterfaceEnabled), the GC-read gas properties is selected (GasPropertiesSrcSel) and the GC data is valid (AreGasPropertiesInvalidGC). Note that the type of heating value to be read from the GC must be specified (GCHeatingValueType) as either Btu-Dry, Btu-Saturated or Btu-Actual so that the correct GC register is read. Also, the heating value unit must be specified (GCHeatingValueUnit).	R	Y			float	kJ/dm3	Btu/ft3	float32	kJ/dm3				
14202	SpecificGravityGC	Specific gravity (relative density) read from the GC Specific gravity (relative density) read from the GC.	R	Y			float	-	-	float32	-				
14204	HARTPercentRange	HART percent range The percent range of the primary variable is calculated every time the primary variable is updated. The calculated value depends on the device variable assigned to the analog output 1 content (AO1Content) and its lower and upper range values.	R	Y			float	%	%	float32	%				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14206	HARTPercentRangeAO2	Analog output 2 HART percent range The percent range of the secondary variable is calculated every time the secondary variable is updated. The calculated value depends on the device variable assigned to the analog output 2 content (AO2Content) and its lower and upper range values.	R	Y			float	%	%	float32	%				
14220	AreGasPropertiesInvalidInUse	In-use gas composition, specific gravity and/or heating value invalid The in-use gas composition (MethaneInUse, EthaneInUse, PropaneInUse, IsoButaneInUse, NButaneInUse, IsoPentaneInUse, NPentaneInUse, NHexaneInUse, NHeptaneInUse, NOctaneInUse, NNonaneInUse, NDecaneInUse, H2SInUse, HeliumInUse, WaterInUse, OxygenInUse, ArgonInUse), specific gravity (SpecificGravityInUse) and/or heating value (HeatingValueInUse) are invalid due to one or more of the following conditions. 1. If the gas composition validation (IsGasCompositionValidationEnabled) is enabled and the AGA8 method (HCH_Method) is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is not within the range of 85% to 115%. 2. If the gas composition validation is enabled and the AGA8 method is "Detail Method" or "GERG-2008" and the in-use gas composition mole percentage post-normalization is outside range specified by GERG-2008 "intermediate quality range" when the AGA8 method is "GERG-2008" and AGA10 "expanded range" when the AGA8 method is "Detail Method". 3. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" or "Gross Method 2" and the in-use specific gravity is not within the range of 0.2 to 0.8. 4. If the gas composition validation is enabled and the AGA8 method is "Gross Method 1" and the in-use heating value is not within the range of 50 kJ/cubic dm to 15 kJ/cubic dm. 5. If the AGA8 method is "Detail Method" or "GERG-2008" and the total unnormalized in-use gas composition mole percentage of all the gas components is zero. 6. If the gas composition source for AGA8 and AGA10 calculation (GasPropertiesSrcSel) is "Live - GC" and gas properties read from the GC are invalid (AreGasPropertiesInvalidGC). 7. If the gas composition source for AGA8 and AGA10 calculation is "Transmitter Head 1" and gas properties read from the other head are invalid or the Dual-Configuration meter communication error (IsColocMeterCommErr) is TRUE (1). Recommended Actions: 1. If the gas properties are from a live GC source, then verify that the gas properties read from the GC are invalid. Resolve it first and this alarm will clear. 2. If the gas properties are from a fixed source, check the fixed gas composition (MoleFractionMethane, MoleFractionN2Method2, MoleFractionCO2, MoleFractionEthane, MoleFractionPropane, MoleFractionWater, MoleFractionH2S, MoleFractionH2, MoleFractionCO, MoleFractionOxygen, MoleFractionIsoButane, MoleFractionNButane, MoleFractionIsoPentane, MoleFractionNPentane, MoleFractionNHexane, MoleFractionNHeptane, MoleFractionNOctane, MoleFractionNNonane, MoleFractionNDecane, MoleFractionHelium, MoleFractionArgon), the specific gravity (SpecificGravity) and the heating value (MeasVolGrossHeatingVal) are within the specified range using the Field Setup Wizard in MeterLink™. 3. If the meter is configured to read gas composition from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if in-use gas properties are invalid on Transmitter Head 1 of a Dual-Configuration meter. Resolve it first and this alarm will clear	R	Y			long	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
14222	AreGasPropertiesInvalidGC	Gas composition, specific gravity and/or heating value from the GC invalid The gas composition (N2GC, CO2GC, H2GC, COGC, MethaneGC, EthaneGC, PropaneGC, IsoButaneGC, NButaneGC, IsoPentaneGC, NPentaneGC, NHexaneGC, NHeptaneGC, NOctaneGC, NNonaneGC, NDecaneGC, H2SGC, HeliumGC, WaterGC, OxygenGC, ArgonGC), the specific gravity (SpecificGravityGC) and/or the heating value (HeatingValueGC) read from the GC are invalid. Recommended Actions: 1. Verify that no GC alarms (IsGCCommErr, IsGCDataErr and IsGCAlarmPresent) are active. If present, then resolving those issues will fix this issue. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			long	-	-	boolean	-	Gas properties valid (FALSE) Gas properties invalid (TRUE)			
14224	IsGCCommErr	Communication error with the GC The meter is not able to communicate successfully with the GC. Refer to the GC communication status value (GCCommStatus) for any detailed communication errors from the GC. Recommended Actions: A. When the GC is connected to the meter on serial port: 1. Verify that you are using a GC compatible with Sim2251 communications. 2. Check the communications cables to the GC. The GC must be wired to the port on the meter chosen by the serial port selector (GCSerialPort). Verify that the hardware protocol for that port (DriverSelectionPortA or OptIOModule1Type or OptIOModule2Type) matches the GC. 3. Check the TX and RX LEDs to see if there is a poll message on the TX LED followed by a receive message on the RX LED. 4. Verify that the GC communication serial port settings are set to Modbus ASCII (7, Even, 1) or Modbus RTU (8, None, 1). Then, verify that the meter is configured to match using the Field Setup Wizard in MeterLink™. 5. If possible, collect the System log from the meter using the Archive Log in MeterLink™. The System log will provide additional information to help identify the cause of this alarm. 6. If the issue is unresolved, collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative. See also the GC communications settings (GCProtocol, GCModbusID, GCBaud, GCCommTimeout and GCCommStatus). B. When the GC is connected to the meter on the Ethernet port: 1. Verify that you are using a GC compatible with Sim2251 communications. 2. Check that the GC port (GCSerialPort) is set to "Ethernet" (128) and that the meter and the GC both are not DHCP servers. 3. Verify that the GC TCP port number (GCTCPPort) is correctly set to the GC port number used for Modbus TCP communication with the meter. 4. Verify that the GC Modbus ID (GCModbusID) is configured the same as the Modbus ID set for the GC device. 5. Verify that the GC IP Address (GCIPAddr) is set as the GC device IP address or the associated gateway/bridge IP address on the network. 6. Check that the meter's Ethernet 1 subnet mask (Eth1SubnetMask) and Ethernet 1 default gateway (Eth1DfltGatewayAddr) are correctly configured to the corresponding subnet mask and the default gateway of GC or the intermediate gateway/bridge in case it is not on the same network as the meter. 7. If possible, collect the System log from the meter using the Archive Log in MeterLink™. The System log will provide additional information to help identify the cause of this alarm. 8. If the issue is unresolved, collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative. See also the GC communications settings (GCCommTimeout and GCCommStatus).	R				long	-	-	boolean	-	No GC communication error (FALSE) GC communication error (TRUE)			

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14226	IsGCDataErr	Data read from the GC is invalid GC data is invalid due to one or more of the following conditions. 1. The total unnormalized gas composition mole percentage of all the gas components read from the GC is not within the range of 85% to 115%. 2. An individual gas composition mole percentage (N2GC, CO2GC, H2GC, COGC, MethaneGC, EthaneGC, PropaneGC, IsoButaneGC, NButaneGC, IsoPentaneGC, NPentaneGC, NHexaneGC, NHeptaneGC, NOctaneGC, NNonaneGC, NDecaneGC, H2SGC, HeliumGC, WaterGC, OxygenGC, ArgonGC) read from the GC is not within the range of 0% to 100%. 3. The specific gravity (SpecificGravityGC) read from the GC is not within the range of 0.2 to 0.8. 4. The heating value (HeatingValueGC) read from the GC is greater than 50 kJ/cubic dm. 5. The stream for the data read from the GC (GCStreamNumber) was not found within the desired stream timeout (GCDesiredStreamTimeout). 6. The gas component index/indexes read from the GC is not same as gas component index configured in the meter (N2ComponentIndex, CO2ComponentIndex, H2ComponentIndex, COComponentIndex, MethaneComponentIndex, EthaneComponentIndex, PropaneComponentIndex, IsoButaneComponentIndex, NButaneComponentIndex, IsoPentaneComponentIndex, NPentaneComponentIndex, NHexaneComponentIndex, NHeptaneComponentIndex, NOctaneComponentIndex, NNonaneComponentIndex, NDecaneComponentIndex, H2SComponentIndex, HeliumComponentIndex, WaterComponentIndex, OxygenComponentIndex, ArgonComponentIndex, NeoPentaneComponentIndex). 7. GC interface feature (IsOptionalGCInterfaceEnabled) is Disabled (0). 8. The port on which the GC is connected is Not available (0) (IsPortAAvail, IsPortBAvail, IsPortCAvail). Recommended Actions: 1. Use MON/MON2000/MON2020 Gas Chromatograph software to verify the total unnormalized gas composition mole percentage of all the gas components is in range of 85% to 115%, an individual gas composition mole percentage is within the range of 0% to 100%, specific gravity is within the range of 0.2 to 0.8 and the heating value is less than 50 kJ/cubic dm. Ensure that heating value unit in the GC and the meter configuration (GCHeatingValueUnit) are same. Correct identified issues. 2. Verify that meter is not reading unrecognized component index by collecting the System log from the meter. The System log will report "unrecognized component id <value>" if this is the issue. Use the Field Setup Wizard in MeterLink™ to correct component data in the meter. Contact your local area Emerson Flow service representative for assistance. 3. Verify that the GC stream number matches a stream number in the stream sequence being used by the GC using the Field Setup Wizard in MeterLink™. Use the Edit/Compare Configuration screen in MeterLink™ to verify that the desired stream timeout value is sufficiently long to read desired stream from GC. 4. Verity that the GC interface feature is Enabled (1) and the port availability of the port the GC is connected to is set to 1 in the Meter Information dialog in MeterLink™. If the GC interface feature is Disabled (0), then collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative. If the GC is connected to Port A and the port availability is set to 0, then the CPU Module is damaged. Contact your local area Emerson Flow service representative for replacement. If the GC is	R				long	-	-	boolean	-	No GC Data Error (FALSE) GC Data Error (TRUE)			
14228	Reserved		R				long								
14230	IsGCAlarmPresent	GC alarm condition is present GC reported alarm (GCAlarm1), Modbus Register 3046, bits 14 and/or 15 are set or the GC reported alarm (GCAlarm2), Modbus Register 3047, bits 0, 1, 2 and/or 3 are set. Recommended Actions: 1. Use the MON/MON2000/MON2020 Gas Chromatograph software to check the alarm state of the GC and correct any issues. 2. If the issue is unresolved, collect a complete Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				long	-	-	boolean	-	No GC alarm (FALSE) GC alarm (TRUE)			
14232	GCCommStatus	GC communication status value This signifies the status of communication between the meter and GC. Zero value indicates successful communication with no errors. A non-zero value indicates gas composition update failure and the meter shall set communication error with GC alarm (IsGCCommErr). The value indicates the reason for gas composition update failure. Value Description 0 - No error. 1 - Desired stream not found. 2 - GC controller is busy (error defined by Modbus protocol). 3 - GC detected an illegal Modbus function code from the meter. 4 - GC detected an illegal Modbus data address from the meter. 5 - GC detected an illegal data value from the meter. 6 - Failure in associated device (Modbus defined error). 7 - GC has accepted request from the meter but is still processing. 8 - A firmware logic error was detected. 9 - Modbus address mismatch. 10 - Modbus function code mismatch. 11 - GC reports an exception code that is unrecognized. 12 - Modbus request message from the meter is too long (exceeds the maximum allowable length). 13 - GC Modbus response message is too long (exceeds the maximum allowable length). 14 - GC response message has incorrect number of registers. 15 - GC does not support the requested message data type. 16 - GC does not support the requested data protocol. 17 - Modbus message either from the meter or the GC exceeds the maximum length allowable. 18 - GC response not received within the communication timeout. 19 - GC response message (ASCII protocol) incomplete. 20 - GC response message (RTU protocol) incomplete. 21 - GC gas property data spans more than one update. 22 - Server port not open. Gateway path not available or target device failed to respond. 23 - GC IP address incorrect.	R				long	-	-	uint8	-				
14234	GCAlarm1	GC alarm 1 register value GC Status register as read from the GC. (Alarm1 register in the GC). Bits 14 and 15 are checked and if set, the GC reading is marked as invalid.	R				long	-	-	uint16	-				
14236	GCAlarm2	GC alarm 2 register value GC Error register as read from the GC (Alarm2 register in the GC). Bits 0, 1, 2 and 3 are checked and if set, the GC reading is marked as invalid.	R				long	-	-	uint16	-				
14238	GCStartCycleTime	Most recent GC analysis cycle start date and time Start date and time of the most recent GC analysis in POSIX-compliant "time_t" format (seconds elapsed since midnight January 1, 1970).	R	Y			long	Epoch sec	Epoch sec	int32	Epoch sec				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14250	GasPropertiesSrcSel	Selects gas composition source for AGA8 and AGA10 calcs Selects the gas composition source for the base corrections (AGA8) and speed of sound calculation. The settings are "Fixed" or "Live - GC" or "Transmitter Head 1". To read the gas composition from a GC the interface to GC (IsOptionalGCInterfaceEnabled) must be enabled. The gas composition can be read from Transmitter Head 1 of a Dual-Configuration meter only on Transmitter Head 2 (ColocMeterMode) of a data sharing Dual-Configuration meter. The indication of the source for gas composition data is the GasPropertiesSrc data point.	RW	Y	Y	Y	long	-	-	uint8	-	Fixed (0) Live - GC (1) Transmitter Head 1 (2)	0	0	2
14252	GasPropertiesSrcSelGCAlarm	Selects the gas property data source to use when the GC is in alarm Selects the gas property data source to use when the GC is in an alarm condition. If Fixed value is selected, the meter will start using the fixed gas composition stored in the meter, the in-use gas property data is updated with the fixed gas property data. If Last good value is selected, the meter will use the last gas composition collected from the GC before the GC started to report alarms, the in-use gas property data is not updated with the invalid GC-read gas property data.	RW	Y	Y	Y	long	-	-	uint8	-	Use last good value (0) Use fixed value (1)	0	0	1
14254	GCProtocol	GC communication protocol Selects the type of Modbus protocol (ASCII or RTU) used to communicate with the GC.	RW	Y	Y	Y	long	-	-	uint32	-	ASCII (0) RTU (1)	0	0	1
14256	GCBaud	GC communication baud rate Baud rate used to communicate serially to a GC.	RW	Y	Y	Y	long	bits/sec	bits/sec	uint32	bits/sec	1200 (1200) 2400 (2400) 9600 (9600) 19200 (19200) 38400 (38400) 57600 (57600) 115200 (115200)	9600	1200	115200
14258	GCSerialPort	Communication port for the GC Port B (2) is available when the slot 1 Optional I/O Module (OptIOModule1Type) is installed. Port C (3) is available when the slot 2 Optional I/O Module (OptIOModule2Type) is installed. Ethernet (128) is used for meter to communicate with GC over Modbus TCP.	RW	Y	Y	Y	long	-	-	uint8	-	Disabled (0) Port A (1) Port B (2) Port C (3) Ethernet (128)	0	0	128
14260	GCModbusID	GC Modbus address This signifies the Modbus address of GC. When the meter connects to GC on serial line then this is set as the Modbus ID of GC on the serial network. When the meter connects to GC on the Ethernet network, then this is the unit identifier in the TCP header of Modbus TCP communication that depends on the type of Ethernet connection as follows: 1. If GC is connected to the meter on the Ethernet network then Modbus protocol specification recommends that unit identifier should be set as 255 (unsignificant value), though this is not a mandate. 2. If GC is connected to the meter via a gateway/bridge then unit identifier is set as the Modbus ID of GC on its network. Please note that for successful communication, it is a mandate that GC Modbus ID should be configured same as the GC device Modbus ID. This applies for all the above mentioned network connection types.	RW	Y	Y	Y	long	-	-	uint8	-		1	1	255
14262	GCStreamNumber	Selects the stream for the data read from the GC Selects the stream for the data read from the GC.	RW	Y	Y	Y	long	-	-	uint8	-		1	1	30
14264	GCDesiredStreamTimeout	GC communication desired stream timeout value When communicating with a GC, this specifies the length of time to wait for the desired stream to be updated before declaring an error.	RW	Y	Y	Y	long	min	min	uint8	min		100	6	255
14266	GCHeatingValueUnit	Specifies the unit for reading the heating value from the GC The heating (measurement) unit used for reading the heating value from the GC.	RW	Y	Y	Y	long	-	-	uint8	-	Btu/ft3 (0) kJ/m3 (1) kJ/dm3 (2) MJ/m3 (3) kCal/m3 (4) kWh/m3 (5)	0	0	5
14268	GCHeatingValueType	GC communication heating value type selector Selects GC heating value type.	RW	Y	Y	Y	long	-	-	uint8	-	Btu-Dry (0) Btu-Saturated (1) Btu-Actual (2)	0	0	2
14270	GCCommTimeout	GC communication timeout value This is the amount of time the meter will wait for message responses from the GC.	RW	Y	Y	Y	long	sec	sec	uint8	sec		4	0	255
14280	AO1Content	Analog Output 1 content (and HART primary variable) Selects the data to be represented by Analog Output 1. Is used for HART communication as the Primary Variable content.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
14282	AO1Dir	Selects the flow direction represented by the Analog Output 1 Selects the flow direction represented by Analog Output 1. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
14284	IsAO1EnableTest	Analog Output 1 test enable Enables the Analog Output Test mode for Analog Output 1. When in the Analog Output Test mode, Analog Output 1 is fixed at the percentage of full scale specified via the Analog Output 1 test mode output percent configuration point (AO1TestModeOutputPercent) (regardless of the actual data content value). If Analog Output 1 remains in Analog Output Test mode for longer than the non-normal mode timeout (NonNormalModeTimeout), Analog Output 1 automatically exits Analog Output Test mode and returns to normal operation.	RW				float	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
14286	AO1TestModeOutputPercent	Analog Output 1 test mode percentage of full-scale Specifies the Analog Output 1 Test mode percentage of full-scale. This specifies the analog current (as a percentage of the current output range, 4-20 mA) to force Analog Output 1 when in the Analog Output Test mode enabled via the IsAO1EnableTest data point.	RW				float	%	%	uint8	%		50	0	105
14288	AO1FullScaleVolFlowRate	Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 volumetric flow rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to uncorrected volume flow rate (QFlow) or corrected volume flow rate (QBase).	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
14290	AO1MinVel	Analog Output 1 velocity corresponding to the minimum current (4 mA) Specifies the Analog Output 1 velocity corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
14292	AO1MaxVel	Analog Output 1 velocity corresponding to the maximum current (20 mA) Specifies the Analog Output 1 velocity corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to average flow velocity (AvgFlow) or average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14294	AO1FullScaleEnergyRate	Analog Output 1 energy rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 energy rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38
14296	AO1FullScaleMassRate	Analog Output 1 mass rate corresponding to the maximum current (20 mA) Specifies the Analog Output 1 mass rate corresponding to the maximum current (20 mA) when the Analog Output 1 (AO1Content) is set to mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
14298	AO1ActionUponInvalidContent	Analog Output 1 current action upon invalid content Specifies the action for Analog Output 1 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	float	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
14300	AO1ZeroScaleVolFlowRate	Analog Output 1 volumetric flow rate corresponding to the minimum current (4 mA) Specifies the Analog Output 1 volumetric flow rate corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to uncorrected volume flow rate (QFlow) or corrected volume flow rate (QBase).	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
14302	AO1ZeroScaleEnergyRate	Analog Output 1 energy rate corresponding to the minimum current (4 mA) Specifies the Analog Output 1 energy rate corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
14304	AO1ZeroScaleMassRate	Analog Output 1 mass rate corresponding to the minimum current (4 mA) Specifies the Analog Output 1 mass rate corresponding to the minimum current (4 mA) when the Analog Output 1 (AO1Content) is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
14310	QMeterValidity	Uncorrected flow-condition volumetric flow rate invalid The volumetric flow rate (no expansion correction) is invalid. The meter is either not in measurement mode (i.e. no chords acquired) or the number of operating chords is below the minimum number required (MinChord) or the diagnostic chord speed of sound is out of range (IsDiagnosticSndSpdRangeErr) or, for a measurement chord, the in-use chord length does not match the calculated chord length (IsChordLengthMismatched). Recommended Actions: 1. From the alarm list, determine which chords are failed and resolve these alarm(s) first. Resolving the chord failures will clear this alarm. 2. If the diagnostic chord speed of sound out of range error is active then resolving it will clear this alarm. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative. See also: IsAcqMode, IsTooFewOperChords, IsDiagnosticSndSpdDetectionFeatureActive	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14311	QFlowValidity	Flow-condition volumetric flow rate invalid The meter either has not collected enough information from the chords to make an accurate measurement or the pressure and/or temperature are invalid and the meter is performing pressure or temperature expansion corrections on the meter's internal diameter. This is an alarm condition that shows the validity of the flow-condition volumetric flow rate (QFlow). The flow-condition volumetric flow rate (QFlow) becomes invalid if the uncorrected flow-condition volumetric flow rate validity (QMeterValidity), temperature expansion correction validity (ExpCorrTempValidity), pressure expansion correction validity (ExpCorrPressValidity), and/or flow profile correction validity (FlowProfileCorrValidity) is invalid. Recommended Actions: 1. If the pressure expansion correction validity alarm is present, correcting it may clear this alarm. 2. If the temperature expansion correction validity alarm is present, correcting it may clear this alarm. 3. If the uncorrected flow-condition volumetric flow rate validity alarm is present, correcting it may clear this alarm. 4. If the flow profile correction validity alarm is present, correcting it may clear this alarm. 5. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14312	QBaseValidity	Base-condition volumetric flow rate invalid AGA8 base-condition volumetric flow rate (QBase) is invalid if the flow-condition volumetric flow rate is invalid (QFlowValidity), the in-use gas properties are invalid (AreGasPropertiesInvalidInUse), the flow-condition pressure is invalid (PressureValidity) and/or the flow-condition temperature is invalid (TemperatureValidity). Recommended Actions: 1. Verify that the in-use gas properties, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14313	EnergyRateValidity	Energy flow rate invalid The calculated energy flow rate (EnergyRate) is invalid. A problem has occurred with the flow-condition pressure and/or temperature inputs, AGA8 calculations or heating value. The energy rate (EnergyRate) becomes invalid if either the base-condition volumetric flow rate is invalid (QBaseValidity) or if an invalid gas heating value (AreGasPropertiesInvalidInUse) is used. Recommended Actions: 1. If the base-condition volumetric flow rate is invalid, resolve this issue first before trying to resolve this alarm. 2. Verify using MeterLink™ that a valid heating value (MeasVolGrossHeatingVal) is specified in the meter or a live gas chromatograph is configured and the meter reports no invalid GC alarms. Resolve these alarms if present. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14314	MassRateValidity	Mass flow rate invalid The calculated mass flow rate (MassRate) is invalid. A problem has occurred with flow-condition pressure and/or temperature inputs or AGA8 calculations (HCH_Method). Mass rate (MassRate) becomes invalid if either the flow-condition volumetric flow rate is invalid (QFlowValidity) or the AGA8 flow calculation is invalid (AGA8FlowCalcValidity). This is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Recommended Actions: 1. Other primary cause alarms will be present in the alarm list. Resolve those alarms first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14315	TemperatureValidity	Flow temperature invalid Temperature is invalid if the flow-condition temperature (FlowTemperature) is outside the limits defined by the low and high temperature alarm limits (LowTemperatureAlarm, HighTemperatureAlarm). Temperature is invalid if the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Temperature is invalid if the meter is configured to receive the flow-condition temperature value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34052) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the temperature sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog temperature device, verify that the temperature sensor is properly wired to connector TB2-B pins 3 & 4 (ANALOG IN TT- & TT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write temperature to the meter, verify that it is properly writing the fixed flow temperature (SpecFlowTemperature) in the proper units. If flow-condition temperature value is updated through the ISO 17089 Modbus register, then the temperature unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed temperature in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read the flow-condition temperature from Transmitter Head 1 of a Dual-Configuration meter, make sure that the Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if the flow-condition temperature is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the temperature of the process fluid to within alarm limits. 2. If using an analog temperature device and input reading is 0, check if IsAI1Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or it is damaged. Reinstall or replace I/O board if this value is 0. 3. If using an analog temperature device, verify that the temperature sensor is working properly. 4. If using an analog temperature device, recheck the wiring and switch settings as noted above under First Time Setup Issues.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14316	PressureValidity	Flow pressure invalid Pressure is invalid if the flow pressure (FlowPressure) is outside the limits defined by the low and high pressure alarm limits (LowPressureAlarm, HighPressureAlarm). Pressure is invalid if the meter is configured to read the flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter and Dual-Configuration meters are not communicating (IsColocMeterCommErr), either due to incorrect configuration or the Transmitter Head 1 is not reachable. Pressure is invalid if the meter is configured to receive the flow-condition pressure value from an external source such as flow computer by writing to the ISO 17089 Modbus register (34050) and the meter has either lost communication with the external source or is not receiving updates on the ISO Modbus register within the ISO 17089 Modbus process data timeout (ISOModbusProcessDataTimeout). Recommended Actions: First Time Startup Issues: 1. Verify that there is voltage to the pressure sensor, either from the terminal on the meter's power supply board or from an external power supply. 2. If using an analog pressure device, verify that the pressure sensor is properly wired to the connector TB2-B pins 1 & 2 (ANALOG IN PT- & PT+). 3. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 4. If using an external source to write pressure to the meter, verify that it is properly writing to fixed flow pressure (SpecFlowPressure) in the proper units. If flow-condition pressure value is updated through the ISO 17089 Modbus register, then the pressure unit is determined by the ISO 17089 Modbus units system (ISOModbusUnitsSystem) else it is determined by the units system (UnitsSystem) and volumetric flow rate time unit (VolFlowRateTimeUnit). The current value will be displayed as Fixed pressure in the Field Setup Wizard in MeterLink™. 5. If the meter is configured to read flow-condition pressure from Transmitter Head 1 of a Dual-Configuration meter, make sure that Ethernet connection between the Dual-Configuration meters is setup correctly and the Dual-Configuration meter IP address (ColocMeterIPAddress) on head 1 is same as the Ethernet IP address (Eth1IPAddr) of head 2 and vice versa. Check if flow-condition pressure is invalid on Transmitter Head 1 of a Dual-Configuration meter. 6. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative. Run Time Issues: 1. Adjust the pressure of the process fluid to within alarm limits. 2. If using an analog pressure device and the input reading is 0, check if IsAI2Avail is equal to 1 in the Meter Information dialog in MeterLink™. If it is not 1, either the I/O Board has been removed or is damaged. Reinstall or replace the board if this value is 0. 3. If using an analog pressure device, verify that the pressure sensor is working properly. 4. If using an analog pressure device, recheck wiring and switch settings as noted above under First Time Setup Issues. 5. If the external source is writing values to the fixed flow pressure (SpecFlowPressure), verify that the external source is still writing valid	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14317	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14318	Freq2DataValidity	Frequency Output 2 data invalid The parameter which the Frequency Output 2 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 2 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14319	AO1DataValidity	Analog Output 1 data invalid Analog Output 1 (AO1) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid or the loop current mode is disabled via HART. The content of AO1 is specified by AO1Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 1 (AO1Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 1 is not in alarm, then verify that the output is not fixed or set in test mode or the loop current mode has been not been disabled via HART. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14320	AO2DataValidity	Analog Output 2 data invalid Analog Output 2 (AO2) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid. The content of AO2 is specified by AO2Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 2 (AO2Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 2 is not in alarm, then verify that the output is not fixed or set in test mode. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14330	Reserved		R				int								
14331	Reserved		R				int								
14332	Reserved		R				int								
14333	Reserved		R				int								
14334	IsOptionalAGA10CalcEnabled	Calculation of speed of sound from gas composition is enabled This indicates whether the optional calculation of speed of sound from gas composition feature is enabled. Enabled if TRUE (1).	R				int	-	-	boolean	-	No (FALSE) Yes (TRUE)			
14335	IsOptionalGCInterfaceEnabled	GC interface feature is enabled This indicates whether the GC interface feature is enabled. Enabled if TRUE (1).	R				int	-	-	boolean	-	No (FALSE) Yes (TRUE)			
14336	IsOptionalContinuousFlowAnalysisEnabled	Flow analysis features are enabled This indicates whether the optional flow analysis features are enabled. Enabled if TRUE (1).	R	Y			int	-	-	boolean	-	No (FALSE) Yes (TRUE)			
14338	PeakSwitchDetectMode	Peak switch detection mode Determines what action to take if a peak switch is detected by the pattern of computed eta values (EtaBA, EtaBD, EtaCA, EtaCD). Both the "Status Only" and the "Status and Discard" modes set the peak switch detection indicators (IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC, IsPeakSwitchDetectedD). If "Status and Discard" is selected the waveforms with peak switching detected will not be included in the flow calculations. Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). If "Disabled" no status will be updated nor waveforms discarded.	RW	Y	Y	Y	int	-	-	uint8	-	Disabled (0) Status Only (1) Status and Discard (2)	0	0	2
14339	IsPeakSwitchDetected	Peak switch detected A peak switch timing error was detected on at least one chord (IsPeakSwitchDetectedA, IsPeakSwitchDetectedB, IsPeakSwitchDetectedC, IsPeakSwitchDetectedD).	R				int	-	-	boolean	-				
14340	IsPeakSwitchDetectedA	Peak switch detected for chord A A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodA1, PctGoodA2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14341	IsPeakSwitchDetectedB	Peak switch detected for chord B A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodB1, PctGoodB2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
14342	IsPeakSwitchDetectedC	Peak switch detected for chord C A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodC1, PctGoodC2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
14343	IsPeakSwitchDetectedD	Peak switch detected for chord D A peak switch timing error was detected in the measurement data, if the peak switch detect mode (PeakSwitchDetectMode) is set to display status. If the peak switch detect mode (PeakSwitchDetectMode) is configured to discard data, then this value indicates measurement data from one or more transducer firing was discarded due to a peak switch timing error. If this value is TRUE (1), the chord proportion bin update will not be allowed and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). Discarded measurement data may cause a chord to be considered failed if the percentage of good measurements falls below the minimum percentage good threshold (MinPctGood). The indication is suppressed if the average of path performance (PctGoodD1, PctGoodD2) is above the chord performance status suppression limit (PerfStatusSuppressLmt). Recommended Actions: 1. This alarm is typically disabled. If it was enabled unintentionally then the peak switch detect mode (PeakSwitchDetectMode) should be set to disable the alarm again. 2. Verify that the transducers are working properly. All chords should have similar dB gains and low noise levels. If the meter is reporting SNR below minimum or noise exceeded limit for any chords, address those alarms first. 3. Adjusting the tracking parameters may address this issue but we do not recommend changes without input from a Emerson Flow service representative. Collect a Maintenance Log, a Waveform stream file and configuration file with MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14344	IsXdcrMaintenanceRequired A	Transducer maintenance required for chord A At least one of the paths for chord A has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
14345	IsXdcrMaintenanceRequired B	Transducer maintenance required for chord B At least one of the paths for chord B has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14346	IsXdcrMaintenanceRequiredC	Transducer maintenance required for chord C At least one of the paths for chord C has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
14348	IsXdcrMaintenanceRequiredD	Transducer maintenance required for chord D At least one of the paths for chord D has been outside the maintenance gain range (XdcrMaintenanceGainRange) or the maintenance SNR range (XdcrMaintenanceSNRRange) for a time period longer than the number of failure free seconds required for updating the chord proportions (PropUpdtSeconds). If this value is TRUE (1), the chord proportion bin will not be updated and the proportional update indicator (IsPropUpdtActive) will be FALSE (0). This alarm is not set when the average weighted flow velocity (AvgWtdFlowVel) or the flow velocity of the chord (FlowVelA..FlowVelD) is below the low flow limit value (LowFlowLmt). Recommended Actions: 1. If no other transducers are failed or are reporting status alarms, the issue is most likely isolated to this pair of transducers or its cabling. Check the transducer wiring for this pair of transducers to make sure the connections are secure and wired correctly. 2. For T-11 and T-12 transducers, remove the transducer cable from the transducer and measure the resistance with an ohm meter across the two pins on the back of the transducer holder. If the value is over 2 ohms, replace the transducers. For T-21, T-22, T-32 and T-41 transducers, remove the transducer cable and transformer assembly and measure the resistance with an ohm meter. If the value is not 1 Mohm +/- 0.2 Mohm, try cleaning the pins with alcohol and a small object like a toothpick to see if that lowers the resistance. If not, replace the transducers. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the electronics. If the value is over 2 ohms, replace the transformer module. Measure the resistance across the two pins on the transformer module that lead to the transducer. If the value is not between 30 and 40 ohms for the T-21 and T-41 transformer module, replace the transformer module. If the value is not between 50 and 75 ohms for the T-22 transformer module, replace the transformer module. If the value is not between 7 and 12 ohms for the T-32 transformer module, replace the transformer module. If possible, measure the capacitance of the transducer with an LCR meter. If the value is not between 450 and 600 pF for the T-21 and T41 transducer, replace the transducer. If the value is not between 215 and 350 pF for the T-22 transducer, replace the transducer. If the value is not between 400 and 550 pF for the T-32 transducer, replace the transducer. For T-200 transducers, remove the transducer cables from the transducers and measure the resistance with an ohm meter across the two pins on the back of the transducer capsules. If the values are over 2 ohms, replace the transducer capsules. If the values are under 2 ohms, remove the transducer capsules, clean and reapply the coupling fluid to the front face of the transducer capsules, and reinstall the transducer capsules. If this does not correct the issue, replace the transducer capsules. 3. If transducer the cabling allows, swap the cabling of the failed transducer pair with a pair with equal path lengths. If the alarm remains active for this chord, then the transducers are working properly and there could be a problem with either the cabling or the acquisition board. If this alarm clears but the chord that was swapped now fails, the issue is with the transducers. 4. If this issue is unresolved, collect a Maintenance Log, Configuration file and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y	Y		int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
14349	IsXdcrMaintenanceRequired	Transducer maintenance required One or more of the chords requires transducer maintenance (IsXdcrMaintenanceRequiredA, IsXdcrMaintenanceRequiredB, IsXdcrMaintenanceRequiredC, IsXdcrMaintenanceRequiredD).	R				int	-	-	boolean	-				
14350	CompAvgMeterSndVel	Previous hour average meter speed of sound Previous hour average meter-calculated speed of sound for comparison to the previous hour average speed of sound calculated from the gas composition (CompAvgAGA10SndVel). This is an average over an hour when average flow velocity (AvgFlow) is between the diagnostic analysis flow limits (FlowAnalysisLowFlowLmt) and the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt) and is only calculated when all calculation inputs (gas composition, pressure and temperature) are valid during the flow time over the hour. This is used to calculate speed of sound comparison error (SndVelCompErr).	R				float	m/s	ft/s	float32	m/s				
14352	CompAvgAGA10SndVel	Previous hour average speed of sound calculated from the gas composition Previous hour average speed of sound calculated from the gas composition for comparison to the meter-calculated average speed of sound (CompAvgMeterSndVel). This is an average over an hour when average flow velocity (AvgFlow) is between the diagnostic analysis low flow limit (FlowAnalysisLowFlowLmt) and the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt) and is only calculated when all calculation inputs (gas composition, pressure and temperature) are valid during the flow time over the hour. This is used to calculate speed of sound comparison error (SndVelCompErr).	R				float	m/s	ft/s	float32	m/s				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14354	SndVelCompErr	Previous hour error between gas composition SOS and meter SOS Previous hour error between the average speed of sound calculated from the gas composition (CompAvgAGA10SndVel) and the average meter-calculated speed of sound (CompAvgMeterSndVel). It is computed as: ((CompAvgMeterSndVel - CompAvgAGA10SndVel) / CompAvgAGA10SndVel) * 100%. When the absolute error is greater than speed of sound comparison error limit (SndVelCompErrLimit) then the speed of sound comparison alarm (IsSndVelCompErr) is set TRUE (1).	R				float	%	%	float32	%				
14356	SndVelCompErrLimit	Error limit for gas composition SOS and meter SOS comparison Alarm limit for the comparison of speed of sound from the gas composition to the meter-calculated speed of sound error (IsSndVelCompErr).	RW	Y	Y	Y	float	%	%	float32	%		0.2	0.1	90
14358	IsSndVelCompErr	Comparison of SOS from gas composition to meter SOS error The absolute value of the error (SndVelCompErr) between the previous hour average speed of sound calculated from the gas composition (CompAvgAGA10SndVel) and the previous hour average meter-calculated speed of sound (CompAvgMeterSndVel) is greater than the alarm limit (SndVelCompErrLimit). This alarm is enabled if IsSndVelCompFeatureActive = TRUE (1). Recommended Actions: 1. Verify the pressure and temperature readings in use by the meter are accurate. 2. Verify that the in-use gas properties are accurate. Use the Meter Monitor in MeterLink™ to check the gas composition values. 3. If the alarm is on a data sharing Dual-Configuration meter's Transmitter Head 2 using pressure, temperature and/or gas composition from Transmitter Head 1, check that the two transmitter heads are configured correctly, e.g. that they have the same AGA8 method selector (HCH_Method) and input pressure absolute/gage selector (InputPressureUnit). 4. If the issue is unresolved, collect a complete Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
14370	AO2Content	Analog Output 2 content (and HART secondary variable) Selects the data to be represented by Analog Output 2. Is used for HART communication as the Secondary Variable content.	RW	Y	Y	Y	float	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
14372	AO2Dir	Selects the flow direction represented by the Analog Output 2 Selects the flow direction represented by Analog Output 2. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	float	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
14374	IsAO2EnableTest	Analog Output 2 test enable Enables the Analog Output Test mode for Analog Output 2. When in the Analog Output Test mode, Analog Output 2 is fixed at the percentage of full scale specified via the Analog Output 2 test mode output percent configuration point (AO2TestModeOutputPercent) (regardless of the actual data content value). If Analog Output 2 remains in Analog Output Test mode for longer than the non-normal mode timeout (NonNormalModeTimeout), Analog Output 2 automatically exits Analog Output Test mode and returns to normal operation.	RW				int	-	-	boolean	-	Disable test (FALSE) Enable test (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
14376	AO2TestModeOutputPercent	Analog Output 2 test mode percentage of full-scale Specifies the Analog Output 2 test mode percentage of full-scale. This specifies the analog current (as a percentage of the current output range, 4-20 mA) to force Analog Output 2 when in the Analog Output Test mode (enabled via the IsAO2EnableTest data point).	RW				int	%	%	uint8	%		50	0	105
14378	AO2FullScaleVolFlowRate	Analog Output 2 volumetric flow rate corresponding to the maximum current (20 mA) Specifies the Analog Output 2 volumetric flow rate corresponding to the maximum current (20 mA) when the AO2Content data point is set to "Uncorrected volume flow rate" (QFlow) or "Corrected volume flow rate" (QBase).	RW	Y	Y	Y	float	volume/time	volume/time	float32	m3/hr		200000	0	3.40E+38
14380	AO2MinVel	Analog Output 2 velocity corresponding to the minimum current (4 mA) Specifies the Analog Output 2 velocity corresponding to the minimum current (4 mA) when the AO2Content data point is set to Average flow velocity (AvgFlow) or Average speed of sound (AvgSndVel).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	0	1500
14382	AO2MaxVel	Analog Output 2 velocity corresponding to the maximum current (20 mA) Specifies the Analog Output 2 velocity corresponding to the maximum current (20 mA) when the AO2Content data point is set to "Average flow velocity" or "Average speed of sound".	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		50	0	1500
14384	AO2FullScaleEnergyRate	Analog Output 2 energy rate corresponding to the maximum current (20 mA) Specifies the Analog Output 2 energy rate corresponding to the maximum current (20 mA) when the AO2Content data point is set to energy rate (EnergyRate).	RW	Y	Y	Y	float	energy/time	energy/time	float32	MJ/hr		4000	0	3.40E+38
14386	AO2FullScaleMassRate	Analog Output 2 mass rate corresponding to the maximum current (20 mA) Specifies the Analog Output 2 mass rate corresponding to the maximum current (20 mA) when the AO2Content data point is set to Mass rate (MassRate).	RW	Y	Y	Y	float	mass/time	mass/time	float32	kg/hr		4000	0	3.40E+38
14388	AO2ActionUponInvalidContent	Analog Output 2 current action upon invalid content Specifies the action for Analog Output 2 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	float	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
14390	AO2ZeroScaleVolFlowRate	Analog Output 2 volumetric flow rate corresponding to the minimum current (4 mA) Specifies the Analog Output 2 volumetric rate corresponding to the minimum current (4 mA) when the AO2Content data point is set to is set to "Uncorrected volume flow rate" (QFlow) or "Corrected volume flow rate" (QBase).	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
14392	AO2ZeroScaleEnergyRate	Analog Output 2 energy rate corresponding to the minimum current (4 mA) Specifies the Analog Output 2 energy rate corresponding to the minimum current (4 mA) when the AO2Content data point is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
14394	AO2ZeroScaleMassRate	Analog Output 2 mass rate corresponding to the minimum current (4 mA) Specifies the Analog Output 2 mass rate corresponding to the minimum current (4 mA) when the AO2Content data point is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
14400	QFlow	Volumetric flow rate at flow condition Flow-condition volumetric flow rate, corrected for flow-condition expansion (QExpCorr) and flow profile correction factor (CorrectionFactor).	R				float	volume/time	volume/time	float32	m3/hr				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14402	QFlowValidity	Flow-condition volumetric flow rate invalid The meter either has not collected enough information from the chords to make an accurate measurement or the pressure and/or temperature are invalid and the meter is performing pressure or temperature expansion corrections on the meter's internal diameter. This is an alarm condition that shows the validity of the flow-condition volumetric flow rate (QFlow). The flow-condition volumetric flow rate (QFlow) becomes invalid if the uncorrected flow-condition volumetric flow rate validity (QMeterValidity), temperature expansion correction validity (ExpCorrTempValidity), pressure expansion correction validity (ExpCorrPressValidity), and/or flow profile correction validity (FlowProfileCorrValidity) is invalid. Recommended Actions: 1. If the pressure expansion correction validity alarm is present, correcting it may clear this alarm. 2. If the temperature expansion correction validity alarm is present, correcting it may clear this alarm. 3. If the uncorrected flow-condition volumetric flow rate validity alarm is present, correcting it may clear this alarm. 4. If the flow profile correction validity alarm is present, correcting it may clear this alarm. 5. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14404	QBase	Volumetric flow rate at base condition The base-condition volumetric flow rate. QBase = Qflow (QFlow) * AGA8FlowToBaseConversion (AGA8FlowToBaseConversion)	R				float	volume/time	volume/time	float32	m3/hr				
14406	QBaseValidity	Base-condition volumetric flow rate invalid AGA8 base-condition volumetric flow rate (QBase) is invalid if the flow-condition volumetric flow rate is invalid (QFlowValidity), the in-use gas properties are invalid (AreGasPropertiesInvalidInUse), the flow-condition pressure is invalid (PressureValidity) and/or the flow-condition temperature is invalid (TemperatureValidity). Recommended Actions: 1. Verify that the in-use gas properties, flow-condition pressure, flow-condition temperature and flow-condition volumetric flow rate are valid. If invalid, resolve those issues first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log and a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14408	Freq1KFactor	Frequency Output 1 pair K-Factor Frequency Output 1 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
14410	Freq2KFactor	Frequency Output 2 pair K-Factor Frequency Output 2 pair K-Factor.	R				float	pulses/m3	pulses/ft3	float32	pulses/m3				
14412	Freq1OutputVFR	Frequency Output 1 pair output volumetric flow rate Frequency Output 1 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
14414	Freq2OutputVFR	Frequency Output 2 pair output volumetric flow rate Frequency Output 2 pair output volumetric flow rate. This includes frequency feedback correction if applicable.	R				float	volume/time	volume/time	float32	m3/hr				
14416	EnergyRate	Energy flow rate Energy rate. This is applicable when the heating value is fixed (specified) or read from a gas chromatograph. It is computed as QBase with HeatingValueInUse applied.	R				float	energy/time	energy/time	float32	MJ/hr				
14418	EnergyRateValidity	Energy flow rate invalid The calculated energy flow rate (EnergyRate) is invalid. A problem has occurred with the flow-condition pressure and/or temperature inputs, AGA8 calculations or heating value. The energy rate (EnergyRate) becomes invalid if either the base-condition volumetric flow rate is invalid (QBaseValidity) or if an invalid gas heating value (AreGasPropertiesInvalidInUse) is used. Recommended Actions: 1. If the base-condition volumetric flow rate is invalid, resolve this issue first before trying to resolve this alarm. 2. Verify using MeterLink™ that a valid heating value (MeasVolGrossHeatingVal) is specified in the meter or a live gas chromatograph is configured and the meter reports no invalid GC alarms. Resolve these alarms if present. 3. If the issue is unresolved, collect a Maintenance Log with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14420	Freq1EnergyKFactor	Frequency Output 1 pair energy K-Factor Frequency Output 1 pair energy K-Factor.	R				float	pulses/MJ	pulses/MMBtu	float32	pulses/MJ				
14422	Freq2EnergyKFactor	Frequency Output 2 pair energy K-Factor Frequency Output 2 pair energy K-Factor.	R				float	pulses/MJ	pulses/MMBtu	float32	pulses/MJ				
14424	Freq1OutputEnergyRate	Frequency Output 1 pair output energy rate Frequency Output 1 pair output energy rate. This includes frequency feedback correction if applicable.	R				float	energy/time	energy/time	float32	MJ/hr				
14426	Freq2OutputEnergyRate	Frequency Output 2 pair output energy rate Frequency Output 2 pair output energy rate. This includes frequency feedback correction if applicable.	R				float	energy/time	energy/time	float32	MJ/hr				
14428	MassRate	Mass flow rate Mass flow rate. This is applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (AGA8 calculation method (HCH_Method) is not set to "None"). It is computed as QFlow with RhoMixFlow applied.	R				float	mass/time	mass/time	float32	kg/hr				
14430	MassRateValidity	Mass flow rate invalid The calculated mass flow rate (MassRate) is invalid. A problem has occurred with flow-condition pressure and/or temperature inputs or AGA8 calculations (HCH_Method). Mass rate (MassRate) becomes invalid if either the flow-condition volumetric flow rate is invalid (QFlowValidity) or the AGA8 flow calculation is invalid (AGA8FlowCalcValidity). This is only applicable when the AGA8 calculations are performed internally or are performed externally with the mixture flow-condition mass density specified (SpecRhoMixFlow). Recommended Actions: 1. Other primary cause alarms will be present in the alarm list. Resolve those alarms first and this alarm will clear. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14432	Freq1MassKFactor	Frequency Output 1 pair mass K-Factor Frequency Output 1 pair mass K-Factor.	R				float	pulses/kg	pulses/lbm	float32	pulses/kg				
14434	Freq2MassKFactor	Frequency Output 2 pair mass K-Factor Frequency Output 2 pair mass K-Factor.	R				float	pulses/kg	pulses/lbm	float32	pulses/kg				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14436	Freq1OutputMassRate	Frequency Output 1 pair output mass rate Frequency Output 1 pair output mass rate. This includes frequency feedback correction if applicable.	R				float	mass/time	mass/time	float32	kg/hr				
14438	Freq2OutputMassRate	Frequency Output 2 pair output mass rate Frequency Output 2 pair output mass rate. This includes frequency feedback correction if applicable.	R				float	mass/time	mass/time	float32	kg/hr				
14440	Freq1ChnlA	Frequency Output 1A value Frequency Output 1 channel A value.	R				float	Hz	Hz	float32	Hz				
14442	Freq1ChnlB	Frequency Output 1B value Frequency Output 1 channel B value.	R				float	Hz	Hz	float32	Hz				
14444	Freq1DataValidity	Frequency Output 1 data invalid The parameter which the Frequency Output 1 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 1 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14446	DO1A	Digital Output 1A value Digital Output 1A value. This value is based on the selected content (DO1AContent) and polarity (DO1AIsInvPolarity).	R				float	-	-	uint8	-				
14448	DO1B	Digital Output 1B value Digital Output 1B value. This value is based on the selected content (DO1BContent) and polarity (DO1BIsInvPolarity).	R				float	-	-	uint8	-				
14450	Freq2ChnlA	Frequency Output 2A value Frequency Output 2 channel A value.	R				float	Hz	Hz	float32	Hz				
14452	Freq2ChnlB	Frequency Output 2B value Frequency Output 2 channel B value.	R				float	Hz	Hz	float32	Hz				
14454	Freq2DataValidity	Frequency Output 2 data invalid The parameter which the Frequency Output 2 is configured to represent is invalid or the output is currently in test mode. Recommended Actions: 1. You can determine whether the output is in test mode by using Meter Outputs in MeterLink™. 2. If the parameter for which Frequency Output 2 is configured is invalid, other alarms will be present that will help you resolve the issue. 3. If the issue is unresolved, collect a Maintenance Log and Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14456	DO2A	Digital Output 2A value Digital Output 2A value. This value is based on the selected content (DO2AContent) and polarity (DO2AIsInvPolarity).	R				float	-	-	uint8	-				
14458	DO2B	Digital Output 2B value Digital Output 2B value. This value is based on the selected content (DO2BContent) and polarity (DO2BIsInvPolarity).	R				float	-	-	uint8	-				
14460	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
14462	DI1	Digital Input 1 value Digital Input 1 value.	R				float	-	-	boolean	-				
14470	AO1Output	Analog Output 1 current value Analog Output 1 current value.	R				float	ma	ma	float32	ma				
14472	AO1OutputTrimmed	Analog Output 1 current value after trim applied Analog Output 1 current value after trim applied.	R				float	ma	ma	float32	ma				
14474	AO1DataValidity	Analog Output 1 data invalid Analog Output 1 (AO1) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid or the loop current mode is disabled via HART. The content of AO1 is specified by AO1Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 1 (AO1Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 1 is not in alarm, then verify that the output is not fixed or set in test mode or the loop current mode has been not been disabled via HART. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14476	AO1IsFixed	Analog Output 1 (HART PV) is fixed Analog Output 1 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 1 is removed from test mode, this alarm will clear. See also IsAO1EnableTest data point.	R				float	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
14478	AO1IsSaturated	Analog Output 1 (HART PV) is saturated Analog Output 1 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 1.	R				float	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
14480	AO2Output	Analog Output 2 current value Analog Output 2 current value.	R				float	ma	ma	float32	ma				
14482	AO2OutputTrimmed	Analog Output 2 current value after trim applied Analog Output 2 current value after trim applied.	R				float	ma	ma	float32	ma				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14484	AO2DataValidity	Analog Output 2 data invalid Analog Output 2 (AO2) is invalid. The analog output is considered invalid if the analog output is in test mode or the content the analog output is trying to drive is invalid. The content of AO2 is specified by AO2Content. Recommended Actions: 1. If an alarm exists for the content selected to be output on Analog Output 2 (AO2Content), resolving that issue should clear this alarm. 2. If the content selected for Analog Output 2 is not in alarm, then verify that the output is not fixed or set in test mode. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				float	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14486	AO2IsFixed	Analog Output 2 (HART SV) is fixed Analog Output 2 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 2 is removed from test mode, this alarm will clear. See also IsAO2EnableTest data point.	R				float	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
14488	AO2IsSaturated	Analog Output 2 (HART SV) is saturated Analog Output 2 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 2.	R				float	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
14500	AO1TrimCurrent	Analog Output 1 fixed current value (for trim) Specifies the Analog Output 1 Fixed Current Mode value for trimming the output. A value of zero causes the Fixed Current Mode to be exited. Cycling power also causes the Fixed Current Mode to be exited.	RW			Y	float	ma	ma	float32	ma		0	0	21
14502	AO1TrimZeroExtMeasCurrent	Analog Output 1 zero trim externally measured current Analog Output 1 zero trim externally measured current.	RW			Y	float	ma	ma	float32	ma		4	3	5
14504	AO1TrimGainExtMeasCurrent	Analog Output 1 gain trim externally measured current Analog Output 1 gain trim externally measured current.	RW			Y	float	ma	ma	float32	ma		20	19	21
14506	AO2TrimCurrent	Analog Output 2 fixed current value (for trim) Specifies the Analog Output 2 Fixed Current Mode value for trimming the output. A value of zero causes the Fixed Current Mode to be exited. Cycling power also causes the Fixed Current Mode to be exited.	RW			Y	float	ma	ma	float32	ma		0	0	21
14508	AO2TrimZeroExtMeasCurrent	Analog Output 2 zero trim externally measured current Analog Output 2 zero trim externally measured current.	RW			Y	float	ma	ma	float32	ma		4	3	5
14510	AO2TrimGainExtMeasCurrent	Analog Output 2 gain trim externally measured current Analog Output 2 gain trim externally measured current.	RW			Y	float	ma	ma	float32	ma		20	19	21
14550	AO1CurrentTrimZero	Analog Output 1 current calibration zero (offset) Analog Output 1 current calibration zero (offset).	R	Y			float	ma	ma	float32	ma				
14552	AO1CurrentTrimGain	Analog Output 1 current calibration gain Analog Output 1 current calibration gain.	R	Y			float	-	-	float32	-				
14554	AO2CurrentTrimZero	Analog Output 2 current calibration zero (offset) Analog Output 2 current calibration zero (offset).	R	Y			float	ma	ma	float32	ma				
14556	AO2CurrentTrimGain	Analog Output 2 current calibration gain Analog Output 2 current calibration gain.	R	Y			float	-	-	float32	-				
14558	DampingValue	Damping value (outputs and data points) Specifies the damping value for all outputs and measurement data points. The damping value is the (worst case) time for the outputs and measurement data points to reach 63% of the steady-state value in response to a step input. This is a function of the desired batch update period (BatchUpdatePeriod).	R				float	sec	sec	float32	sec				
14560	Reserved		R				float								
14562	Reserved		R				float								
14564	Freq1ZeroScaleVolFlowRate	Frequency Output 1 pair volumetric flow rate corresponding to a frequency of zero Specifies the Frequency Output 1 pair volumetric flow rate corresponding to a frequency of zero when the Frequency Output 1 pair content (Freq1Content) is set to a volumetric flow rate.	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
14566	Freq1ZeroScaleEnergyRate	Frequency Output 1 pair energy rate corresponding to a frequency of zero Specifies the Frequency Output 1 pair energy rate corresponding to a frequency of zero when the Frequency Output 1 pair content (Freq1Content) is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
14568	Freq1ZeroScaleMassRate	Frequency Output 1 pair mass rate corresponding to a frequency of zero Specifies the Frequency Output 1 pair mass rate corresponding to a frequency of zero when the Frequency Output 1 pair content (Freq1Content) is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
14570	Freq2ZeroScaleVolFlowRate	Frequency Output 2 pair volumetric flow rate corresponding to a frequency of zero Specifies the Frequency Output 2 pair volumetric flow rate corresponding to a frequency of zero when the Frequency Output 2 pair content (Freq2Content) is set to a volumetric flow rate.	RW	Y		Y	float	volume/time	volume/time	float32	m3/hr		0	0	0
14572	Freq2ZeroScaleEnergyRate	Frequency Output 2 pair energy rate corresponding to a frequency of zero Specifies the Frequency Output 2 pair energy rate corresponding to a frequency of zero when the Frequency Output 2 pair content (Freq2Content) is set to energy rate (EnergyRate).	RW	Y		Y	float	energy/time	energy/time	float32	MJ/hr		0	0	0
14574	Freq2ZeroScaleMassRate	Frequency Output 2 pair mass rate corresponding to a frequency of zero Specifies the Frequency Output 2 pair mass rate corresponding to a frequency of zero when the Frequency Output 2 pair content (Freq2Content) is set to mass rate (MassRate).	RW	Y		Y	float	mass/time	mass/time	float32	kg/hr		0	0	0
14600	HARTManufacturerIDCode	HART manufacturer ID code HART manufacturer ID code. HART slave devices are identified by their manufacturer ID, device type (HARTDeviceType) and device revision (HARTDeviceRevisionLevel).	R				int	-	-	uint8	-	Rosemount (38)			
14601	HARTDeviceType	HART device type HART device type. HART slave devices are identified by their manufacturer ID (HARTManufacturerIDCode), device type and device revision (HARTDeviceRevisionLevel).	R				int	-	-	uint8	-	153 - Gas 3410 Series meter (153)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14602	HARTMinNumPreambles	HART (via AO1) minimum number of Master command preamble bytes HART, via AO1, minimum number of Master command preamble bytes.	RW	Y	Y	Y	int	-	-	uint8	-		5	5	20
14603	HARTUnivCmdMajorRevision	HART universal command major revision number HART universal command major revision number.	R	Y			int	-	-	uint8	-				
14604	HARTDeviceRevisionLevel	HART device revision level HART device revision level. HART slave devices are identified by their manufacturer ID (HARTManufacturerIDCode), device type (HARTDeviceType) and device revision level.	R				int	-	-	uint8	-				
14605	HARTSoftwareRevisionLevel	HART device software revision level HART device software revision level.	R				int	-	-	uint8	-				
14606	HARTHardwareRevisionLevel	HART device hardware revision level HART device hardware revision level. For the ultrasonic meter, this is the CPU Module's I/O board type (IOBdType).	R				int	-	-	uint8	-				
14608	HARTPhysicalSignalingCode	HART physical signaling code HART physical signaling code.	R	Y			int	-	-	uint8	-	Bell 202 current (0)			
14609	HARTFlagAssignments	HART flag assignments HART flag assignments.	R	Y			int	-	-	uint8	-	Multi-sensor field device (1)			
14610	HARTPollingAddress	HART (via AO1) polling address Specifies the HART polling address for Analog Output 1.	RW	Y	Y	Y	int	-	-	uint8	-		0	0	63
14611	HARTVolFlowRateUnit	HART volumetric flow rate unit Specifies the HART communication unit for volumetric flow rate. This unit is derived from the volume unit (HARTVolUnit) and the flow rate time unit (HARTRateTimeUnit).	R				int	-	-	uint8	-	m3/sec (28) m3/hr (19) m3/day (29) ft3/sec (26) ft3/hr (130) ft3/day (27)			
14612	Reserved		R				int								
14613	HARTTVContent	HART Third Variable content HART Third Variable content.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7)	0	0	7
14614	HARTQVContent	HART Fourth Variable content HART Fourth Variable content.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7)	0	0	7
14615	HARTSlot0Content	HART Command 33 Slot 0 content Specifies the Device Variable mapped to the HART Command 33 Slot 0.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
14616	HARTSlot1Content	HART Command 33 Slot 1 content Specifies the Device Variable mapped to the HART Command 33 Slot 1.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
14617	HARTSlot2Content	HART Command 33 Slot 2 content Specifies the Device Variable mapped to the HART Command 33 Slot 2.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
14618	HARTSlot3Content	HART Command 33 Slot 3 content Specifies the Device Variable mapped to the HART Command 33 Slot 3.	RW	Y	Y	Y	int	-	-	uint8	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5) Pressure (6) Temperature (7) Not Used (250)	250	0	250
14619	Reserved		R				int								
14620	Reserved		R				int								
14621	IsAO1HARTAvail	Analog Output 1 HART functionality available Indicates whether HART functionality is available on Analog Output 1. It is set to "Not available" when the HART slave is disabled (IsHARTSlaveEnabled) or Analog Output 1 is not available (IsAO1Avail).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
14622	IsAO2Avail	Analog Output 2 available Analog Output 2 available indicator based on the CPU Module's I/O board revision.	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14623	IsAO2HARTAvail	Analog Output 2 HART functionality available Indicates whether HART functionality is available on Analog Output 2. It is set to "Not available" when the HART slave is disabled (IsHARTSlaveEnabled) or Analog Output 2 is not available (IsAO2Avail).	R				int	-	-	boolean	-	Not available (FALSE) Available (TRUE)			
14624	Reserved		R				int								
14625	Reserved		R				int								
14626	Reserved		R				int								
14627	Reserved		R				int								
14628	Reserved		R				int								
14629	Reserved		R				int								
14630	Reserved		R				int								
14631	Reserved		R				int								
14632	Reserved		R				int								
14633	Reserved		R				int								
14634	Reserved		R				int								
14635	Reserved		R				int								
14636	Reserved		R				int								
14637	Reserved		R				int								
14638	Reserved		R				int								
14639	Reserved		R				int								
14640	Reserved		R				int								
14641	Reserved		R				int								
14642	Reserved		R				int								
14643	Reserved		R				int								
14644	Reserved		R				int								
14645	Reserved		R				int								
14646	Reserved		R				int								
14647	Reserved		R				int								
14648	Reserved		R				int								
14649	Reserved		R				int								
14650	Reserved		R				int								
14651	Reserved		R				int								
14652	HARTVolUnit	HART volume unit Selects the HART communication volume unit. The volumetric flow rate unit (HARTVolFlowRateUnit) is derived from this.	RW	Y	Y	Y	int	-	-	uint8	-	m3 (43) ft3 (112)	43	43	112
14653	HARTEnergyUnit	HART energy unit Selects the HART communication energy unit. The energy rate unit (HARTEnergyRateUnit) is derived from this.	RW	Y	Y	Y	int	-	-	uint8	-	MJ (164) MMBtu (240)	164	164	240
14654	HARTMassUnit	HART mass unit Selects the HART communication mass unit. The mass rate unit (HARTMassRateUnit) is derived from this.	RW	Y	Y	Y	int	-	-	uint8	-	kg (61) lbm (63)	61	61	63
14655	HARTRateTimeUnit	HART flow rate time unit Selects the HART communication time unit for volumetric (HARTVolFlowRateUnit), energy (HARTEnergyRateUnit) and mass (HARTMassRateUnit) flow rates.	RW	Y	Y	Y	int	-	-	uint8	-	sec (51) hour (52) day (53)	52	51	53
14656	HARTVelUnit	HART velocity unit Selects the HART communication unit for flow velocity.	RW	Y	Y	Y	int	-	-	uint8	-	m/s (21) ft/s (20)	21	20	21
14657	HARTMassRateUnit	HART mass rate unit Specifies the HART communication unit for mass flow rate. This unit is derived from the mass unit (HARTMassUnit) and the flow rate time unit (HARTRateTimeUnit).	R				int	-	-	uint8	-	kg/s (73) kg/hr (75) kg/day (76) lbm/sec (80) lbm/hr (82) lbm/day (83)			
14658	HARTEnergyRateUnit	HART energy rate unit Specifies the HART communication unit for energy flow rate. This unit is derived from the energy unit (HARTEnergyUnit) and the flow rate time unit (HARTRateTimeUnit).	R				int	-	-	uint8	-	MJ/s (241) MJ/hr (141) MJ/day (242) MMBtu/s (243) MMBtu/hr (244) MMBtu/day (245)			
14659	HARTPressureUnit	HART pressure unit Selects the HART communication unit for pressure.	RW	Y	Y	Y	int	-	-	uint8	-	Pa (11) KPa (12) MPa (237) psi (6)	237	6	237
14660	HARTTemperatureUnit	HART temperature unit Selects the HART communication unit for temperature.	RW	Y	Y	Y	int	-	-	uint8	-	C (32) K (35) F (33)	32	32	35
14661	HARTNumPreambleBytesFromSlave	HART (via AO1) number of Slave response preamble bytes HART, via AO1, number of Slave response preamble bytes.	RW	Y	Y	Y	int	-	-	uint8	-		5	5	20
14662	Reserved		R				int								
14663	Reserved		R				int								
14664	Reserved		R				int								
14665	Reserved		R				int								

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14666	IsAcqModuleIncompatible	Acquisition Module is not compatible with the firmware/configuration The firmware cannot work with the installed Acquisition Module. The Acquisition Module may be newer than the firmware and the firmware does not recognize it. The Acquisition Module may be installed on a meter running firmware for the opposite product (Gas/Liquid). The Acquisition Module may be installed on a meter configured with a transducer frequency (XdcrFreq) or sample interval (SampInterval) that is not supported by the module. Recommended Actions: 1. Verify that the transducer frequency and sample interval are set to values supported by the installed Acquisition Module. 2. Upgrade the firmware in the meter to the latest version using MeterLink™. Contact your local area Emerson Flow service representative to obtain the latest firmware. 3. If the latest firmware revision did not resolve the issue, replace the Acquisition Module. 4. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Compatible Acquisition Module (FALSE) Incompatible Acquisition Module (TRUE)			
14667	IsEnergyRateInvalid	Energy flow rate invalid This indicates when the energy rate (EnergyRate) is invalid. This point is only applicable when the heating value is fixed (specified) or read from a gas chromatograph.	R	Y			int	-	-	boolean	-	Invalid (TRUE) Valid (FALSE)			
14668	AvgSndVelIsOutOfLimits	Average speed of sound out of limits (HART-specific) The meter's measured average speed of sound (AvgSndVel) is out of limits (SSMin, SSMax). This alarm is used for HART applications. The non-HART average speed of sound out of limits alarm (IsAvgSoundVelRangeErr) is used for other applications. Recommended Actions: 1. Verify that all the chords are measuring the same Speed of Sound within about 0.15%. Look for alarms that indicate transducer problems and resolve any of these issues. This could include failing transducers, debris buildup on transducers or incorrectly entered path lengths in the configuration. 2. If the chords agree well, it is recommended to compare the meter's average speed of sound with the speed of sound calculated from gas composition. If they agree within 0.3%, it is recommended that the minimum (SSMin) or maximum (SSMax) speed of sound be adjusted so the meter's average speed of sound falls within these limits. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Within limits (FALSE) Out of limits (TRUE)			
14669	FlowPressureIsOutOfLimits	Flow-condition pressure out-of-limits The flow-condition pressure (FlowPressure) is outside the limits (MinInputPressure to MaxInputPressure). Recommended Actions: 1. If connected to a pressure transducer, verify that the transducer is functioning properly. Verify that the wiring is correctly connected to TB2-B pins 1 & 2 (ANALOG IN PT- and PT+). Verify that the current is between 4 mA and 20 mA. 2. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits (MinInputPressure and MaxInputPressure) corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 3. Adjust the gain and offset (LiveFlowPressureGain and LiveFlowPressureOffset) so the flow-condition pressure (FlowPressure) is correct. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Within limits (FALSE) Out of limits (TRUE)			
14670	FlowTemperatureIsOutOfLimits	Flow-condition temperature out-of-limits The flow-condition temperature (FlowTemperature) is outside the limits (MinInputTemperature to MaxInputTemperature). Recommended Actions: 1. If connected to a temperature transducer, verify that the transducer is functioning properly. Verify that the wiring is correctly connected to TB2-B pins 3 & 4 (ANALOG IN TT- and TT+). Verify that the current is between 4 mA and 20 mA. 2. Run the Field Setup Wizard in MeterLink™ to properly configure the input including: Source (Live Analog or Fixed), Min and Max input limits (MinInputTemperature and MaxInputTemperature) corresponding to 4 mA and 20 mA respectively and the Low and High alarm limits. 3. Adjust the gain and offset (LiveFlowTemperatureGain and LiveFlowTemperatureOffset) so the flow-condition temperature (FlowTemperature) is correct. 4. If the issue is unresolved, collect a complete Archive Log from the meter using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Within limits (FALSE) Out of limits (TRUE)			
14671	IsPPPSupported	PPP connections are supported Boolean that indicates if PPP is supported or not. If variable does not exist on a meter, assumed that PPP is not supported.	R				int	-	-	boolean	-				
14672	Reserved		R				int								
14673	HARTTVValidity	HART Third Variable invalid The HART Third Variable value as defined by the HART device variable selection (HARTTVContent) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14674	HARTQVValidity	HART Fourth Variable invalid The HART Fourth Variable value as defined by the HART device variable selection (HARTQVContent) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14675	HARTSlot0Validity	HART Command 33 Slot 0 invalid The HART Slot 0 value as defined by the HART device variable selection (HARTSlot0Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14676	HARTSlot1Validity	HART Command 33 Slot 1 invalid The HART Slot 1 value as defined by the HART device variable selection (HARTSlot1Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14677	HARTSlot2Validity	HART Command 33 Slot 2 invalid The HART Slot 2 value as defined by the HART device variable selection (HARTSlot2Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14678	HARTSlot3Validity	HART Command 33 Slot 3 invalid The HART Slot 3 value as defined by the HART device variable selection (HARTSlot3Content) is invalid. Recommended Actions: 1. If an alarm exists for the content selected to be output, resolving that issue should clear this alarm. 2. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14679	AO1IsFixed	Analog Output 1 (HART PV) is fixed Analog Output 1 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 1 is removed from test mode, this alarm will clear. See also IsAO1EnableTest data point.	R				int	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
14680	AO1IsSaturated	Analog Output 1 (HART PV) is saturated Analog Output 1 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 1.	R				int	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
14681	AO1ActionUponInvalidContent	Analog Output 1 current action upon invalid content Specifies the action for Analog Output 1 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	int	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
14682	AO2IsFixed	Analog Output 2 (HART SV) is fixed Analog Output 2 current is in test mode and fixed. The current can be fixed by using the Outputs Test dialog of MeterLink™ by placing the output in test mode. Recommended Actions: 1. Once the Analog Output 2 is removed from test mode, this alarm will clear. See also IsAO2EnableTest data point.	R				int	-	-	boolean	-	Current not fixed (FALSE) Current fixed (TRUE)			
14683	AO2IsSaturated	Analog Output 2 (HART SV) is saturated Analog Output 2 is saturated (i.e. the loop current has reached its upper or lower endpoint and cannot increase or decrease any further). Recommended Actions: 1. The analog output may need to be rescaled to prevent it from saturating. Use the Field Setup Wizard in MeterLink™ to configure Analog Output 2.	R				int	-	-	boolean	-	Current not saturated (FALSE) Current saturated (TRUE)			
14684	AO2ActionUponInvalidContent	Analog Output 2 current action upon invalid content Specifies the action for Analog Output 2 current when the content is invalid. No special action is taken when set to None.	RW	Y	Y	Y	int	-	-	uint8	-	High - 20 mA (0) Low - 4 mA (1) Hold last value (239) Very low - 3.5 mA (240) Very high - 20.5 mA (241) None (251)	240	0	251
14685	HARTLengthUnit	HART length unit Selects the HART communication unit for length.	RW	Y	Y	Y	int	-	-	uint8	-	m (45) in (47)	45	45	47
14686	HARTMicroLengthUnit	HART micro length unit Selects the HART communication unit for pipe wall roughness (WallRoughness).	RW	Y	Y	Y	int	-	-	uint8	-	micrometers (170) microinches (171)	170	170	171
14687	HARTViscosityUnit	HART viscosity unit Selects the HART communication unit for dynamic viscosity.	RW	Y	Y	Y	int	-	-	uint8	-		55	55	170

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14688	HARTYoungsModulusPressureUnit	HART Young's modulus pressure unit Selects the HART communication unit for Young's Modulus (YoungsModulus).	RW	Y	Y	Y	int	-	-	uint8	-	KPa (12) MPa (237) 1E6 psi (180)	180	12	237
14689	HARTHeatingValueUnit	HART volumetric heating value unit Selects the HART communication unit for volumetric gross heating value (MeasVolGrossHeatingVal).	RW	Y	Y	Y	int	-	-	uint8	-	KJ/dm3 (170) Btu/ft3 (171)	170	170	171
14690	HARTDensityUnit	HART density unit Selects the HART communication unit for specified flow-condition gas mass density (SpecRhoMixFlow).	RW	Y	Y	Y	int	-	-	uint8	-	kg/m3 (92) lbm/ft3 (94)	92	92	94
14691	PerfStatusSuppressLmt	Chord performance status suppression limit Minimum percentage of chord performance to suppress chordal performance statuses. If the chord performance (PctGoodA..PctGoodD) is above this limit then the chordal performance statuses for the chord (DidDltTmChkFailA..DidDltTmChkFailD, IsSigQltyBadA..IsSigQltyBadD, DidExceedMaxNoiseA..DidExceedMaxNoiseD, IsSNRTooLowA..IsSNRTooLowD, DidTmDevChkFailA..DidTmDevChkFailD, IsSigDistortedA..IsSigDistortedD, IsPeakSwitchDetectedA..IsPeakSwitchDetectedD, IsSigClippedA..IsSigClippedD and IsStackingIncompleteA..IsStackingIncompleteD) are suppressed. This limit cannot be set less than or equal to percentage good threshold (MinPctGood).	RW	Y	Y		int	%	%	uint8	%		95	0	100
14692	MeterNominalSize	Meter nominal size The meter nominal size as set by the user or at the factory. The meter nominal size is used for the MeterLink™-created Smart Meter Verification report.	RW	Y	Y	Y	int	-	-	uint8	-	Not set (0) 4 in (DN 100) (4) 6 in (DN 150) (6) 8 in (DN 200) (8) 10 in (DN 250) (10) 12 in (DN 300) (12) 14 in (DN 350) (14) 16 in (DN 400) (16) 18 in (DN 450) (18) 20 in (DN 500) (20) 22 in (DN 550) (22) 24 in (DN 600) (24) 26 in (DN 650) (26) 28 in (DN 700) (28) 30 in (DN 750) (30) 32 in (DN 800) (32) 34 in (DN 850) (34) 36 in (DN 900) (36) 42 in (DN 1050) (42)	0	0	255
14700	HARTDeviceID	Unique HART device ID Unique HART device ID. This number is different for every device manufactured by Rosemount with this device type. It is identical to CPUBdSerialNumber	R	Y			long	-	-	uint32	-				
14702	HARTDeviceFinalAssyNum	HART device final assembly number HART device final assembly number. The final assembly number is used for identifying the materials and electronics that comprise the field device.	R	Y	Y	Y	long	-	-	uint32	-		0	0	16777215
14704	HARTDate	HART date code used by the master for record keeping HART date code used by the master for record keeping (such as last or next calibration date).	RW	Y	Y	Y	long	-	-	uint32	-		65792	0	16777215
14706	Reserved		R				long								
14708	Reserved		R				long								
14710	AO2Content	Analog Output 2 content (and HART secondary variable) Selects the data to be represented by Analog Output 2. Is used for HART communication as the Secondary Variable content.	RW	Y	Y	Y	long	-	-	int32	-	Uncorrected volume flow rate (0) Corrected volume flow rate (1) Average flow velocity (2) Average speed of sound (3) Energy flow rate (4) Mass flow rate (5)	0	0	5
14712	AO2Dir	Selects the flow direction represented by the Analog Output 2 Selects the flow direction represented by Analog Output 2. When set to "Reverse" or "Forward", the analog output represents the specified content when the flow is in selected direction. When set to "Absolute", the analog output represents the specified content regardless of the flow direction.	RW	Y	Y	Y	long	-	-	int32	-	Reverse (0) Forward (1) Absolute (2)	2	0	2
14720	Reserved		R				long								
14722	Reserved		R				long								
14724	SystemStatusLatched	General system status General system status indicator. This is a bitfield consisting of multiple Boolean data point values.	R	*	*	*	long	-	-	bitfield	-	7 IsColocMeterQFlowRangeErrLatched (NV) 8 IsTooFewOperChordsLatched (NV) 9 IsMeterVelAboveMaxLmtLatched (NV) 10 IsBlockageDetectedLatched (NV) 11 IsBoreBuildupDetectedLatched (NV) 12 IsLiquidDetectedLatched (NV) 13 IsAbnormalProfileDetectedLatched (NV) 14 IsReverseFlowDetectedLatched (NV)			
14726	FieldIOStatus	Ancillary devices and device status Externally connected devices and device status	R	*	*	*	long	-	-	bitfield	-	0 IsColocMeterCommErr (NV) 1 PressureInvalid (NV) 2 TemperatureInvalid (NV) 3 AreGasPropertiesInvalidInUse (NV) 4 IsGCCommErr (NV) 5 IsGCDataErr (NV) 7 IsGCAlarmPresent (NV) 8 DidResetUsers (NV, Cnfg) 18 IsCorePresent (NV, Cnfg)			
14728	FieldIOStatusLatched	Latched status of field IO Latched field IO indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to the field I/O status (FieldIOStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsColocMeterCommErrLatched (NV) 1 PressureInvalidLatched (NV) 2 TemperatureInvalidLatched (NV) 3 AreGasPropertiesInvalidInUseLatched (NV)			
14730	ProfileStatus	Status of profile factor Profile factor indicator. This is a bitfield consisting of multiple Boolean data point values corresponding to the Profile status group.	R	*	*	*	long	-	-	bitfield	-	0 IsAbnormalProfileDetected (NV) 1 IsBlockageDetected (NV) 2 IsBoreBuildupDetected (NV)			
14732	ProfileStatusLatched	Latched status of profile factor Latched profile factor indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to the profile status (ProfileStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsAbnormalProfileDetectedLatched (NV) 1 IsBlockageDetectedLatched (NV) 2 IsBoreBuildupDetectedLatched (NV)			

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14734	SOSCompareStatus	Status of SOS comparison Speed of sound comparison indicator. This is a bitfield consisting of multiple Boolean data point values corresponding to the speed of sound comparison group.	R	*	*	*	long	-	-	bitfield	-	0 IsSndVelCompErr (NV) 2 IsDiagnosticSndSpdRangeErr (NV) 3 IsColocMeterSndSpdRangeErr (NV)			
14736	SOSCompareStatusLatched	Latched status of SOS comparison Latched speed of sound comparison status indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to the speed of sound compare status (SOSCompareStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsSndVelCompErrLatched (NV) 2 IsDiagnosticSndSpdRangeErrLatched (NV) 3 IsColocMeterSndSpdRangeErrLatched (NV)			
14738	LiquidDetectedStatus	Status of liquid detection Liquid detection indicator. This is a bitfield consisting of multiple Boolean data point values corresponding to the liquid detection status group.	R	*	*	*	long	-	-	bitfield	-	0 IsLiquidDetected (NV)			
14740	LiquidDetectedLatched	Latched status of liquid detection Latched liquid detection indicator. This is a bitfield consisting of multiple latched Boolean data point values corresponding to liquid detected status (LiquidDetectedStatus).	R	*	*	*	long	-	-	bitfield	-	0 IsLiquidDetectedLatched (NV)			
14742	FwdBaselineTime	Time of forward flow baseline The time value when the baseline is taken in the forward direction.	R	Y	Y	Y	long	sec	sec	int32	Epoch sec		0	0	2147483647
14744	RevBaselineTime	Time of reverse flow baseline The time value when the baseline is taken in the reverse direction.	R	Y	Y	Y	long	sec	sec	int32	Epoch sec		0	0	2147483647
14746	FwdBoreBuildupDailyLogRecNum1	First daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the first day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
14748	FwdBoreBuildupDailyLogRecNum2	Second daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the second day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
14750	FwdBoreBuildupDailyLogRecNum3	Third daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the third day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
14752	FwdBoreBuildupDailyLogRecNum4	Fourth daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the fourth day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
14754	FwdBoreBuildupDailyLogRecNum5	Fifth daily log record indicating forward flow bore buildup The number of the Daily Log record that indicates the fifth day of possible bore buildup while flow is in the forward direction.	R	Y			long	-	-	uint32	-				
14756	RevBoreBuildupDailyLogRecNum1	First daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the first day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
14758	RevBoreBuildupDailyLogRecNum2	Second daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the second day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
14760	RevBoreBuildupDailyLogRecNum3	Third daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the third day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
14762	RevBoreBuildupDailyLogRecNum4	Fourth daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the fourth day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
14764	RevBoreBuildupDailyLogRecNum5	Fifth daily log record indicating reverse flow bore buildup The number of the Daily Log record that indicates the fifth day of possible bore buildup while flow is in the reverse direction.	R	Y			long	-	-	uint32	-				
14766	HourlyMacro1	Hourly log macro 1 Hourly log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14768	HourlyMacro2	Hourly log macro 2 Hourly log macro status indicator 2. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14770	HourlyMacro3	Hourly log macro 3 Hourly log macro status indicator 3. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14772	HourlyMacro4	Hourly log macro 4 Hourly log macro status indicator 4. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14774	HourlyMacro5	Hourly log macro 5 Hourly log macro status indicator 5. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14776	HourlyMacro6	Hourly log macro 6 Hourly log macro status indicator 6. This is a bitfield that contains a variety of alarms bits that were active in the last logging hour. Each bit is "sticky" for the logging period and clears for the next hour if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14780	DailyMacro1	Daily log macro 1 Daily log macro status indicator 1. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14782	DailyMacro2	Daily log macro 2 Daily log macro status indicator 2. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14784	DailyMacro3	Daily log macro 3 Daily log macro status indicator 3. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14786	DailyMacro4	Daily log macro 4 Daily log macro status indicator 4. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14788	DailyMacro5	Daily log macro 5 Daily log macro status indicator 5. This is a bitfield that contains a variety of alarms bits that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14790	DailyMacro6	Daily log macro 6 Daily log macro status indicator 6. This is a bitfield that contains a variety of alarms bits not contained in status 1 that were active in the last logging day. Each bit is "sticky" for the logging period and clears for the next day if the condition cleared in that period. Consult the alarm log for further information.	R	Y			long	-	-	uint32	-				
14794	MeterModel	Meter model The meter model as set by the user or at the factory. The meter model is used for the MeterLink™-created Smart Meter Verification report.	R	Y	Y	Y	long	-	-	uint16	-	Not set (0) 3411 (3411) 3412 (3412) 3414 (3414) 3415 (3415) 3416 (3416) 3417 (3417) 3418 (3418)	0	0	65535
14800	SOSComparePctDiff	Percent difference between the speed of sound calculated from gas composition and the average measured speed of sound The percent difference between the optional speed of sound calculated from gas composition (AGA10SndVel) and the average measured speed of sound (AvgSndVel) computed each Batch cycle as: ((AvgSndVel - AGA10SndVel) / AGA10SndVel) * 100%.	R				float	%	%	float32	%				
14802	FwdBaselineFlowTemperature	Forward flow temperature baseline The flow temperature value when the baseline is taken in the forward direction. Normally taken from RunningAvgFlowTemperature.	R	Y	Y	Y	float	deg C	deg F	float32	K		273.15	-3.40E+38	3.40E+38
14804	FwdBaselineFlowPressure	Forward flow pressure baseline The flow pressure value when the baseline is taken in the forward direction. Normally taken from RunningAvgFlowPressure.	R	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	-3.40E+38	3.40E+38
14806	FwdBaselineTurbulenceA	Forward flow chord A turbulence baseline The chord A turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceA.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
14808	FwdBaselineTurbulenceB	Forward flow chord B turbulence baseline The chord B turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceB.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
14810	FwdBaselineTurbulenceC	Forward flow chord C turbulence baseline The chord C turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceC.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
14812	FwdBaselineTurbulenceD	Forward flow chord D turbulence baseline The chord D turbulence value when the baseline is taken in the forward direction. Normally taken from RunningAvgTurbulenceD.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
14814	FwdBaselineAvgFlow	Forward flow average flow baseline The average flow value when the baseline is taken in the forward direction. Normally taken from RunningAvgAvgFlow.	R	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-3.40E+38	3.40E+38
14816	FwdBaselineCrossFlow	Forward flow cross-flow baseline The cross-flow value when the baseline is taken in the forward direction. Normally taken from RunningAvgCrossFlow.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38
14818	FwdBaselineProfileFactor	Forward flow profile factor baseline The profile factor value when the baseline is taken in the forward direction. Normally taken from RunningAvgProfileFactor.	R	Y	Y	Y	float	-	-	float32	-		1.17	-3.40E+38	3.40E+38
14820	FwdBaselineSymmetry	Forward flow symmetry baseline The symmetry value when the baseline is taken in the forward direction. Normally taken from RunningAvgSymmetry.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38
14822	RevBaselineFlowTemperature	Reverse flow temperature baseline The flow temperature value when the baseline is taken in the reverse direction. Normally taken from RunningAvgFlowTemperature.	R	Y	Y	Y	float	deg C	deg F	float32	K		273.15	-3.40E+38	3.40E+38
14824	RevBaselineFlowPressure	Reverse flow pressure baseline The flow pressure value when the baseline is taken in the reverse direction. Normally taken from RunningAvgFlowPressure.	R	Y	Y	Y	float	MPa	psi	float32	MPa		0.10156	-3.40E+38	3.40E+38
14826	RevBaselineTurbulenceA	Reverse flow chord A turbulence baseline The chord A turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceA.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
14828	RevBaselineTurbulenceB	Reverse flow chord B turbulence baseline The chord B turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceB.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
14830	RevBaselineTurbulenceC	Reverse flow chord C turbulence baseline The chord C turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceC.	R	Y	Y	Y	float	%	%	float32	%		2	-3.40E+38	3.40E+38
14832	RevBaselineTurbulenceD	Reverse flow chord D turbulence baseline The chord D turbulence value when the baseline is taken in the reverse direction. Normally taken from RunningAvgTurbulenceD.	R	Y	Y	Y	float	%	%	float32	%		3	-3.40E+38	3.40E+38
14834	RevBaselineAvgFlow	Reverse flow average flow baseline The average flow value when the baseline is taken in the reverse direction. Normally taken from RunningAvgAvgFlow.	R	Y	Y	Y	float	m/s	ft/s	float32	m/s		0	-3.40E+38	3.40E+38
14836	RevBaselineCrossFlow	Reverse flow cross-flow baseline The cross-flow value when the baseline is taken in the reverse direction. Normally taken from RunningAvgCrossFlow.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38
14838	RevBaselineProfileFactor	Reverse flow profile factor baseline The profile factor value when the baseline is taken in the reverse direction. Normally taken from RunningAvgProfileFactor.	R	Y	Y	Y	float	-	-	float32	-		1.17	-3.40E+38	3.40E+38
14840	RevBaselineSymmetry	Reverse flow symmetry baseline The symmetry value when the baseline is taken in the reverse direction. Normally taken from RunningAvgSymmetry.	R	Y	Y	Y	float	-	-	float32	-		1	-3.40E+38	3.40E+38

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Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14842	RunningAvgFlowTemperature	Flow temperature one minute average A running average of flow-condition temperature (FlowTemperature) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	deg C	deg F	float32	K				
14844	RunningAvgFlowPressure	Flow pressure one minute average A running average of flow-condition pressure (FlowPressure) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	MPa	psi	float32	MPa				
14846	RunningAvgTurbulenceA	Chord A turbulence one minute average A running average of chord A turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
14848	RunningAvgTurbulenceB	Chord B turbulence one minute average A running average of chord B turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
14850	RunningAvgTurbulenceC	Chord C turbulence one minute average A running average of chord C turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
14852	RunningAvgTurbulenceD	Chord D turbulence one minute average A running average of chord D turbulence over one minute when the running averages are valid (IsRunningAvgValid).	R				float	%	%	float32	%				
14854	RunningAvgAvgFlow	Avg flow averaged for one minute A running average of average flow velocity (AvgFlow) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	m/s	ft/s	float32	m/s				
14856	RunningAvgCrossFlow	Cross-flow one minute average A running average of cross-flow (CrossFlow) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
14858	RunningAvgProfileFactor	Profile factor one minute average A running average of profile factor (ProfileFactor) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
14860	RunningAvgSymmetry	Symmetry one minute average A running average of symmetry (Symmetry) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
14862	RunningSDevCrossFlow	Running standard deviation of cross-flow over a minute A running average of standard deviation of cross-flow (SDevCrossFlow) over a minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
14864	RunningSDevProfileFactor	Running standard deviation of the profile factor over a minute A running average of standard deviation of the profile factor (SDevProfileFactor) over a minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
14866	RunningSDevSymmetry	Running standard deviation of symmetry over a minute A running average of standard deviation of symmetry (SDevSymmetry) over a minute when the running averages are valid (IsRunningAvgValid).	R				float	-	-	float32	-				
14868	ReverseFlowVol	Accumulated volume for reverse flow alarm Volume flowed from continuous flow in reverse direction. This volume is compared to the reverse flow limit (ReverseFlowVolLmt) to determine the reverse flow alarm (IsReverseFlowDetected). It is only accumulated when the flow velocity (AvgWtdFlowVel) is below the reverse flow velocity threshold (ReverseFlowDetectionZeroCut).	R				float	volume	volume	float32	m3				
14870	SignalAmplitudeA1	Batch average signal amplitude on path A1 Batch average of the signal amplitude when transducer A1 receives a signal.	R				float	mV	mV	float32	mV				
14872	SignalAmplitudeA2	Batch average signal amplitude on path A2 Batch average of the signal amplitude when transducer A2 receives a signal.	R				float	mV	mV	float32	mV				
14874	SignalAmplitudeB1	Batch average signal amplitude on path B1 Batch average of the signal amplitude when transducer B1 receives a signal.	R				float	mV	mV	float32	mV				
14876	SignalAmplitudeB2	Batch average signal amplitude on path B2 Batch average of the signal amplitude when transducer B2 receives a signal.	R				float	mV	mV	float32	mV				
14878	SignalAmplitudeC1	Batch average signal amplitude on path C1 Batch average of the signal amplitude when transducer C1 receives a signal.	R				float	mV	mV	float32	mV				
14880	SignalAmplitudeC2	Batch average signal amplitude on path C2 Batch average of the signal amplitude when transducer C2 receives a signal.	R				float	mV	mV	float32	mV				
14882	SignalAmplitudeD1	Batch average signal amplitude on path D1 Batch average of the signal amplitude when transducer D1 receives a signal.	R				float	mV	mV	float32	mV				
14884	SignalAmplitudeD2	Batch average signal amplitude on path D2 Batch average of the signal amplitude when transducer D2 receives a signal.	R				float	mV	mV	float32	mV				
14886	NoiseAmplitudeA1	Batch average noise amplitude on path A1 Batch average of the noise amplitude when transducer A1 receives a signal.	R				float	mV	mV	float32	mV				
14888	NoiseAmplitudeA2	Batch average noise amplitude on path A2 Batch average of the noise amplitude when transducer A2 receives a signal.	R				float	mV	mV	float32	mV				
14890	NoiseAmplitudeB1	Batch average noise amplitude on path B1 Batch average of the noise amplitude when transducer B1 receives a signal.	R				float	mV	mV	float32	mV				
14892	NoiseAmplitudeB2	Batch average noise amplitude on path B2 Batch average of the noise amplitude when transducer B2 receives a signal.	R				float	mV	mV	float32	mV				
14894	NoiseAmplitudeC1	Batch average noise amplitude on path C1 Batch average of the noise amplitude when transducer C1 receives a signal.	R				float	mV	mV	float32	mV				
14896	NoiseAmplitudeC2	Batch average noise amplitude on path C2 Batch average of the noise amplitude when transducer C2 receives a signal.	R				float	mV	mV	float32	mV				
14898	NoiseAmplitudeD1	Batch average noise amplitude on path D1 Batch average of the noise amplitude when transducer D1 receives a signal.	R				float	mV	mV	float32	mV				
14900	NoiseAmplitudeD2	Batch average noise amplitude on path D2 Batch average of the noise amplitude when transducer D2 receives a signal.	R				float	mV	mV	float32	mV				
14902	FlowAnalysisHighFlowLmt	Upper flow velocity limit for performing flow analysis diagnostics The upper flow velocity limit for performing flow analysis diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled), Dual-Configuration meter diagnostics (IsColocMeterQFlowRangeErr and IsColocMeterSndSpdRangeErr) and gating "flow analysis gated" values in daily and hourly logs.	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		30.48	1	50
14904	FlowAnalysisLowFlowLmt	Lower flow velocity limit for performing flow analysis diagnostics The lower flow velocity limit for performing flow analysis diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled), Dual-Configuration meter diagnostics (IsColocMeterQFlowRangeErr and IsColocMeterSndSpdRangeErr) and gating "flow analysis gated" values in daily and hourly logs. This value may not be less than the lower velocity threshold (ZeroCut).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		1.524	-3.40E+38	3.40E+38

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14906	LiquidDetectionSDevSymmetryLmt	Liquid detection symmetry limit Alarm limit for running average of standard deviation of symmetry (RunningSDevSymmetry) involved in detection of potential liquids present (IsLiquidDetected).	RW	Y	Y	Y	float	-	-	float32	-		0.07	0	3.40E+38
14908	LiquidDetectionSDevProfileFactorLmt	Liquid detection profile factor limit Alarm limit for running average of standard deviation of profile factor (RunningSDevProfileFactor) involved in detection of potential liquids present (IsLiquidDetected).	RW	Y	Y	Y	float	-	-	float32	-		0.07	0	3.40E+38
14910	LiquidDetectionSDevCrossFlowLmt	Liquid detection cross-flow limit Alarm limit for running average of standard deviation of cross flow (RunningSDevCrossFlow) involved in detection of potential liquids present (IsLiquidDetected).	RW	Y	Y	Y	float	-	-	float32	-		0.07	0	3.40E+38
14912	AbnormalProfileDetectionLmt	Abnormal profile detection alarm limit Abnormal profile detection (IsAbnormalProfileDetected) alarm limit.	RW	Y	Y	Y	float	%	%	float32	%		5	0	100
14914	ReverseFlowVolLmt	Reverse flow alarm limit This is the limit for the reverse flow alarm (IsReverseFlowDetected). If the volume for reverse flow (ReverseFlowVol) exceeds this value with continuous reverse flow, the reverse flow alarm will be set.	RW	Y	Y	Y	float	volume	volume	float32	m3		0	0	3.40E+38
14916	ReverseFlowDetectionZeroCut	Velocity threshold below which reverse flow volume accumulates Velocity threshold below which the flow velocity is considered reversed (and thus the reverse flow volume (ReverseFlowVol) is accumulated).	RW	Y	Y	Y	float	m/s	ft/s	float32	m/s		0.1	0	3.40E+38
14918	SDevCrossFlow	Standard deviation of cross-flow Standard deviation of cross-flow calculated using measurement sequences received in a batch. This is used to calculate one minute running average of standard deviation of cross-flow (RunningSDevCrossFlow).	R				float	-	-	float32	-				
14920	SDevProfileFactor	Standard deviation of profile factor Standard deviation of profile factor calculated using measurement sequences received in a batch. This is used to calculate one minute running average of standard deviation of profile factor (RunningSDevProfileFactor).	R				float	-	-	float32	-				
14922	SDevSymmetry	Standard deviation of symmetry Standard deviation of symmetry calculated using measurement sequences received in a batch. This is used to calculate one minute running average of standard deviation of symmetry (RunningSDevSymmetry).	R				float	-	-	float32	-				
14950	AreSwComponentsCompatible	Kernel, File System and Firmware are compatible versions When TRUE (1), the versions of the kernel (OSVer), file system (FileSysVer) and firmware (CPUBdSwVer), are compatible with each other. When FALSE (0), the appropriate software component(s) need to be updated.	R				int	-	-	boolean	-				
14951	AreSwComponentsIncompatible	Kernel, File System and Firmware are not compatible versions The inversion of the software compatibility Boolean (AreSwComponentsCompatible) for the Modbus system status bit field (SystemStatus). When FALSE (0), the versions of the kernel, file system and firmware are compatible with each other. When TRUE (1), the appropriate software component(s) need to be updated.	R				int	-	-	boolean	-				
14952	IsSndVelCompFeatureActive	Comparison of SOS from gas composition to meter SOS feature is active TRUE (1) if the comparison of speed of sound from the gas composition by the meter-calculated speed of sound is enabled (IsSndVelCompEnabled), the Continuous Flow Analysis feature (IsOptionalContinuousFlowAnalysisEnabled) is enabled and the AGA8 method (HCH_Method) is set to Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017).	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
14953	FwdBaselineSwirlAngle	Forward flow swirl angle baseline The swirl angle value when the baseline is taken in the forward direction. Normally taken from RunningAvgSwirlAngle.	R	Y	Y	Y	int	deg	deg	int8	deg		0	-128	127
14954	RevBaselineSwirlAngle	Reverse flow swirl angle baseline The swirl angle value when the baseline is taken in the reverse direction. Normally taken from RunningAvgSwirlAngle.	R	Y	Y	Y	int	deg	deg	int8	deg		0	-128	127
14955	IsRunningAvgValid	One minute average validity Are the values in the one minute averages valid for use with the baseline	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
14956	RunningAvgSwirlAngle	Swirl angle one minute average A running average of swirl angle (SwirlAngle) over one minute when the running averages are valid (IsRunningAvgValid).	R				int	deg	deg	int8	deg				
14957	IsBlockageDetected	Possible blockage detected There may be a possible blockage upstream from the meter. The monitored conditions are from the hourly log data in the meter which means the alarm condition is set or cleared once an hour. Limits are specified by blockage turbulence limits (BlockageTurbulenceLmtA, BlockageTurbulenceLmtB, BlockageTurbulenceLmtC, BlockageTurbulenceLmtD) blockage cross-flow limit (BlockageCrossFlowLmt) and blockage symmetry limit (BlockageSymmetryLmt). This alarm is enabled/disabled by IsBlockageDetectionEnabled. This alarm is latched by IsBlockageDetectedLatched. Recommended Actions: 1. Check that the baseline has been set for the relevant flow direction. Use Edit/Compare Configuration dialog in MeterLink™ and check the relevant flow direction baseline comment (FwdBaselineComment, RevBaselineComment) and ensure the comment for the meter's flow direction is not set to Factory default. If the baseline was not set at the flow calibration lab or during field commissioning i.e. if the baseline isn't something other than factory default values, use the Set Baseline Wizard in MeterLink™ to set the baseline for normal flow conditions. 2. Inspect the flow conditioners, flow straighteners, tube bundles, or upstream piping for foreign objects. 3. If the issue is unresolved, collect a Maintenance Log, Archive Log, and Waveform stream file with MeterLink™ and contact your local area Emerson Flow service representative.	R	Y			int	-	-	boolean	-				
14958	IsBlockageDetectionFeatureActive	Blockage detection feature active This is TRUE (1) when blockage detection (IsBlockageDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
14959	IsBoreBuildupDetected	Possible bore buildup detected There may be a possible buildup of material on the meter bore. The monitored conditions are from the daily log data in the meter which means the alarm condition is set or cleared once a day. This alarm is enabled/disabled using IsBoreBuildupDetectionEnabled. This alarm is latched by IsBoreBuildupDetectedLatched. Recommended Actions: 1. Check that the baseline has been set for the relevant flow direction. Use Edit/Compare Configuration dialog in MeterLink™ and check the relevant flow direction baseline comment (FwdBaselineComment, RevBaselineComment) and ensure the comment for the meter's flow direction is not set to Factory default. If the baseline was not set at the flow calibration lab or during field commissioning i.e. if the baseline isn't something other than factory default values, use the Set Baseline Wizard in MeterLink™ to set the baseline for normal flow conditions. 2. Collect the Archive Log using MeterLink™ and look at the Profile Factor chart on the Daily Log Charts worksheet. If the data trend shows a long-term change in Profile Factor, this indicates a long-term buildup. If the Profile Factor has had an abrupt change in the last week, this indicates a possible upset condition that caused a buildup on the bore of the meter. 3. Inspect meter run for possible bore buildup. 4. If the issue is unresolved, collect a Maintenance Log and Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14960	IsBoreBuildupDetectionFeatureActive	Bore buildup detection feature active This is TRUE (1) when bore buildup detection (IsBoreBuildupDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
14961	IsLiquidDetected	Liquids possibly present in gas There may be a possible presence of liquids in the meter. Alarm limits are specified by LiquidDetectionSDevSymmetryLmt, LiquidDetectionSDevProfileFactorLmt and LiquidDetectionSDevCrossFlowLmt. This alarm is enabled/disabled by IsLiquidDetectionEnabled. This alarm is latched by IsLiquidDetectedLatched. This is TRUE (1) when all three alarm conditions are active for a period of one minute i.e. the running average of the standard deviation of profile factor (RunningSDevProfileFactor) is greater than the liquid detection profile factor limit (LiquidDetectionSDevProfileFactorLmt), the running average of standard deviation of symmetry (RunningSDevSymmetry) is greater than the liquid detection symmetry limit (LiquidDetectionSDevSymmetryLmt) and the running average of standard deviation of profile factor (RunningSDevCrossFlow) is greater than the liquid detection cross flow limit (LiquidDetectionSDevCrossFlowLmt). Recommended Actions: 1. Verify that the gas process conditions are such that the meter is operating above the dew point. 2. Inspect the meter run for the presence of liquids. 3. Check the upstream system for faults that could allow liquids into the meter run. 4. Verify that the meter is not at a low point in the meter run where liquids could be trapped. 5. If the issue is unresolved, collect a Maintenance Log and Waveform stream file while alarm is active and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
14962	IsLiquidDetectionFeatureActive	Liquid detection feature active This is TRUE (1) when liquid detection (IsLiquidDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
14963	IsAbnormalProfileDetected	Abnormal profile detected The flow profile of the meter is abnormal and may affect the accuracy of measurement of the meter. Limits are specified by AbnormalProfileDetectionLmt. This alarm is enabled/disabled by IsAbnormalProfileDetectionEnabled. This alarm is latched by IsAbnormalProfileDetectedLatched. Recommended Actions: 1. Check that the baseline has been set for the relevant flow direction. Use Edit/Compare Configuration dialog in MeterLink™ and check the relevant flow direction baseline comment (FwdBaselineComment, RevBaselineComment) and ensure the comment for the meter's flow direction is not set to Factory default. If the baseline was not set at the flow calibration lab or during field commissioning i.e. if the baseline isn't something other than factory default values, use the Set Baseline Wizard in MeterLink™ to set the baseline for normal flow conditions. 2. Inspect the meter run and the upstream flow conditioner for possible obstructions. 3. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
14964	IsAbnormalProfileDetectionFeatureActive	Abnormal profile detection feature active This is TRUE (1) when abnormal profile detection (IsAbnormalProfileDetectionEnabled) is TRUE (1), Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	R	Y			int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
14965	IsReverseFlowDetected	Reverse flow detected The meter has accumulated a reverse flow volume greater than a user configurable limit. Limits are specified by the reverse flow volume limit (ReverseFlowVolLmt) and by the reverse flow detection zero flow cutoff (ReverseFlowDetectionZeroCut). This alarm may be enabled or disabled (IsReverseFlowDetectionEnabled). This alarm is latched (IsReverseFlowDetectedLatched). Recommended Actions: 1. Check the valves for leaks. 2. If the metering run is known to have some volume of reverse flow when the flow is stopped, reconfigure the reverse flow volume limit (ReverseFlowVolLmt) to allow a greater volume. 3. If the meter regularly flows in the reverse direction, this alarm should be disabled. It is only intended to be used for unidirectional applications. 4. If the issue is unresolved, collect an Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
14966	IsFwdBaselineFlowTemperatureNotSet	Forward flow temperature baseline value is not set Baseline value, FwdBaselineFlowTemperature, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14967	IsFwdBaselineFlowPressureNotSet	Forward flow pressure baseline value is not set Baseline value, FwdBaselineFlowPressure, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14968	IsFwdBaselineTurbulenceANotSet	Forward turbulence A baseline value is not set Baseline value, FwdBaselineTurbulenceA, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14969	IsFwdBaselineTurbulenceBNotSet	Forward turbulence B baseline value is not set Baseline value, FwdBaselineTurbulenceB, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14970	IsFwdBaselineTurbulenceCNotSet	Forward turbulence C baseline value is not set Baseline value, FwdBaselineTurbulenceC, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14971	IsFwdBaselineTurbulenceDNotSet	Forward turbulence D baseline value is not set Baseline value, FwdBaselineTurbulenceD, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14972	IsFwdBaselineCommentNotSet	Forward baseline comment is not set Baseline value, FwdBaselineComment, is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14973	IsFwdBaselineAvgFlowNotSet	Forward average flow baseline value is not set Baseline value, FwdBaselineAvgFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14974	IsFwdBaselineCrossFlowNotSet	Forward cross-flow baseline value is not set Baseline value, FwdBaselineCrossFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14975	IsFwdBaselineProfileFactorNotSet	Forward profile factor baseline value is not set Baseline value, FwdBaselineProfileFactor, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14976	IsFwdBaselineSwirlAngleNotSet	Forward swirl angle baseline value is not set Baseline value, FwdBaselineSwirlAngle, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14977	IsFwdBaselineSymmetryNotSet	Forward symmetry baseline value is not set Baseline value, FwdBaselineSymmetry, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14978	IsFwdBaselineTimeNotSet	Forward baseline time is not set Baseline value, FwdBaselineTime, is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14979	IsRevBaselineFlowTemperatureNotSet	Reverse flow temperature baseline value is not set Baseline value, RevBaselineFlowTemperature, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14980	IsRevBaselineFlowPressureNotSet	Reverse flow pressure baseline value is not set Baseline value, RevBaselineFlowPressure, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14981	IsRevBaselineTurbulenceANotSet	Reverse turbulence A baseline value is not set Baseline value, RevBaselineTurbulenceA, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14982	IsRevBaselineTurbulenceBNotSet	Reverse turbulence B baseline value is not set Baseline value, RevBaselineTurbulenceB, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14983	IsRevBaselineTurbulenceCNotSet	Reverse turbulence C baseline value is not set Baseline value, RevBaselineTurbulenceC, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14984	IsRevBaselineTurbulenceDNotSet	Reverse turbulence D baseline value is not set Baseline value, RevBaselineTurbulenceD, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14985	IsRevBaselineCommentNotSet	Reverse baseline comment is not set Baseline value, RevBaselineComment, is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14986	IsRevBaselineAvgFlowNotSet	Reverse average flow baseline value is not set Baseline value, RevBaselineAvgFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14987	IsRevBaselineCrossFlowNotSet	Reverse cross-flow baseline value is not set Baseline value, RevBaselineCrossFlow, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14988	IsRevBaselineProfileFactorNotSet	Reverse profile factor baseline value is not set Baseline value, RevBaselineProfileFactor, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14989	IsRevBaselineSwirlAngleNotSet	Reverse swirl angle baseline value is not set Baseline value, RevBaselineSwirlAngle, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14990	IsRevBaselineSymmetryNotSet	Reverse symmetry baseline value is not set Baseline value, RevBaselineSymmetry, is set to factory default. The baseline is used by the meter for diagnostics when Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled). Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14991	IsRevBaselineTimeNotSet	Reverse baseline time is not set Baseline value, RevBaselineTime is set to factory default. Recommended Actions: 1. Run the Setup Baseline Wizard in MeterLink™.	R	Y			int	-	-	boolean	-		TRUE (1)	FALSE (0)	TRUE (1)
14992	IsFwdBaselineNotSet	Forward baseline is not set Some or all forward baseline values used by the Continuous Flow Analysis feature are not set. The baseline captures the flow characteristics of the meter when installed so that the meter can monitor these parameters and use them to diagnose the health of the meter. Recommended Actions: 1. Run the Set Baseline Wizard in MeterLink™ to set the forward baseline parameters. 2. If the meter does not run in the forward direction or you do not wish to take advantage of the Continuous Flow Analysis feature, acknowledge this alarm to clear it.	RW	Y	Y		int	-	-	boolean	-	Baseline set (FALSE) Baseline not set (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
14993	IsRevBaselineNotSet	Reverse baseline is not set Some or all reverse baseline values used by the Continuous Flow Analysis feature are not set. The baseline captures the flow characteristics of the meter when installed so that the meter can monitor these parameters and use them to diagnose the health of the meter. Recommended Actions: 1. Run the Set Baseline Wizard in MeterLink™ to set the reverse baseline parameters. 2. If the meter does not run in the reverse direction or you do not wish to take advantage of the Continuous Flow Analysis features, acknowledge this alarm to clear it.	RW	Y	Y		int	-	-	boolean	-	Baseline set (FALSE) Baseline not set (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
14994	IsAnyBaselineAvail	Baselines supported for this meter type This indicates whether or not the baselines are supported for this meter type. If the meter is a JuniorSonic, device number (DeviceNumber) is 3411 or 3412, then the value is FALSE (0) and the baselines are not used.	R	Y			int	-	-	boolean	-	Not Available (FALSE) Available (TRUE)			
14995	PressureInvalidLatched	Flow pressure invalid, latched until acknowledged The alarm value for flow-condition pressure (PressureInvalid) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
14996	TemperatureInvalidLatched	Flow temperature invalid, latched until acknowledged The alarm value for flow-condition temperature (TemperatureInvalid) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
14997	IsAcqModuleErrorLatched	Acquisition Module error, latched until acknowledged The alarm value for Acquisition Module errors (IsAcqModuleError) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
14998	IsMeterVelAboveMaxLmtLatched	Meter velocity above max limit, latched until acknowledged The alarm value for the maximum velocity (IsMeterVelAboveMaxLmt) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
14999	IsAvgSoundVelRangeErrLatched	Average speed of sound out of limits, latched until acknowledged The latch for the average speed of sound out of limits alarm (IsAvgSoundVelRangeErr) that remains set until manually cleared	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15000	IsAcqModeLatched	Acquisition mode, latched until acknowledged The latched alarm for acquisition mode (IsAcqMode) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15001	IsTooFewOperChordsLatched	Too few operating chords, latched until acknowledged The alarm value for too few chords (IsTooFewOperChords) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15002	IsSndVelCompErrLatched	Comparison of SOS from gas composition to meter SOS error, latched until acknowledged Latched alarm for speed of sound comparison error (IsSndVelCompErr) between the previous hour average speed of sound calculated from the gas composition (CompAvgAGA10SndVel) and the previous hour average meter-calculated speed of sound (CompAvgMeterSndVel) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15003	IsSndVelCompEnabled	Enable or disable comparison of SOS from gas composition with meter SOS Disables comparison of speed of sound calculated from the gas composition by the meter-calculated speed of sound (IsSndVelCompFeatureActive) when set to FALSE (0). Setting this to TRUE (1) will enable the comparison if the Continuous Flow Analysis feature (IsOptionalContinuousFlowAnalysisEnabled) is enabled and the AGA8 method (HCH_Method) is set to Detail Method (AGA8, 1994) or GERG-2008 (AGA8 Part 2, 2017).	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15004	IsBlockageDetectedLatched	Possible blockage detected, latched until acknowledged The latched alarm for blockage detected (IsBlockageDetected) that remains set until acknowledged.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15005	IsBlockageDetectionEnabled	Enables or disables blockage detection Disables blockage detection (IsBlockageDetected) when set FALSE (0). Setting this to TRUE (1) will enable blockage detection if optional flow analysis features are enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15006	BlockageTurbulenceLmtA	Blockage alarm turbulence limit for chord A The percentage from the baseline value (FwdBaselineTurbulenceA or RevBaselineTurbulenceA) that the turbulence of chord A (TurbulenceA) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		5	0	100
15007	BlockageTurbulenceLmtB	Blockage alarm turbulence limit for chord B The percentage from the baseline value (FwdBaselineTurbulenceB or RevBaselineTurbulenceB) that the turbulence of chord B (TurbulenceB) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		3	0	100
15008	BlockageTurbulenceLmtC	Blockage alarm turbulence limit for chord C The percentage from the baseline value (FwdBaselineTurbulenceC or RevBaselineTurbulenceC) that the turbulence of chord C (TurbulenceC) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		3	0	100
15009	BlockageTurbulenceLmtD	Blockage alarm turbulence limit for chord D The percentage from the baseline value (FwdBaselineTurbulenceD or RevBaselineTurbulenceD) that the turbulence of chord D (TurbulenceD) is allowed to vary before there is an indication of potential blockage (IsBlockageDetected).	RW	Y	Y	Y	int	%	%	uint8	%		5	0	100
15010	BlockageCrossFlowLmt	Blockage alarm cross-flow limit The percentage from the baseline value (FwdBaselineCrossFlow or RevBaselineCrossFlow) the cross-flow (CrossFlow) is allowed to vary before there is an indication of potential blockage.	RW	Y	Y		int	%	%	uint8	%		3	0	100
15011	BlockageSymmetryLmt	Blockage alarm symmetry limit The percentage from the baseline value (FwdBaselineSymmetry or RevBaselineSymmetry) the chord symmetry (Symmetry) is allowed to vary before there is an indication of potential blockage.	RW	Y	Y		int	%	%	uint8	%		5	0	100
15012	IsBoreBuildupDetectedLatched	Possible bore buildup detected, latched until acknowledged The alarm value for bore buildup detection (IsBoreBuildupDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15013	IsBoreBuildupDetectionEnabled	Enables or disables bore buildup detection Disables bore buildup detection diagnostic when set FALSE (0).	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15014	IsLiquidDetectedLatched	Liquids possibly present in gas, latched until acknowledged The alarm value for liquid detection (IsLiquidDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15015	IsLiquidDetectionEnabled	Enables or disables liquid detection Disables liquid present detection (IsLiquidDetected) when set FALSE (0). Setting this to TRUE (1) will enable liquid present detection if the Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15016	IsAbnormalProfileDetectedLatched	Abnormal profile detected, latched until acknowledged The alarm value for abnormal profile (IsAbnormalProfileDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15017	IsAbnormalProfileDetectionEnabled	Enables or disables abnormal profile detection Disables abnormal profile detection (IsAbnormalProfileDetected) when set FALSE (0). Setting this to TRUE (1) will enable abnormal profile present detection if Continuous Flow Analysis feature is enabled (IsOptionalContinuousFlowAnalysisEnabled) and the meter device number (DeviceNumber) is 3414 or 3418.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15018	IsReverseFlowDetectedLatched	Reverse flow detected, latched until acknowledged The latch for the reverse flow alarm (IsReverseFlowDetected) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15019	IsReverseFlowDetectionEnabled	Enables or disables reverse flow detection Disables reverse flow detection (IsReverseFlowDetected) when set FALSE (0). Setting this to TRUE (1) will enable reverse flow detection.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
15020	XdcrNumDriveCycles	Number of cycles for transducer Number of cycles for transducer. Will be overwritten when transducer type (SetXdcrType) changes.	RW	Y	Y	Y	int	-	-	uint8	-		1	1	2
15021	SampPerCycle	Samples per cycle The number of times the waveform is sampled between two zero crossings with the same slope (one cycle). Usually adjusted by setting the transducer type (SetXdcrType). This value should only be changed at the factory or under the direction of Emerson Flow Support.	RW	Y	Y	Y	int	-	-	uint8	-	10 (10)	10	10	10
15022	SetXdcrType	Set transducer type Sets the type of transducer installed. Changing this data point will overwrite transducer configuration parameters (XdcrFreq, XdcrNumDriveCycles, DltChk, NegSpan, Pk1Wdth, PosSpan, SampPerCycle, SampInterval, TmDevLow1, Tspf, TspfLo, TspfHi, Tspe and Tamp) with default values. The band pass filter (Filter) will be enabled if required by the selected transducer type. Once these transducer configuration values are written, the value of this data point is saved in the transducer type data point (XdcrType), and then set transducer type is set to zero.	RW	Y		Y	int	-	-	uint8	-	Automatically reset by the meter (0) T-11/T-21/T-41 (2) T-12/T-22 (3) T-32 (4) T-200 (5)	0	0	5
15023	SampInterval	Sampling (rate) interval. Changing this value requires re-booting the meter The duration in nanoseconds of the signal sampling period. It is also used to compute the system delay (SystemDelay). Usually adjusted by setting the transducer type (SetXdcrType). A sample interval of 800 ns requires a standard Acquisition Module. A sample interval less than 800 ns requires a High Frequency Acquisition Module.	RW	Y	Y	Y	int	ns	ns	float32	ns		800	400	800
15024	XdcrFreq	Transducer frequency The output frequency of the transducers. Usually adjusted by setting the transducer type (SetXdcrType). A transducer frequency of 125 KHz requires a standard Acquisition Module. A transducer frequency higher than 125 KHz requires a High Frequency Acquisition Module.	RW	Y	Y	Y	int	KHz	KHz	float32	KHz		125	125	250
15025	IsDiagnosticChordEnabled	Enable diagnostic chord When set to TRUE (1), it enables diagnostic chord on the meter. Changing this value requires warm-starting the meter. This only applies to (DeviceNumber) 3411 meters.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
15026	IsDiagnosticSndSpdDetectionEnabled	Enables or disables diagnostic speed of sound check Disables diagnostic speed of sound check (IsDiagnosticSndSpdRangeErr) and the diagnostic speed of sound check feature (IsDiagnosticSndSpdDetectionFeatureActive) when set FALSE (0). Setting this to TRUE (1) will enable diagnostic speed of sound check.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15027	IsDiagnosticSndSpdDetectionFeatureActive	Diagnostic speed of sound check feature active This is TRUE (1), when the diagnostic speed of sound check (IsDiagnosticSndSpdDetectionEnabled) is TRUE (1), diagnostic chord is enabled (IsDiagnosticChordEnabled) and diagnostic chord is active.	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
15028	IsDiagnosticChordRunningAvgValid	Validity for diagnostic chord speed of sound average When TRUE (1), it indicates that diagnostic chord speed of sound running average (RunningAvgDiagnosticChordSndVel) is valid. It is set to FALSE (0) when diagnostic speed of sound check feature (IsDiagnosticSndSpdDetectionFeatureActive) is FALSE (0) or meter is not in measurement mode or time period to calculate diagnostic speed of sound running average (RunningAvgDiagnosticChordSndVel) has not elapsed (DiagnosticChordRunningAvgSeconds).	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
15029	DiagnosticChordRunningAvgSeconds	Time period to calculate diagnostic chord speed of sound average Number of seconds to calculate diagnostic chord speed of sound running average (RunningAvgDiagnosticChordSndVel) and set diagnostic chord speed of sound average validity (IsDiagnosticChordRunningAvgValid).	RW	Y	Y	Y	int	sec	sec	uint16	sec		60	1	3600
15030	IsDiagnosticSndSpdRangeErrLatched	Speed of sound comparison of diagnostic chord to meter error, latched until acknowledged Latched alarm for diagnostic speed of sound error (IsDiagnosticSndSpdRangeErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15031	IsDiagnosticSndSpdRangeErr	Speed of sound comparison of diagnostic chord to meter error A diagnostic speed of sound error is detected which could indicate the presence of liquids and/or debris buildup within the meter bore. This alarm indicates that the average speed of sound one-minute running average (RunningAvgAvgSndVel) and the diagnostic chord speed of sound running average (RunningAvgDiagnosticChordSndVel) differ by more than the configured error limit for the diagnostic speed of sound check (DiagnosticSndSpdErrLimit). This alarm is set to TRUE (1), when the condition stated above is met and the diagnostic speed of sound check feature (IsDiagnosticSndSpdDetectionFeatureActive) is TRUE (1), the one minute average validity (IsRunningAvgValid) is TRUE (1), and the diagnostic chord speed of sound average validity (IsDiagnosticChordRunningAvgValid) is TRUE (1). Recommended Actions: 1. Check the process fluid conditions to see if liquids could be dropping out of the process fluid. Increasing the line pressure could be a solution if this condition occurs. 2. A persistent alarm could also be an indication that some debris has been deposited along the bottom of the meter bore. The meter run should be checked and cleaned if necessary. 3. Collect the Archive Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15032	XdcrType	Transducer type The set of transducers with the same tracking parameters of which the installed transducers are a member. The value is typically set by the set transducer type (SetXdcrType). However, this value may be manually entered or overwritten.	RW	Y	Y	Y	int	-	-	uint8	-	Not set (0) T-11/T-21/T-41 (2) T-12/T-22 (3) T-32 (4) T-200 (5)	0	0	5
15033	AreGasPropertiesInvalidInUseLatched	In-use gas properties invalid, latched until acknowledged The alarm value for in-use gas properties (AreGasPropertiesInvalidInUse) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15044	DiagnosticSndSpdErrLimit	Limit for diagnostic speed of sound check Limit on the difference between average speed of sound one minute average (RunningAvgAvgSndVel) and diagnostic chord speed of sound average (RunningAvgDiagnosticChordSndVel). This is used to generate diagnostic speed of sound error (IsDiagnosticSndSpdRangeErr).	RW	Y	Y	Y	float	%	%	float32	%		0.5	0	10
15046	RunningAvgAvgSndVel	Average speed of sound one-minute running average A running average of average speed of sound (AvgSndVel) over one minute when the running averages are valid (IsRunningAvgValid).	R				float	m/s	ft/s	float32	m/s				
15048	RunningAvgDiagnosticChordSndVel	Diagnostic chord speed of sound running average The running average of diagnostic chord speed of sound over a time period (DiagnosticChordRunningAvgSeconds) used for diagnostic speed of sound error (IsDiagnosticSndSpdRangeErr). Diagnostic chord speed of sound is determined using an additional diagnostic chord on the meter when diagnostic chord is enabled (IsDiagnosticChordEnabled).	R				float	m/s	ft/s	float32	m/s				
15050	CalProfileFactor	Calibration average profile factor This is the average profile factor (ProfileFactor) while the timed calibration flag (CalFlag) is set to TRUE (1) or while the DI1 gates the calibration when DI1 is configured to synchronize calibration (IsDI1UsedForCal).	R				float	-	-	float32	-				

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15070	ColocMeterSndSpdErrLimit	Error limit for Dual-Configuration meter speed of sound range check error Limit on the difference between average speed of sound one hour average (ColocMeterRunningAvgAvgSndVel) of the Dual-Configuration meters. This is used to generate Dual-Configuration meter speed of sound range check alarm (IsColocMeterSndSpdRangeErr).	RW	Y	Y	Y	float	%	%	float32	%		0.5	0	10
15072	ColocMeterQFlowErrLimit	Error limit for Dual-Configuration meter uncorrected flow rate range check error Limit on the difference between flow-condition volumetric flow rate one hour average (ColocMeterRunningAvgQFlow) of the Dual-Configuration meters. This is used to generate Dual-Configuration meter flow-condition volumetric flow rate range check alarm (IsColocMeterQFlowRangeErr).	RW	Y	Y	Y	float	%	%	float32	%		1	0	10
15074	ColocMeterRunningAvgAvgSndVel	Average speed of sound running average for Dual-Configuration meter diagnostic error One hour running average of average speed of sound (AvgSndVel). The running average is updated once in a minute using average speed of sound samples per batch. It is used to indicate Dual-Configuration meter speed of sound range check alarm (IsColocMeterSndSpdRangeErr).	R				float	m/s	ft/s	float32	m/s				
15076	ColocMeterRunningAvgQFlow	Uncorrected flow rate running average for Dual-Configuration meter diagnostic error One hour running average of Dual-Configuration meter flow-condition volumetric flow rate (QFlow). The running average is updated once in a minute using flow-condition volumetric flow rate samples per batch. It is used to indicate Dual-Configuration meter flow-condition volumetric flow rate range check alarm (IsColocMeterQFlowRangeErr).	R				float	volume/time	volume/time	float32	m3/hr				
15085	IsColocMeterCommErr	Dual-Configuration meter communication error The Dual-Configuration meters are not communicating, either due to incorrect configuration or the other head is not reachable. It could also indicate that the Dual-Configuration meter clock is out of sync. Check the Dual-Configuration meter communication error reasons (ColocMeterCommErrReasons) for details. Recommended action: 1. Check the Ethernet connection between the Dual-Configuration meters. 2. Make sure that the Dual-Configuration meter IP address (ColocMeterIPAddress) on the head 1 is the same as the Ethernet IP address (Eth1IPAddr) on the head 2 and vice versa. 3. If the clock synchronization (IsColocMeterClockSyncEnabled) is enabled, make sure that the PTP domain number (PTPDomainNumber) is the same on both meter heads. 4. Collect the Archive Logs (Daily, Hourly, Audit, Alarm, and System) using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15086	IsColocMeterCommErrLatched	Dual-Configuration meter communication error, latched until acknowledged Latched alarm for Dual-Configuration meter communication error (IsColocMeterCommErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15087	IsColocMeterSndSpdRangeCheckEnabled	Enables or disables Dual-Configuration meter speed of sound range check error Enables Dual-Configuration meter speed of sound check feature (IsColocMeterSndSpdRangeCheckFeatureActive) when set TRUE (1). Setting this to FALSE (0) will disable Dual-Configuration meter speed of sound check feature.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15088	IsColocMeterSndSpdRangeCheckFeatureActive	Dual-Configuration meter speed of sound range check feature is active This is TRUE (1), when the Dual-Configuration meter speed of sound range check (IsColocMeterSndSpdRangeCheckEnabled) is TRUE (1), Dual-Configuration meter IP address (ColocMeterIPAddress) is configured with an IP address other than the loopback address or meter's Ethernet IP address (Eth1IPAddr) and Dual-Configuration meter mode (ColocMeterMode) is set to "Transmitter Head 1" or "Transmitter Head 2".	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			
15089	IsColocMeterSndSpdRangeErr	Dual-Configuration meter speed of sound range check error A Dual-Configuration meter speed of sound range error is detected. This could indicate a problem with the meter or the Dual-Configuration meter which could affect meter measurement. This alarm indicates that the one-hour running average of average speed of sound (ColocMeterRunningAvgAvgSndVel) of the Dual-Configuration meters differ by more than the specified speed of sound range check error limit (ColocMeterSndSpdErrLimit). This alarm is set to TRUE (1), when the condition stated above is met and when the Dual-Configuration meter speed of sound range check feature (IsColocMeterSndSpdRangeCheckFeatureActive) is TRUE (1) and the average speed of sound one-hour running average (IsColocMeterRunningAvgAvgSndVelValid) is TRUE (1) on both heads. The alarm is not set when the average flow velocity (AvgFlow) is less than the diagnostic analysis low flow limit (FlowAnalysisLowFlowLmt) or is greater than the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt). Recommended Actions: 1. The alarm could be an indication of the presence of liquids within the meter bore. Check the process fluid conditions to see if liquids could be dropping out of the process fluid. Increasing the line pressure could be a solution if this condition occurs. 2. The alarm could be an indication that some debris has been deposited along the bottom of the meter bore. The meter run should be checked and cleaned if necessary. 3. Check that there are no active alarm conditions which could be affecting the speed of sound measurement. 4. Collect the Archive Logs (Daily, Hourly, Audit, Alarm, and System), Maintenance Log and Waveform stream file using MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15090	IsColocMeterSndSpdRangeErrLatched	Dual-Configuration meter speed of sound range check error, latched until acknowledged Latched alarm for Dual-Configuration meter speed of sound range check error (IsColocMeterSndSpdRangeErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15091	IsColocMeterQFlowRangeCheckEnabled	Enables or disables Dual-Configuration meter uncorrected flow rate range check error Enables Dual-Configuration meter flow-condition volumetric flow rate range check feature (IsColocMeterQFlowRangeCheckFeatureActive) when set to TRUE (1). Setting this to FALSE (0) will disable Dual-Configuration meter flow-condition volumetric flow rate range check feature.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15092	IsColocMeterQFlowRangeCheckFeatureActive	Dual-Configuration meter uncorrected flow rate range check feature is active This is TRUE (1), when the Dual-Configuration meter flow-condition volumetric flow rate range check (IsColocMeterQFlowRangeCheckEnabled) is TRUE (1), Dual-Configuration meter IP address (ColocMeterIPAddress) is configured with an IP address other than the loopback address or meter's Ethernet IP address (Eth1IPAddr) and Dual-Configuration meter mode (ColocMeterMode) is set to "Transmitter Head 1" or "Transmitter Head 2".	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15093	IsColocMeterQFlowRangeErr	Dual-Configuration meter uncorrected flow rate range check error A Dual-Configuration meter flow-condition volumetric flow rate range error is detected. This alarm could indicate a problem with the meter or the Dual-Configuration meter which could affect meter measurement. This alarm indicates that the flow-condition volumetric flow rate one-hour running average (ColocMeterRunningAvgQFlow) of the Dual-Configuration meters differ by more than the specified flow-condition volumetric flow rate range check error limit (ColocMeterQFlowErrLimit). This alarm is TRUE (1), when the condition stated above is met and when the Dual-Configuration meter flow-condition volumetric flow rate range check feature (IsColocMeterQFlowRangeCheckFeatureActive) is TRUE (1) and the flow-condition volumetric flow rate one-hour running average (IsColocMeterRunningAvgQFlowValid) is TRUE (1) on both heads. The alarm is not set when the average flow velocity (AvgFlow) is less than the diagnostic analysis low flow limit (FlowAnalysisLowFlowLmt) or is greater than the diagnostic analysis high flow limit (FlowAnalysisHighFlowLmt). Recommended Actions: 1. The alarm could be an indication of the presence of liquids in the meter bore. Check the process fluid conditions to see if liquids could be dropping out of the process fluid. Increasing the line pressure could be a solution if this condition occurs. 2. The alarm could be an indication that some debris has been deposited along the bottom of the meter bore. The meter run should be checked and cleaned if necessary. 3. The alarm could be an indication of possible buildup of material on the meter bore. The meter run should be checked and cleaned if necessary. 4. On meter head 1, check the meter diagnostics Symmetry, SwirlAngle, ProfileFactor and CrossFlow and compare them against their baseline values. 5. Collect the Archive Logs (Daily, Hourly, Audit, Alarm, and System), Maintenance Log, and Waveform stream file using MeterLink™ while the meter is experiencing the issue and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15094	IsColocMeterQFlowRangeErrLatched	Dual-Configuration meter uncorrected flow rate range check error, latched until acknowledged Latched alarm for Dual-Configuration meter flow-condition volumetric flow rate range check error (IsColocMeterQFlowRangeErr) that remains set until manually cleared.	RW	Y			int	-	-	boolean	-		FALSE (0)	FALSE (0)	TRUE (1)
15095	IsColocMeterRunningAvgAvgSndVelValid	Average speed of sound running average for Dual-Configuration meter diagnostic error validity The validity of average speed of sound one hour running average (ColocMeterRunningAvgAvgSndVel). This is used for Dual-Configuration meter speed of sound range check error (IsColocMeterSndSpdRangeErr).	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
15096	IsColocMeterRunningAvgQFlowValid	Uncorrected flow rate running average for Dual-Configuration meter diagnostic error validity The validity of Dual-Configuration meter flow-condition volumetric flow rate one hour running average (ColocMeterRunningAvgQFlow). This is used for Dual-Configuration meter flow-condition volumetric flow rate range check error (IsColocMeterQFlowRangeErr).	R				int	-	-	boolean	-	Invalid (FALSE) Valid (TRUE)			
15097	IsColocMeterClockSyncEnabled	Enables or disables clock synchronization with Dual-Configuration meter Enables clock synchronization for a data sharing Dual-Configuration meter when set to TRUE (1) in both transmitter heads.	RW	Y	Y		int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15098	PTPDomainNumber	PTP domain number Configures the PTP (Precision Time Protocol) domain number. This allows the Dual-Configuration meter's head 2 clock to synchronize to the Dual-Configuration meter's head 1 clock. The Dual-Configuration meter clock synchronization (IsColocMeterClockSyncEnabled) must be enabled on both Dual-Configuration meters to synchronize clock. When set to 128, meaning auto-configure PTP domain, then on the Dual-Configuration meter head 1, the low order octet of Ethernet IP address (Eth1IPAddr) is used as PTP domain number. While on the Dual-Configuration meter head 2, the low order octet of Dual-Configuration meter IP address (ColocMeterIPAddress) is used as the PTP domain number.	RW	Y	Y		int	-	-	uint8	-		128	0	255
15099	ColocMeterCommErrReasons	Dual-Configuration meter communication error reason The reasons for Dual-Configuration meter communication error (IsColocMeterCommErr). 0 – No error 1 – Dual-Configuration meter IP address could not be reached 2 – Previously established connection with Dual-Configuration meter has gone down. This could be due to reasons that can cause the connection to go down, including the remote meter rebooting, network connectivity issues, or problems with the internal system error on the Dual-Configuration meter 3 – Internal error or system call failure 4 – Dual-Configuration meter clock out of sync	R				int	-	-	uint8	-	No error (0) Dual-Configuration meter IP address unreachable (1) Waiting for Dual-Configuration meter response (2) System internal error (3) Dual-Configuration meter clock out of sync (4)			
15100	ColocMeterMode	Dual-Configuration meter mode Configures the meter to operate as a single head meter ("Disabled", 0), a Dual-Configuration meter's head 1 ("Transmitter Head 1", 1) or a Dual-Configuration meter's head 2 ("Transmitter Head 2", 2). The meters that measure the same flow may share a meter body or be installed in series with each other with only data sharing enabled. The Dual-Configuration meter's mode can be set to "Transmitter Head 1" only if the device number (DeviceNumber) is 3414 or 3418. The Dual-Configuration meter's mode can be set to "Transmitter Head 2" only if the device number (DeviceNumber) is 3411, 3412, 3414 or 3418. When meter is configured as a Dual-Configuration meter, it can be configured to synchronize transducer firing (XdcrFiringSync) and also to enable data sharing and clock synchronization with Dual-Configuration meter (ColocMeterIPAddress).	RW	Y	Y	Y	int	-	-	uint8	-	Disabled (0) Transmitter Head 1 (1) Transmitter Head 2 (2)	0	0	2
15101	XdcrFiringSync	Transducer firing synchronization control Configure transducer firing synchronization to be enabled ("Enabled", 1) or disabled ("Disabled", 0) between Dual-Configuration meters (IsXdcrFiringSyncActive). Transducer firing synchronization can only be enabled ("Enabled", 1) if Dual-Configuration meter mode (ColocMeterMode) is not disabled ("Disabled", 0) and the device number (DeviceNumber) is not 3418.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	FALSE (0)	FALSE (0)	TRUE (1)
15102	IsXdcrFiringSyncActive	Transducer firing synchronization active in batch This indicates that all waveforms in a batch have Transducer Firing Synchronization (XdcrFiringSync) active.	R				int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15107	IsXdcrFiringSyncError	Transducer firing synchronization error A problem with transducer firing synchronization in a batch (IsXdcrFiringSyncActive) when the transducer firing synchronization (XdcrFiringSync) is enabled and the Dual-Configuration meters' Acquisition Modules are not able to synchronize for multiple consecutive batches (AlarmDef). Possible causes include incorrect configuration, transducer synchronization cable is disconnected or damaged, and one of the two heads is not powered up or power cycling. Recommended Actions: 1. Verify that the transducer synchronization cable is connected between the two Acquisition Modules located in the base enclosures. 2. Verify that both heads are powered up. 3. Verify that the transducer firing synchronization (XdcrFiringSync) is enabled on both heads. 4. Verify that the Dual-Configuration meter mode (ColocMeterMode) is set to "Transmitter Head 1" on one head and "Transmitter Head 2" on the other head. 5. For model number 3417, both heads must have the same configuration for stack size (StackSize), desired stacking transducer emission rate (StackEmRateDesired) and desired transducer emission rate (EmRateDesired). 6. For model numbers 3415 and 3416, stack size (StackSize) must be configured the same on both heads while desired stacking transducer emission rate (StackEmRateDesired) and desired transducer emission rate (EmRateDesired) on the "Transmitter Head 2" meter should not be more than twice that of the "Transmitter Head 1". 7. If the issue is unresolved, collect a Maintenance Log using MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15110	N2ComponentIndex	Nitrogen gas component index The index that identifies the Nitrogen gas component in the GC (N2GC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Nitrogen gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		14	0	65535
15111	CO2ComponentIndex	Carbon dioxide gas component index The index that identifies the Carbon dioxide gas component in the GC (CO2GC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Carbon dioxide gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		17	0	65535
15112	H2ComponentIndex	Hydrogen gas component index The index that identifies the Hydrogen gas component in the GC (H2GC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Hydrogen gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		12	0	65535
15113	COComponentIndex	Carbon monoxide gas component index The index that identifies the Carbon monoxide gas component in the GC (COGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Carbon monoxide gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		15	0	65535
15114	MethaneComponentIndex	Methane gas component index The index that identifies the Methane gas component in the GC (MethaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Methane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		0	0	65535
15115	EthaneComponentIndex	Ethane gas component index The index that identifies the Ethane gas component in the GC (EthaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Ethane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		1	0	65535
15116	PropaneComponentIndex	Propane gas component index The index that identifies the Propane gas component in the GC (PropaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Propane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		2	0	65535
15117	IsoButaneComponentIndex	Isobutane gas component index The index that identifies the Isobutane gas component in the GC (IsoButaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Isobutane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		3	0	65535
15118	NButaneComponentIndex	N-Butane gas component index The index that identifies the N-Butane gas component in the GC (NButaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Butane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		4	0	65535
15119	IsoPentaneComponentIndex	Isopentane gas component index The index that identifies the Isopentane gas component in the GC (IsoPentaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Isopentane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		5	0	65535
15120	NPentaneComponentIndex	N-Pentane gas component index The index that identifies the N-Pentane gas component in the GC (NPentaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Pentane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		6	0	65535
15121	NHexaneComponentIndex	N-Hexane gas component index The index that identifies the N-Hexane gas component in the GC (NHexaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Hexane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		39	0	65535
15122	NHeptaneComponentIndex	N-Heptane gas component index The index that identifies the N-Heptane gas component in the GC (NHeptaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Heptane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		45	0	65535
15123	NOctaneComponentIndex	N-Octane gas component index The index that identifies the N-Octane gas component in the GC (NOctaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Octane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		52	0	65535
15124	NNonaneComponentIndex	N-Nonane gas component index The index that identifies the N-Nonane gas component in the GC (NNonaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Nonane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		51	0	65535
15125	NDecaneComponentIndex	N-Decane gas component index The index that identifies the N-Decane gas component in the GC (NDecaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in N-Decane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		50	0	65535
15126	H2SComponentIndex	Hydrogen sulfide gas component index The index that identifies the Hydrogen sulfide gas component in the GC (H2SGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Hydrogen sulfide gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		40	0	65535
15127	HeliumComponentIndex	Helium gas component index The index that identifies the Helium gas component in the GC (HeliumGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Helium gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		13	0	65535
15128	WaterComponentIndex	Water gas component index The index that identifies the Water gas component in the GC (WaterGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Water gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		44	0	65535
15129	OxygenComponentIndex	Oxygen gas component index The index that identifies the Oxygen gas component in the GC (OxygenGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Oxygen gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		16	0	65535

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15130	ArgonComponentIndex	Argon gas component index The index that identifies the Argon gas component in the GC (ArgonGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Argon gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		46	0	65535
15131	NeoPentaneComponentIndex	Neo-pentane component index The index that identifies the Neo-pentane gas component in the GC (NeoPentaneGC). Setting this value equal to GC disabled component index (GCDisabledComponentIndex) results in Neo-pentane gas component being ignored.	RW	Y	Y	Y	int	-	-	uint16	-		7	0	65535
15132	GCDisabledComponentIndex	GC disabled component index Component index value used to disable particular gas component. If any gas component index is set to this value, corresponding gas component value is ignored.	RW	Y	Y	Y	int	-	-	uint16	-		255	0	65535
15133	C6PlusComponentIndex	C6+ gas component index C6+ gas component index value used to determine C6+ gas component so that its concentration (C6PlusGC) can be divided into appropriate standard gas component(s). If this value is 8 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.47466, 0.3534, 0.17194, 0.00 and 0.00 respectively. If this value is 9 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.50, 0.50, 0.00, 0.00 and 0.00 respectively. If this value is 10 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.60, 0.30, 0.10, 0.00 and 0.00 respectively. If this value is 11 then Hexane, Heptane, Octane, Nonane and Decane distribution is 0.57143, 0.28572, 0.14285, 0.00 and 0.00 respectively. If this value is other than 8, 9, 10 or 11 then C6+ gas component distribution is as configured by C6+ Hexane (C6PlusHexaneFrac), C6+ Heptane (C6PlusHeptaneFrac), C6+ Octane (C6PlusOctaneFrac), C6+ Nonane (C6PlusNonaneFrac) and C6+ Decane (C6PlusDecaneFrac) gas component mole fraction values. Applicable only when C6+ gas component index automatic detection (IsC6PlusAutoDetectionEnabled) is disabled.	RW	Y	Y	Y	int	-	-	uint16	-		8	0	65535
15134	IsC6PlusAutoDetectionEnabled	Enable C6+ gas component index automatic detection Selects C6+ gas component index source. When set to "Enable", automatically detects C6+ gas component identifier (C6PlusGCComponentID) and C6+ gas component index (C6PlusComponentIndex) is ignored. When set to "Disable", automatically detected C6+ gas component identifier (C6PlusGCComponentID) is ignored and C6+ gas component index (C6PlusComponentIndex) is used.	RW	Y	Y	Y	int	-	-	boolean	-	Disabled (FALSE) Enabled (TRUE)	TRUE (1)	FALSE (0)	TRUE (1)
15150	BatchSeqNum	Batch sequence number The batch sequence number which is zero on a warm start and then incremented each batch period (BatchUpdatePeriod).	R				long	-	-	uint32	-				
15300	ProgramChksum	Program checksum value This is the checksum of the meter's programs. All NOR flash program partitions are included in the checksum.	R	Y			long	-	-	uint32	-				
15302	XdcrAssyComponent4LengthA1	Transducer assembly A1 component 4 length The length for the transducer assembly component 4 for A1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15304	XdcrAssyComponent4LengthA2	Transducer assembly A2 component 4 length The length for the transducer assembly component 4 for A2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15306	XdcrAssyComponent3LengthA1	Transducer assembly A1 component 3 length The length of the transducer assembly component 3 for A1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15308	XdcrAssyComponent3LengthA2	Transducer assembly A2 component 3 length The length of the transducer assembly component 3 for A2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15310	XdcrAssyComponent2LengthA1	Transducer assembly A1 component 2 length The length of the transducer assembly component 2 for A1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15312	XdcrAssyComponent2LengthA2	Transducer assembly A2 component 2 length The length of the transducer assembly component 2 for A2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15314	XdcrAssyComponent1LengthA1	Transducer assembly A1 component 1 length The length of the transducer assembly component 1 for A1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15316	XdcrAssyComponent1LengthA2	Transducer assembly A2 component 1 length The length of the transducer assembly component 1 for A2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15318	MeterHousingLengthA	Chord A meter housing length The meter housing length for chord A. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
15320	LA	Chord A length ("L" dimension) The distance between the transducer faces on chord A. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
15322	DltDlyA	Chord A difference in upstream and downstream delay times The adjustment to the chord A delta times (the individual times used for DltTmA (DltTmA)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
15324	AvgDlyA	Chord A average delay time The chord-specific delay for chord A primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
15328	XdcrAssyComponent4LengthB1	Transducer assembly B1 component 4 length The length for the transducer assembly component 4 for B1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15330	XdcrAssyComponent4LengthB2	Transducer assembly B2 component 4 length The length for the transducer assembly component 4 for B2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15332	XdcrAssyComponent3LengthB1	Transducer assembly B1 component 3 length The length of the transducer assembly component 3 for B1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15334	XdcrAssyComponent3LengthB2	Transducer assembly B2 component 3 length The length of the transducer assembly component 3 for B2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15336	XdcrAssyComponent2LengthB1	Transducer assembly B1 component 2 length The length of the transducer assembly component 2 for B1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15338	XdcrAssyComponent2LengthB2	Transducer assembly B2 component 2 length The length of the transducer assembly component 2 for B2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15340	XdcrAssyComponent1LengthB1	Transducer assembly B1 component 1 length The length of the transducer assembly component 1 for B1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15342	XdcrAssyComponent1LengthB2	Transducer assembly B2 component 1 length The length of the transducer assembly component 1 for B2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15344	MeterHousingLengthB	Chord B meter housing length The meter housing length for chord B. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
15346	LB	Chord B length ("L" dimension) The distance between the transducer faces on chord B. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5
15348	DltDlyB	Chord B difference in upstream and downstream delay times The adjustment to the chord B delta times (the individual times used for DltTmB (DltTmB)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
15350	AvgDlyB	Chord B average delay time The chord-specific delay for chord B primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
15354	XdcrAssyComponent4LengthC1	Transducer assembly C1 component 4 length The length for the transducer assembly component 4 for C1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15356	XdcrAssyComponent4LengthC2	Transducer assembly C2 component 4 length The length for the transducer assembly component 4 for C2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15358	XdcrAssyComponent3LengthC1	Transducer assembly C1 component 3 length The length of the transducer assembly component 3 for C1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15360	XdcrAssyComponent3LengthC2	Transducer assembly C2 component 3 length The length of the transducer assembly component 3 for C2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15362	XdcrAssyComponent2LengthC1	Transducer assembly C1 component 2 length The length of the transducer assembly component 2 for C1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15364	XdcrAssyComponent2LengthC2	Transducer assembly C2 component 2 length The length of the transducer assembly component 2 for C2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15366	XdcrAssyComponent1LengthC1	Transducer assembly C1 component 1 length The length of the transducer assembly component 1 for C1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15368	XdcrAssyComponent1LengthC2	Transducer assembly C2 component 1 length The length of the transducer assembly component 1 for C2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15370	MeterHousingLengthC	Chord C meter housing length The meter housing length for chord C. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
15372	LC	Chord C length ("L" dimension) The distance between the transducer faces on chord C. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.4445	0	5

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15374	DltDlyC	Chord C difference in upstream and downstream delay times The adjustment to the chord C delta times (the individual times used for DltTmC (DltTmC)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
15376	AvgDlyC	Chord C average delay time The chord-specific delay for chord C primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
15380	XdcrAssyComponent4LengthD1	Transducer assembly D1 component 4 length The length for the transducer assembly component 4 for D1, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15382	XdcrAssyComponent4LengthD2	Transducer assembly D2 component 4 length The length for the transducer assembly component 4 for D2, which is the transducer for the T-XX series transducer assemblies or transducer housing for the T-XXX series transducer assemblies. The length is engraved on the transducer body or transducer housing and is also included in the Zero Flow Calibration report provided with the meter or on the Transducer Calibration sheet provided with replacement transducers.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15384	XdcrAssyComponent3LengthD1	Transducer assembly D1 component 3 length The length of the transducer assembly component 3 for D1, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15386	XdcrAssyComponent3LengthD2	Transducer assembly D2 component 3 length The length of the transducer assembly component 3 for D2, which is the stalk for the T-XX series transducer assemblies or the spacer for the T-XXX series transducer assemblies. The length is engraved on the stalk body or spacer and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15388	XdcrAssyComponent2LengthD1	Transducer assembly D1 component 2 length The length of the transducer assembly component 2 for D1, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15390	XdcrAssyComponent2LengthD2	Transducer assembly D2 component 2 length The length of the transducer assembly component 2 for D2, which is the holder for the T-XX series transducer assemblies or the stalk for the T-XXX series transducer assemblies. The length is engraved on the holder body or stalk and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15392	XdcrAssyComponent1LengthD1	Transducer assembly D1 component 1 length The length of the transducer assembly component 1 for D1, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15394	XdcrAssyComponent1LengthD2	Transducer assembly D2 component 1 length The length of the transducer assembly component 1 for D2, which is the mount for the T-XX series transducer assemblies. The length is engraved on the mount and is also included in the Zero Flow Calibration report provided with the meter. This length must be zero when selecting a T-XXX series transducer in set transducer type (SetXdcrType).	RW	Y	Y	Y	float	m	in	float32	m		0	0	0.508
15396	MeterHousingLengthD	Chord D meter housing length The meter housing length for chord D. The length is located on the tag attached to the ultrasonic meter body and is also included in the Zero Flow Calibration report provided with the meter.	RW	Y	Y	Y	float	m	in	float32	m		0	0	5
15398	LD	Chord D length ("L" dimension) The distance between the transducer faces on chord D. The factory setting should only be changed when changing a transducer or after a meter cold start.	RW	Y	Y	Y	float	m	in	float32	m		0.3175	0	5
15400	DltDlyD	Chord D difference in upstream and downstream delay times The adjustment to the chord D delta times (the individual times used for DltTmD (DltTmD)) to ensure calibration at zero flow.	RW	Y	Y	Y	float	us	us	float32	us		0	-1	1
15402	AvgDlyD	Chord D average delay time The chord-specific delay for chord D primarily due to the signal processing algorithm and acoustic propagation time within the transducer including the matching layer. It is used in conjunction with the overall system delay (SystemDelay).	RW	Y	Y	Y	float	us	us	float32	us		0	0	50
15412	IsChordLengthMismatchedA	In-use length is not equal to the calculated length for chord A The in-use chord length (LA) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthA) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthA1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthA2) - transducer1_length (XdcrAssyComponent4LengthA1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthA1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthA1) - transducer2_length (XdcrAssyComponent4LengthA2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthA2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthA2). This alarm is disabled when all the chord component lengths (MeterHousingLengthA, XdcrAssyComponent1LengthA1, XdcrAssyComponent1LengthA2, XdcrAssyComponent4LengthA1, XdcrAssyComponent4LengthA2, XdcrAssyComponent3LengthA1, XdcrAssyComponent3LengthA2, XdcrAssyComponent2LengthA1, XdcrAssyComponent2LengthA2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LA). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord A are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LA) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15413	IsChordLengthMismatchedB	In-use length is not equal to the calculated length for chord B The in-use chord length (LB) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthB) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthB1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthB2) - transducer1_length (XdcrAssyComponent4LengthB1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthB1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthB1) - transducer2_length (XdcrAssyComponent4LengthB2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthB2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthB2). This alarm is disabled when all the chord component lengths (MeterHousingLengthB, XdcrAssyComponent1LengthB1, XdcrAssyComponent1LengthB2, XdcrAssyComponent4LengthB1, XdcrAssyComponent4LengthB2, XdcrAssyComponent3LengthB1, XdcrAssyComponent3LengthB2, XdcrAssyComponent2LengthB1, XdcrAssyComponent2LengthB2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LB). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord B are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LB) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15414	IsChordLengthMismatchedC	In-use length is not equal to the calculated length for chord C The in-use chord length (LC) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthC) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthC1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthC2) - transducer1_length (XdcrAssyComponent4LengthC1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthC1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthC1) - transducer2_length (XdcrAssyComponent4LengthC2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthC2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthC2). This alarm is disabled when all chord component lengths (MeterHousingLengthC, XdcrAssyComponent1LengthC1, XdcrAssyComponent1LengthC2, XdcrAssyComponent4LengthC1, XdcrAssyComponent4LengthC2, XdcrAssyComponent3LengthC1, XdcrAssyComponent3LengthC2, XdcrAssyComponent2LengthC1, XdcrAssyComponent2LengthC2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LC). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord C are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LC) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15415	IsChordLengthMismatchedD	In-use length is not equal to the calculated length for chord D The in-use chord length (LD) does not match the calculated chord length. The meter calculates chord length as, calculated_chord_length = meter_housing_length (MeterHousingLengthD) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthD1) + transducer1_XdcrAssyComponent1_length (XdcrAssyComponent1LengthD2) - transducer1_length (XdcrAssyComponent4LengthD1) - transducer1_XdcrAssyComponent3_length (XdcrAssyComponent3LengthD1) - transducer1_XdcrAssyComponent2_length (XdcrAssyComponent2LengthD1) - transducer2_length (XdcrAssyComponent4LengthD2) - transducer2_XdcrAssyComponent3_length (XdcrAssyComponent3LengthD2) - transducer2_XdcrAssyComponent2_length (XdcrAssyComponent2LengthD2). This alarm is disabled when all chord component lengths (MeterHousingLengthD, XdcrAssyComponent1LengthD1, XdcrAssyComponent1LengthD2, XdcrAssyComponent4LengthD1, XdcrAssyComponent4LengthD2, XdcrAssyComponent3LengthD1, XdcrAssyComponent3LengthD2, XdcrAssyComponent2LengthD1, XdcrAssyComponent2LengthD2) are set to zero. When the component lengths are updated, the meter doesn't update the in-use chord length (LD). The in-use chord length shall be updated when updating the chord component lengths when replacing the transducer. Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord D are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord length (LD) which can be written to the meter if different from the value In Use to clear this alarm. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				
15420	IsChordLengthMismatched	In-use chord length does not match calculated chord length The in-use chord length does not match for one or more chords. See chord alarms for more details (IsChordLengthMismatchedA, IsChordLengthMismatchedB, IsChordLengthMismatchedC, IsChordLengthMismatchedD). Recommended Actions: 1. Open the Transducer Swap-Out wizard in MeterLink™ and verify the component lengths for chord (for four-path meters LA, LB, LC and LD, for dual-path meters LA and LB and for single-path meters LA) are correct. Compare them against a Zero Flow Calibration report if you have one or read the values off the individual components. This report can be requested from your Emerson Flow service representative. The wizard will calculate the new chord lengths which can be written to the meter if different from the value In Use to clear this alarm. 2. 2. If the issue is unresolved, collect Meter Archive Logs (Daily, Hourly, Audit, Alarm and System) with MeterLink™ and contact your local area Emerson Flow service representative.	R				int	-	-	boolean	-				

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15424	SMVDailyResultMonth	Daily SMV result month This indicates daily Smart Meter Verification results (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, DailyGasCompPresTempResult, and DailyResult) real-time clock month where 1 means January and 12 means December. The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification).	R	Y			int	-	-	uint8	-	Not calculated (0) Jan (1) Feb (2) Mar (3) Apr (4) May (5) Jun (6) Jul (7) Aug (8) Sep (9) Oct (10) Nov (11) Dec (12)			
15425	SMVDailyResultDay	Daily SMV result day This indicates daily Smart Meter Verification results (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, DailyGasCompPresTempResult, and DailyResult) real-time clock day where 1 means 1st day of the month and so on. The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification).	R	Y			int	-	-	uint8	-				
15426	SMVDailyResultYear	Daily SMV result year (2 digit) This indicates daily Smart Meter Verification results (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, DailyGasCompPresTempResult, and DailyResult) real-time clock year in YY format (2 digit). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification).	R	Y			int	-	-	uint8	-				
15427	DailyResult	Daily SMV result This indicates the overall daily result for the Smart Meter Verification subgroups (DailyFlowVolFlowRateResult, DailyElectronicsResult, DailySpdSndPathSpreadResult, DailyPerformanceResult, DailyTransducersResult, DailyConfigurationResult, DailyBaseVolFlowRateResult, DailyVelocityDiagnosticsResult, DailySpdSndDiagnosticsResult, DailyFlowRateDiagnosticsResult, and DailyGasCompPresTempResult). The overall daily Smart Meter Verification result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there is at least one daily Smart Meter Verification subgroup with result as "Warning" and no subgroup with result "Fail" for the period, then the overall daily Smart Meter Verification result is Warning(2). If there is at least one daily Smart Meter Verification subgroup with result "Fail" for the period, then the overall daily Smart Meter Verification result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15428	DailyFlowVolFlowRateResult	Daily SMV flow-condition volumetric flow rate subgroup result This indicates the daily Smart Meter Verification flow-condition volumetric flow rate subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsTooFewOperChords, IsEstimatedFlowVelocityInUse, and QFlowValidity alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15429	DailyElectronicsResult	Daily SMV electronics subgroup result This indicates the daily Smart Meter Verification electronics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from DidColdStart, IsCorePresent, WatchDogReset, IsAcqModuleError, IsAcqModuleIncompatible, IsXdcrFiringSyncError, IsClkInvalid, IsColocMeterCommErr, DidPowerFail, IsElecTempOutOfRange, IsElecVoltOutOfRange, IsHourlyLogFull, IsDailyLogFull, IsAuditLogFull, IsAlarmLogFull, IsSystemLogFull, DidResetUsers, and DidWarmStart alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15430	DailySpdSndPathSpreadResult	Daily SMV speed of sound path spread subgroup result This indicates the daily Smart Meter Verification speed of sound path spread subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsMeasSndSpdRangeA..IsMeasSndSpdRangeD alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			

Rosemount™ Gas Ultrasonic Firmware: 1.61 Database: 8.29.019

The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15431	DailyPerformanceResult	Daily SMV performance subgroup result This indicates the daily Smart Meter Verification performance subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsFailedForBatchA..IsFailedForBatchD, IsHardFailedA..IsHardFailedD, DidDltTmChkFailA..DidDltTmChkFailD, IsSigQltyBadA..IsSigQltyBadD, DidExceedMaxNoiseA..DidExceedMaxNoiseD, IsSNRTooLowA..IsSNRTooLowD, DidTmDevChkFailA..DidTmDevChkFailD, IsSigDistortedA..IsSigDistortedD, IsPeakSwitchDetectedA..IsPeakSwitchDetectedD, and IsSigClippedA..IsSigClippedD alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15432	DailyTransducersResult	Daily SMV transducers subgroup result This indicates the daily Smart Meter Verification transducers subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsAcqMode, IsBatchInactiveA..IsBatchInactiveD, and IsXdcrMaintenanceRequiredA..IsXdcrMaintenanceRequiredD alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15433	DailyConfigurationResult	Daily SMV configuration subgroup result This indicates the daily Smart Meter Verification configuration subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsWarmStartReq, IsChordLengthMismatchedA..IsChordLengthMismatchedD, and DidCnfgChksumChg alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15434	DailyBaseVolFlowRateResult	Daily SMV base-condition volumetric flow rate subgroup result This indicates the daily Smart Meter Verification base-condition volumetric flow rate subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from QBaseValidity alarm.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15435	DailyVelocityDiagnosticsResult	Daily SMV velocity diagnostics subgroup result This indicates the daily Smart Meter Verification velocity diagnostics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsMeterVelAboveMaxLmt, IsFwdBaselineNotSet, IsRevBaselineNotSet, IsBlockageDetected, IsBoreBuildupDetected, IsLiquidDetected, and IsAbnormalProfileDetected alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15436	DailySpdSndDiagnosticsResult	Daily SMV speed of sound diagnostics subgroup result This indicates the daily Smart Meter Verification speed of sound diagnostics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsSndVelCompErr, IsColocMeterSndSpdRangeErr, IsDiagnosticSndSpdRangeErr, and IsAvgSoundVelRangeErr alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Reg Num	Label	Description	Acc	NV	Cnfg	Prot	Modbus Reg Type	Modbus Metric Unit	Modbus U.S. Customary Unit	Native Data Type	Native Data Unit	Selections/Bitmap	Default Value (native unit)	Minimum Value (native unit)	Maximum Value (native unit)
15437	DailyFlowRateDiagnosticsResult	Daily SMV flow rate diagnostics subgroup result This indicates the daily Smart Meter Verification flow rate diagnostics subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from IsColocMeterQFlowRangeErr and IsReverseFlowDetected alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
15438	DailyGasCompPresTempResult	Daily SMV gas composition/pressure/temperature subgroup result This indicates the daily Smart Meter Verification gas composition/pressure/temperature subgroup result. The result is based on whether any alarm(s) is/are active for the period from the midnight of the previous day to the midnight of the present day (SMVDailyResultMonth, SMVDailyResultDay, SMVDailyResultYear). If there are no active alarms for the period, then result is Pass(1). If there is at least one alarm with status-level "Yellow" active and no alarm with status-level "Red" active for the period, then result is Warning(2). If there is at least one alarm with status-level "Red" active for the period, then result is Fail(3). The value is Not calculated(0) if Smart Meter Verification result has yet to be generated after firmware upgrade to Smart Meter Verification supported firmware, if there are no SMV-capable hourly logs present in the meter for the report period, or the meter does not support Smart Meter Verification (only 4-Path and 8-Path meters support Smart Meter Verification). The result is calculated at midnight of each day or on meter warm start if the previous day's result has not been generated. The result is calculated from PressureInvalid, TemperatureInvalid, AreGasPropertiesInvalidInUse, IsGCCommErr, IsGCDataErr, and IsGCAlarmPresent alarms.	R	Y			int	-	-	uint8	-	Not calculated (0) Pass (1) Warning (2) Fail (3)			
16998	CPUBdSerialNumber	CPU Module serial number The CPU Module serial number is on a label on the CPU Module. Its minimum expected value is 0018000.	R				long	-	-	uint32	-				
65533	Reserved		R				float								
65534	Reserved		R				long								
65535	Reserved		R				int								

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412), and 1-Path (DeviceNumber 3411) meters

Reg Num	Type	Register Label	Bit In Register	Status/Alarm/Alert Label	Status-Level
62	INT	StatusA	0	DidExceedMaxNoiseA	Yellow
			1	IsSNRTooLowA	Yellow
			2	DidTmDevChkFailA	Yellow
			4	DidDltTmChkFailA	Yellow
			5	IsXdcrMaintenanceRequiredA	Yellow
			6	IsStackingIncompleteA	Yellow
			7	IsChordLengthMismatchedA	Red
			8	IsSigClippedA	Yellow
			9	IsSigQltyBadA	Yellow
			10	IsSigDistortedA	Yellow
			11	IsPeakSwitchDetectedA	Yellow
			12	IsMeasSndSpdRangeA	Yellow
			13	IsBatchInactiveA	Yellow
			14	IsFailedForBatchA	Yellow
			15	IsAcqMode	Red
63	INT	StatusB	0	DidExceedMaxNoiseB	Yellow
			1	IsSNRTooLowB	Yellow
			2	DidTmDevChkFailB	Yellow
			4	DidDltTmChkFailB	Yellow
			5	IsXdcrMaintenanceRequiredB	Yellow
			6	IsStackingIncompleteB	Yellow
			7	IsChordLengthMismatchedB	Red
			8	IsSigClippedB	Yellow
			9	IsSigQltyBadB	Yellow
			10	IsSigDistortedB	Yellow
			11	IsPeakSwitchDetectedB	Yellow
			12	IsMeasSndSpdRangeB	Yellow
			13	IsBatchInactiveB	Yellow
			14	IsFailedForBatchB	Yellow
			15	IsAcqMode	Red
64	INT	StatusC	0	DidExceedMaxNoiseC	Yellow
			1	IsSNRTooLowC	Yellow
			2	DidTmDevChkFailC	Yellow
			4	DidDltTmChkFailC	Yellow
			5	IsXdcrMaintenanceRequiredC	Yellow
			6	IsStackingIncompleteC	Yellow
			7	IsChordLengthMismatchedC	Red
			8	IsSigClippedC	Yellow
			9	IsSigQltyBadC	Yellow
			10	IsSigDistortedC	Yellow
			11	IsPeakSwitchDetectedC	Yellow
			12	IsMeasSndSpdRangeC	Yellow
			13	IsBatchInactiveC	Yellow
			14	IsFailedForBatchC	Yellow
			15	IsAcqMode	Red
65	INT	StatusD	0	DidExceedMaxNoiseD	Yellow
			1	IsSNRTooLowD	Yellow
			2	DidTmDevChkFailD	Yellow
			4	DidDltTmChkFailD	Yellow
			5	IsXdcrMaintenanceRequiredD	Yellow
			6	IsStackingIncompleteD	Yellow
			7	IsChordLengthMismatchedD	Red
			8	IsSigClippedD	Yellow
			9	IsSigQltyBadD	Yellow
			10	IsSigDistortedD	Yellow
			11	IsPeakSwitchDetectedD	Yellow
			12	IsMeasSndSpdRangeD	Yellow
			13	IsBatchInactiveD	Yellow
			14	IsFailedForBatchD	Yellow
			15	IsAcqMode	Red
66	INT	SystemStatus	0	Reserved	NA
			1	AreSwComponentsIncompatible	NA
			2	DidPowerFail	Red
			3	IsAcqModuleIncompatible	Red
			4	IsXdcrFiringSyncError	Yellow
			5	IsEstimatedFlowVelocityInUse	Yellow
			6	DidWarmStart	Yellow
			7	IsColocMeterQFlowRangeErr	Yellow
			8	IsTooFewOperChords	Red
			9	IsMeterVelAboveMaxLmt	Yellow
			10	IsBlockageDetected	Yellow
			11	IsBoreBuildupDetected	Yellow
			12	IsLiquidDetected	Yellow
			13	IsAbnormalProfileDetected	Yellow
			14	IsReverseFlowDetected	Yellow
			15	WatchDogReset	Red
10501	INT	Freq1DataValidity	NA	Freq1DataValidity	Red
10502	INT	QMeterValidity	NA	QMeterValidity	Red
10503	INT	QFlowValidity	NA	QFlowValidity	Red

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412), and 1-Path (DeviceNumber 3411) meters

Reg Num	Type	Register Label	Bit In Register	Status/Alarm/Alert Label	Status-Level
10504	INT	QBaseValidity	NA	QBaseValidity	Yellow
10505	INT	TemperatureValidity	NA	TemperatureValidity	Yellow
10506	INT	PressureValidity	NA	PressureValidity	Yellow
10507	INT	AGA8BaseCalcValidity	NA	AGA8BaseCalcValidity	Yellow
10508	INT	AGA8FlowCalcValidity	NA	AGA8FlowCalcValidity	Yellow
10509	INT	ExpCorrTempValidity	NA	ExpCorrTempValidity	Red
10510	INT	ExpCorrPressValidity	NA	ExpCorrPressValidity	Red
10511	INT	FlowProfileCorrValidity	NA	FlowProfileCorrValidity	Red
10584	LONG	DataQlty	0	IsHardFailedA	Yellow
			1	IsHardFailedB	Yellow
			2	IsHardFailedC	Yellow
			3	IsHardFailedD	Yellow
			4	IsSndVelCompErr	Yellow
			8	Reserved	NA
			16	IsTooFewOperChords	Red
			17	IsMeterVelAboveMaxLmt	Yellow
12152	INT	IsWarmStartReq	NA	IsWarmStartReq	Red
12180	INT	DidColdStart	NA	DidColdStart	Red
12182	INT	DidCnfgChksumChg	NA	DidCnfgChksumChg	Yellow
12183	INT	IsCorePresent	NA	IsCorePresent	Red
12185	INT	WatchDogReset	NA	WatchDogReset	Red
13881	INT	IsAvgSoundVelRangeErr	NA	IsAvgSoundVelRangeErr	Yellow
13882	INT	IsAcqModuleError	NA	IsAcqModuleError	Red
13884	INT	IsDailyLogFull	NA	IsDailyLogFull	Yellow
13885	INT	IsHourlyLogFull	NA	IsHourlyLogFull	Yellow
13886	INT	IsAuditLogFull	NA	IsAuditLogFull	Yellow
13887	INT	IsAlarmLogFull	NA	IsAlarmLogFull	Yellow
13888	INT	IsSystemLogFull	NA	IsSystemLogFull	Yellow
13897	INT	IsElecTempOutOfRange	NA	IsElecTempOutOfRange	Yellow
13898	INT	IsElecVoltOutOfRange	NA	IsElecVoltOutOfRange	Yellow
13899	INT	IsClkInvalid	NA	IsClkInvalid	Yellow
14313	INT	EnergyRateValidity	NA	EnergyRateValidity	Yellow
14314	INT	MassRateValidity	NA	MassRateValidity	Yellow
14318	INT	Freq2DataValidity	NA	Freq2DataValidity	Red
14319	INT	AO1DataValidity	NA	AO1DataValidity	Red
14320	INT	AO2DataValidity	NA	AO2DataValidity	Red
14667	INT	IsEnergyRateInvalid	NA	IsEnergyRateInvalid	NA
14673	INT	HARTTVValidity	NA	HARTTVValidity	Red
14674	INT	HARTQVValidity	NA	HARTQVValidity	Red
14675	INT	HARTSlot0Validity	NA	HARTSlot0Validity	Red
14676	INT	HARTSlot1Validity	NA	HARTSlot1Validity	Red
14677	INT	HARTSlot2Validity	NA	HARTSlot2Validity	Red
14678	INT	HARTSlot3Validity	NA	HARTSlot3Validity	Red
14724	LONG	SystemStatusLatched	7	IsColocMeterQFlowRangeErrLatched	Yellow
			8	IsTooFewOperChordsLatched	Red
			9	IsMeterVelAboveMaxLmtLatched	Yellow
			10	IsBlockageDetectedLatched	Yellow
			11	IsBoreBuildupDetectedLatched	Yellow
			12	IsLiquidDetectedLatched	Yellow
			13	IsAbnormalProfileDetectedLatched	Yellow
			14	IsReverseFlowDetectedLatched	Yellow
14726	LONG	FieldIOStatus	0	IsColocMeterCommErr	Yellow
			1	PressureInvalid	Yellow
			2	TemperatureInvalid	Yellow
			3	AreGasPropertiesInvalidInUse	Yellow
			4	IsGCCommErr	Yellow
			5	IsGCDataErr	Yellow
			7	IsGCAlarmPresent	Yellow
			8	DidResetUsers	Yellow
			18	IsCorePresent	Red
14728	LONG	FieldIOStatusLatched	0	IsColocMeterCommErrLatched	Yellow
			1	PressureInvalidLatched	Yellow
			2	TemperatureInvalidLatched	Yellow
			3	AreGasPropertiesInvalidInUseLatched	Yellow
14730	LONG	ProfileStatus	0	IsAbnormalProfileDetected	Yellow
			1	IsBlockageDetected	Yellow
			2	IsBoreBuildupDetected	Yellow
14732	LONG	ProfileStatusLatched	0	IsAbnormalProfileDetectedLatched	Yellow
			1	IsBlockageDetectedLatched	Yellow
			2	IsBoreBuildupDetectedLatched	Yellow
14734	LONG	SOSCompareStatus	0	IsSndVelCompErr	Yellow
			2	IsDiagnosticSndSpdRangeErr	Yellow
			3	IsColocMeterSndSpdRangeErr	Yellow
14736	LONG	SOSCompareStatusLatched	0	IsSndVelCompErrLatched	Yellow
			2	IsDiagnosticSndSpdRangeErrLatched	Yellow
			3	IsColocMeterSndSpdRangeErrLatched	Yellow
14738	LONG	LiquidDetectedStatus	0	IsLiquidDetected	Yellow
14740	LONG	LiquidDetectedLatched	0	IsLiquidDetectedLatched	Yellow
14992	INT	IsFwdBaselineNotSet	NA	IsFwdBaselineNotSet	Yellow

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The below Modbus map is applicable for Rosemount™ Gas 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412), and 1-Path (DeviceNumber 3411) meters					
Reg Num	Type	Register Label	Bit In Register	Status/Alarm/Alert Label	Status-Level
14993	INT	IsRevBaselineNotSet	NA	IsRevBaselineNotSet	Yellow
14997	INT	IsAcqModuleErrorLatched	NA	IsAcqModuleErrorLatched	Red
14999	INT	IsAvgSoundVelRangeErrLatched	NA	IsAvgSoundVelRangeErrLatched	Yellow
15000	INT	IsAcqModeLatched	NA	IsAcqModeLatched	Red
10517	INT	IsMassRateInvalid	NA	IsMassRateInvalid	NA
10516	INT	IsQBaseInvalid	NA	IsQBaseInvalid	NA
10515	INT	IsQFlowInvalid	NA	IsQFlowInvalid	NA

Modbus notes

1. The units are as shown below (in alphabetical order):

Unit	Description
-	dimensionless or not applicable
%	percent
1/degC	inverse degree-Celsius
1/degF	inverse degree-Fahrenheit
1/K	inverse Kelvin
1/MPa	inverse megapascal
1/psi	inverse pounds-per-square-inch
1e9 ft3	10^9 cubic feet (for "overflow" volume)
1e9 m3	10^9 cubic meters (for "overflow" volume)
1e9 MkII time pulses	10^9 Mark II time pulses (for "overflow" Mark II equivalent time pulses)
1e9 MJ	10^9 megajoules (for "overflow" energy)
1e9 MMBtu	10^9 million British thermal units (for "overflow" energy)
bits/sec	bits per second
Btu/ft3	British thermal units per cubic foot
Btu/lbm-mol	British thermal units per pound-mass mole
cPoise	centipoise
deg	degrees (angular measure)
deg C	degrees Celsius
deg F	degrees Fahrenheit
dm3/g-mol	cubic decimeters per gram-mole
dm6/g-mol2	decimeters6 per square gram-mole
energy	(Mark III) energy unit (21 Mark II energy units = 1 Mark III energy unit)
energy (MkII equiv)	Mark II-equivalent energy unit (21 Mark II energy units = 1 Mark III energy unit)
energy/time	See note 3
Epoch sec	time in seconds since Epoch (midnight Jan. 1, 1970)
ft	feet
ft/s	feet per second
ft3	cubic feet
ft3/day	cubic feet per day
ft3/hr	cubic feet per hour
ft3/lbm-mol	cubic feet per pound-mass mole
ft3/pulse	cubic feet per pulse
ft3/sec	cubic feet per second
ft6/lbm-mol2	feet6 per square pound-mass mole
gain (h/w)	gain (hardware units) where decibels = 20log10(hardware unit gain)
g-mol/dm3	gram-mole per cubic decimeter
hr	hour
Hz	Hertz
in	inches
K	Kelvin
kg/kg-mol	kilogram per kilogram-mole
kg/m3	kilogram per cubic meter
KHz	kiloHertz
kJ/dm3	kiloJoule per cubic decimeter
kJ/g-mol	kiloJoule per gram-mole
lbm/ft3	pound-mass per cubic foot
lbm/lbm-mol	pound-mass per pound-mass mole
lbm-mol/ft3	pound-mass mole per cubic foot

Modbus notes

m	meters
ma	milliamperes
m/s	meters per second
m3	cubic meters
m3/day	cubic meters per day
m3/hr	cubic meters per hour
m3/pulse	cubic meters per pulse
m3/s	cubic meters per second
mass/time	See note 3
min	minutes
MJ/day	megaJoules per day
MJ/hr	megaJoules per hour
MJ/s	megaJoules per second
MkII time pulses	Mark II time pulses (0.1048576 sec per Mark II time pulse)
MkIII time pulses	Mark III time pulses (0.001000 sec per Mark III time pulse)
MBtu	thousand British thermal units
MMBtu	million British thermal units
MMBtu/day	million British thermal units per day
MMBtu/hr	million British thermal units per hour
MMBtu/sec	million British thermal units per second
mole %	mole percent
mole fraction	mole fraction
MPa	MegaPascals
ms	milliseconds
ns	nanoseconds
Pa.s	Pascal seconds
psi	pounds-per-square inch
pulses/ft3	pulses per cubic foot
pulses/m3	pulses per cubic meter
s/m	seconds per meter
s2/m2	square seconds per square meter
sample intervals	sample intervals
sec	seconds per meter
sec/ft	seconds per foot
sec2/ft2	square seconds per square foot
us	microseconds
V	Volts
volume	See Note 3
volume lower	lower volume portion (i.e., amount below overflow of 10^9 volume units) where the volume unit is determined by the UnitsSystem, VolUnitUS, and VolUnitMetric data points
volume overflow	overflow volume portion (i.e., multiples of 10^9 volume units) where the volume unit is determined by the UnitsSystem, VolUnitUS, and VolUnitMetric data points
volume/pulse	volume per frequency pulse where the volume unit is determined by the UnitsSystem, VolUnitUS, and VolUnitMetric data points
volume/time	See Note 3

2. When no units are listed then the value is dimensionless or not applicable.

Modbus notes

3. Some units are configurable in the meter. These units are marked as volume, volume/time, energy/time, or mass/time.

   The volume, energy and mass terms are selected with the UnitsSystem. For metric they are m3, MJ, and Kg respectively. For U.S. Customary units they are ft3, MMBTU, and lbm. The flow rate time units (x/time) is selectable with VolFlowRateTimeUnit. For both U.S and metric these can be per second, per hour, or per day.

4. The native data types are as follows:
   int8, int16, int32, and int64 are 8-, 16-, 32-, and 64-bit integers
   uint8, uint16, uint32, and uint64 are 8-, 16-, 32-, and 64-bit unsigned integers
   float32 is 32-bit floating point
   float64 is 64-bit floating point
   boolean is a Boolean value (i.e., has FALSE or TRUE value where FALSE=0, TRUE=1)
   bitfield is a bitmapped collection of Boolean database points.

5. The "Selections/Bitmap" column is used to indicate selection values and bitfield bit mapping. For selection values, the selection option is followed by the corresponding data point value in parentheses. For bitfields, the bit number is followed by the boolean data point label. Following the data point label, in parentheses, is the data point characteristics: NV if non-volatile, Config if a configuration point, and Prot if write-protected. Bit 0 is the least significant bit.

6. Following list contains the Modbus extensions (features not defined in standard Modbus) that are
   a. 32-bit values like floats and longs occupy two consecutive Modbus 16-bit registers. Modbus implemented in Rosemount™ ultrasonic flow meters is big endian. So the first (lowest number) register contains the most significant word with the most significant byte first, and the second the least significant byte last (high byte first and high word first). 32-bit floating point values are stored in IEEE 754 Floating-Point format.

   b. Some other Modbus devices use a pre-defined type based on the register number. Rosemount™ ultrasonic flow meters uses types (int, long, float) without regard to register number.

   c. In Rosemount™ ultrasonic 4-Path gas meters, registers are dual mapped to accommodate different flow computers. So all gas 4-Path registers with values > 10,000 have a second occurrence at the register 8,000 less.

   d. 4-Path gas registers over 10,000 may be read in either metric or U.S. Customary units. 4-Path gas under 2000 are metric only for backward compatibility with the Mark II meter. 8-Path gas do not have this restriction.

   e. When a Modbus register is undefined in the meter a value of zero is returned. There are 3 dummy registers at the end of the Modbus map (65533-65535) that are reserved for internal use to facilitate this.

   f. If an odd number of registers are polled for 32-bit values, the meter returns one extra register so that a complete set of 32-bit values are polled. It is recommended to use transactions with registers of the same Modbus type.

Modbus notes

For ISO 17089 Modbus Table:

7. Use MeterLink™ or HART or standard Modbus map to set EnablePressureInput and EnableTemperatureInput as Fixed for writing pressure & temperature values using ISO Modbus map. EnablePressureInput and EnableTemperatureInput data points are not mapped in the ISO 17089 Modbus map but are available via standard Modbus map.
8. Pressure value read from the meter and written to the meter through ISO 17089 Modbus register is always Absolute. There is no impact of InputPressureUnit data point configuration.
9. UnitsSystem and ISOModbusUnitsSystem data point configurations are independent of each other. The value selected by UnitsSystem has no impact on the ISOModbusUnitsSystem data point and vice versa. Units selected by ISOModbusUnitsSystem are applicable for the ISO 17089 Modbus map. Units selected UnitsSystem are applicable to the standard Modbus map.
10. ISOModbusProcessDataTimeout data point default value is 0. This means that process data update timeout is disabled. In order to have 100% compliance with ISO 17089 Modbus spec, this data point can be written with a non-zero value between 0 to 60.
11. String registers contain two 8 bit characters in each 16 bit register.

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The below ISO 17089 Modbus map is applicable for Gas 8-Path (DeviceNumber 3418), 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Register	Label	Description	Access (RW/RO)	Register Type	Units System 0	Units System 1	Units System 2	Selections/Bitmap
32768	QFlow	Volumetric flow rate at flow condition Flow-condition volumetric flow rate, corrected for flow-condition expansion (QExpCorr) and flow profile correction factor (CorrectionFactor).	R	float	m3/hr	ft3/hr	m3/hr	
32770	AvgFlow	Average flow velocity (dry and flow calibration applied) Average flow velocity (per batch). This is the dry cal velocity (DryCalVel) with any selected flow calibration method (CalMethod) as well as the flow profile correction factor (CorrectionFactor) applied.	R	float	m/s	ft/s	m/s	
32772	AvgSndVel	Average speed of sound Average speed of sound (per batch) of all non-failed velocity measurement chords. The diagnostic chord's (IsDiagnosticChordEnabled) speed of sound is not included in the average.	R	float	m/s	ft/s	m/s	
32774	PosVolFlow	Forward flow-condition volume Accumulation of flow-condition volume in the forward direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of forward flow-condition volume when flow rate is valid (PosVolFlowAct) and forward flow-condition volume when flow rate is invalid (PosVolFlowErr) is equal to forward flow-condition volume. Due to truncating values to be read as integers, the summed value and forward flow-condition volume may differ by one.	R	long	m3	ft3	m3	
32776	NegVolFlow	Reverse flow-condition volume Accumulation of flow-condition volume in the reverse direction. Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of reverse flow-condition volume when flow rate is valid (NegVolFlowAct) and reverse flow-condition volume when flow rate is invalid (NegVolFlowErr) is equal to reverse flow-condition volume. Due to truncating values to be read as integers, the summed value and reverse flow-condition volume may differ by one.	R	long	m3	ft3	m3	
32778	PosVolFlowAct	Forward flow-condition volume when flow rate is valid Accumulation of flow-condition volume in the forward direction when flow-condition volumetric flow rate is valid (QFlowValidity). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of forward flow-condition volume when flow rate is valid and forward flow-condition volume when flow rate is invalid (PosVolFlowErr) is equal to forward flow-condition volume (PosVolFlow). Due to truncating values to be read as integers, the summed value and forward flow-condition volume may differ by one.	R	long	m3	ft3	m3	
32780	NegVolFlowAct	Reverse flow-condition volume when flow rate is valid Accumulation of flow-condition volume in the reverse direction when flow-condition volumetric flow rate is valid (QFlowValidity). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of reverse flow-condition volume when flow rate is valid and reverse flow-condition volume when flow rate is invalid (NegVolFlowErr) is equal to reverse flow-condition volume (NegVolFlow). Due to truncating values to be read as integers, the summed value and reverse flow-condition volume may differ by one.	R	long	m3	ft3	m3	
32782	PosVolFlowErr	Forward flow-condition volume when flow rate is invalid Accumulation of flow-condition volume in the forward direction when flow-condition volumetric flow rate is invalid (QFlowValidity). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of forward flow-condition volume when flow rate is valid (PosVolFlowAct) and forward flow-condition volume when flow rate is invalid is equal to forward flow-condition volume (PosVolFlow). Due to truncating values to be read as integers, the summed value and forward flow-condition volume may differ by one.	R	long	m3	ft3	m3	
32784	NegVolFlowErr	Reverse flow-condition volume when flow rate is invalid Accumulation of flow-condition volume in the reverse direction when flow-condition volumetric flow rate is invalid (QFlowValidity). Note that this value is incremented using internal units which may be different than those displayed and rolls over at an unsigned 64 bit integer (18,446,744,073,709,551,615 cubic meters). However, when read via Modbus, the value rolls from 999,999,999 to 0. The sum of reverse flow-condition volume when flow rate is valid (NegVolFlowAct) and reverse flow-condition volume when flow rate is invalid is equal to reverse flow-condition volume (NegVolFlow). Due to truncating values to be read as integers, the summed value and reverse flow-condition volume may differ by one.	R	long	m3	ft3	m3	
32786	ISOModbusVolFlowResolution	10^9 cubic meters (for "overflow" volume)	R	long	-	-	-	
32788	IsQFlowAboveQt	Flow-condition volumetric flow rate is above the transactional cutoff This is set to TRUE (1) when flow-condition volumetric flow rate (QFlow) is above the transactional cutoff (Qt).	R	long	-	-	-	
32790	AvgPctGood	Performance of active measurement chords The average performance of the paths of active velocity measurement chords (PctGoodA1, PctGoodA2, PctGoodB1, PctGoodB2, PctGoodC1, PctGoodC2, PctGoodD1, PctGoodD2, PctGoodE1, PctGoodE2, PctGoodF1, PctGoodF2, PctGoodG1, PctGoodG2, PctGoodH1, and PctGoodH2). Any diagnostic chord is not included in the average.	R	long	%	%	%	
32792	ISOModbusErrorStatus	Meter error status for ISO 17089 Modbus This is a 32-bit bitfield value where each bit represents reason for error in measurement as per ISO 17089 Modbus specification. Bit 0 is set to 1 when flow-condition volumetric flow rate (QFlowValidity) is invalid. Bit 1 is set to 1 when average performance of active measurement chords (AvgPctGood) is less than or equal to 33% for the batch. Other bits, bit 2 to bit 31, are reserved for future use and are set to 0.	R	long	-	-	-	
32794	NumChords	Number of chords The number of measurement chords based on the meter device number (DeviceNumber) plus any diagnostic chord (IsDiagnosticChordEnabled).	R	long	-	-	-	
32796	SndVelDiffPctA	Percentage of chord A speed of sound difference from average speed of sound The percentage of chord A speed of sound (SndVelA) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	
32798	SndVelDiffPctB	Percentage of chord B speed of sound difference from average speed of sound The percentage of chord B speed of sound (SndVelB) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	
32800	SndVelDiffPctC	Percentage of chord C speed of sound difference from average speed of sound The percentage of chord C speed of sound (SndVelC) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	
32802	SndVelDiffPctD	Percentage of chord D speed of sound difference from average speed of sound The percentage of chord D speed of sound (SndVelD) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	
32804	SndVelDiffPctE	Percentage of chord E speed of sound difference from average speed of sound The percentage of chord E speed of sound (SndVelE) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	
32806	SndVelDiffPctF	Percentage of chord F speed of sound difference from average speed of sound The percentage of chord F speed of sound (SndVelF) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	
32808	SndVelDiffPctG	Percentage of chord G speed of sound difference from average speed of sound The percentage of chord G speed of sound (SndVelG) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	

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The below ISO 17089 Modbus map is applicable for Gas 8-Path (DeviceNumber 3418), 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Register	Label	Description	Access (RW/RO)	Register Type	Units System 0	Units System 1	Units System 2	Selections/Bitmap
32810	SndVelDiffPctH	Percentage of chord H speed of sound difference from average speed of sound The percentage of chord H speed of sound (SndVelH) difference from the average speed of sound (AvgSndVel).	R	float	%	%	%	
32896	FlowVelA	Flow velocity for chord A Chord A flow velocity.	R	float	m/s	ft/s	m/s	
32898	SndVelA	Speed of sound for chord A Speed of sound for chord A including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrA).	R	float	m/s	ft/s	m/s	
32900	PctGoodA	Average performance of chord A The average performance of chord A indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path A1 (PctGoodA1) and performance of path A2 (PctGoodA2).	R	float	%	%	%	
32902	SNRA2	Average signal-to-noise ratio (A2) Average signal-to-noise ratio (A2).	R	float	dB	dB	dB	
32904	SNRA1	Average signal-to-noise ratio (A1) Average signal-to-noise ratio (A1).	R	float	dB	dB	dB	
32906	GainA2	Gain when transducer A2 is receiving a signal Gain when transducer A2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32908	GainA1	Gain when transducer A1 is receiving a signal Gain when transducer A1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32912	FlowVelB	Flow velocity for chord B Chord B flow velocity.	R	float	m/s	ft/s	m/s	
32914	SndVelB	Speed of sound for chord B Speed of sound for chord B including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrB).	R	float	m/s	ft/s	m/s	
32916	PctGoodB	Average performance of chord B The average performance of chord B indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path B1 (PctGoodB1) and performance of path B2 (PctGoodB2).	R	float	%	%	%	
32918	SNRB2	Average signal-to-noise ratio (B2) Average signal-to-noise ratio (B2).	R	float	dB	dB	dB	
32920	SNRB1	Average signal-to-noise ratio (B1) Average signal-to-noise ratio (B1).	R	float	dB	dB	dB	
32922	GainB2	Gain when transducer B2 is receiving a signal Gain when transducer B2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32924	GainB1	Gain when transducer B1 is receiving a signal Gain when transducer B1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32928	FlowVelC	Flow velocity for chord C Chord C flow velocity.	R	float	m/s	ft/s	m/s	
32930	SndVelC	Speed of sound for chord C Speed of sound for chord C including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrC).	R	float	m/s	ft/s	m/s	
32932	PctGoodC	Average performance of chord C The average performance of chord C indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path C1 (PctGoodC1) and performance of path C2 (PctGoodC2).	R	float	%	%	%	
32934	SNRC2	Average signal-to-noise ratio (C2) Average signal-to-noise ratio (C2).	R	float	dB	dB	dB	
32936	SNRC1	Average signal-to-noise ratio (C1) Average signal-to-noise ratio (C1).	R	float	dB	dB	dB	
32938	GainC2	Gain when transducer C2 is receiving a signal Gain when transducer C2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32940	GainC1	Gain when transducer C1 is receiving a signal Gain when transducer C1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32944	FlowVelD	Flow velocity for chord D Chord D flow velocity.	R	float	m/s	ft/s	m/s	
32946	SndVelD	Speed of sound for chord D Speed of sound for chord D including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrD).	R	float	m/s	ft/s	m/s	
32948	PctGoodD	Average performance of chord D The average performance of chord D indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path D1 (PctGoodD1) and performance of path D2 (PctGoodD2).	R	float	%	%	%	
32950	SNRD2	Average signal-to-noise ratio (D2) Average signal-to-noise ratio (D2).	R	float	dB	dB	dB	
32952	SNRD1	Average signal-to-noise ratio (D1) Average signal-to-noise ratio (D1).	R	float	dB	dB	dB	
32954	GainD2	Gain when transducer D2 is receiving a signal Gain when transducer D2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	

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The below ISO 17089 Modbus map is applicable for Gas 8-Path (DeviceNumber 3418), 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Register	Label	Description	Access (RW/RO)	Register Type	Units System 0	Units System 1	Units System 2	Selections/Bitmap
32956	GainD1	Gain when transducer D1 is receiving a signal Gain when transducer D1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32960	FlowVelE	Flow velocity for chord E Chord E flow velocity.	R	float	m/s	ft/s	m/s	
32962	SndVelE	Speed of sound for chord E Speed of sound for chord E including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrE).	R	float	m/s	ft/s	m/s	
32964	PctGoodE	Average performance of chord E The average performance of chord E indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path E1 (PctGoodE1) and performance of path E2 (PctGoodE2).	R	float	%	%	%	
32966	SNRE2	Average signal-to-noise ratio (E2) Average signal-to-noise ratio (E2).	R	float	dB	dB	dB	
32968	SNRE1	Average signal-to-noise ratio (E1) Average signal-to-noise ratio (E1).	R	float	dB	dB	dB	
32970	GainE2	Gain when transducer E2 is receiving a signal Gain when transducer E2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32972	GainE1	Gain when transducer E1 is receiving a signal Gain when transducer E1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32976	FlowVelF	Flow velocity for chord F Chord F flow velocity.	R	float	m/s	ft/s	m/s	
32978	SndVelF	Speed of sound for chord F Speed of sound for chord F including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrF).	R	float	m/s	ft/s	m/s	
32980	PctGoodF	Average performance of chord F The average performance of chord F indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path F1 (PctGoodF1) and performance of path F2 (PctGoodF2).	R	float	%	%	%	
32982	SNRF2	Average signal-to-noise ratio (F2) Average signal-to-noise ratio (F2).	R	float	dB	dB	dB	
32984	SNRF1	Average signal-to-noise ratio (F1) Average signal-to-noise ratio (F1).	R	float	dB	dB	dB	
32986	GainF2	Gain when transducer F2 is receiving a signal Gain when transducer F2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32988	GainF1	Gain when transducer F1 is receiving a signal Gain when transducer F1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
32992	FlowVelG	Flow velocity for chord G Chord G flow velocity.	R	float	m/s	ft/s	m/s	
32994	SndVelG	Speed of sound for chord G Speed of sound for chord G including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrG).	R	float	m/s	ft/s	m/s	
32996	PctGoodG	Average performance of chord G The average performance of chord G indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path G1 (PctGoodG1) and performance of path G2 (PctGoodG2).	R	float	%	%	%	
32998	SNRG2	Average signal-to-noise ratio (G2) Average signal-to-noise ratio (G2).	R	float	dB	dB	dB	
33000	SNRG1	Average signal-to-noise ratio (G1) Average signal-to-noise ratio (G1).	R	float	dB	dB	dB	
33002	GainG2	Gain when transducer G2 is receiving a signal Gain when transducer G2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
33004	GainG1	Gain when transducer G1 is receiving a signal Gain when transducer G1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
33008	FlowVelH	Flow velocity for chord H Chord H flow velocity.	R	float	m/s	ft/s	m/s	
33010	SndVelH	Speed of sound for chord H Speed of sound for chord H including any adjustment for speed of sound correction factor (SOSGeometryCorrFctrH).	R	float	m/s	ft/s	m/s	
33012	PctGoodH	Average performance of chord H The average performance of chord H indicated as the percentage of good signals in those received from upstream and downstream transducers in a batch. It is calculated as average of performance of path H1 (PctGoodH1) and performance of path H2 (PctGoodH2).	R	float	%	%	%	
33014	SNRH2	Average signal-to-noise ratio (H2) Average signal-to-noise ratio (H2).	R	float	dB	dB	dB	
33016	SNRH1	Average signal-to-noise ratio (H1) Average signal-to-noise ratio (H1).	R	float	dB	dB	dB	
33018	GainH2	Gain when transducer H2 is receiving a signal Gain when transducer H2 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	

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The below ISO 17089 Modbus map is applicable for Gas 8-Path (DeviceNumber 3418), 4-Path (DeviceNumber 3414), 2-Path (DeviceNumber 3412) and 1-Path (DeviceNumber 3411) meters

Register	Label	Description	Access (RW/RO)	Register Type	Units System 0	Units System 1	Units System 2	Selections/Bitmap
33020	GainH1	Gain when transducer H1 is receiving a signal Gain when transducer H1 is receiving a signal. Gain is applied to the received signal in hardware in volts/volt (hardware gain units). Conversion from hardware gain to decibels is gain (db) = 20 * log10(gain(hw)). Alarm limits for gain alarms are GainLowLmt and GainHighLmt.	R	float	gain (dB)	gain (dB)	gain (dB)	
33792	Manufacturer	Manufacturer name Manufacturer name as set at the factory.	R	char[16]	-	-	-	
33800	MeterModelNamePlate	Meter model as stamped on the physical nameplate of the meter Meter model stamped on the physical nameplate of the meter as set by the user or at the factory.	R	char[16]	-	-	-	
33808	MeterSerialNumber	Meter serial number The serial number for the ultrasonic meter. The meter serial number is located on the tag attached to the ultrasonic meter body and is included in the maintenance log and reports file.	R	char[16]	-	-	-	
33816	ProductionYear	Production year Production year of the meter as set by the user or at the factory.	R	char[16]	-	-	-	
33824	ISOModbusCPUBdSwVer	ISO 17089 Modbus CPU Module firmware version This is the CPU Module software version in string format to support ISO 17089 Modbus specification. It is a 16 characters string. The format of the string is "n.ab yyyy/mm/dd", where "n.ab" is the firmware version number and "yyyy/mm/dd" is the released date of the firmware.	R	char[16]	-	-	-	
33832	ISOModbusProgramChksum	ISO 17089 Modbus program checksum This is the checksum of the meter's programs in string format to support ISO 17089 Modbus specification. It is the program checksum value (ProgramChksum) as string of 32 characters. All unused characters in the string are filled with NUL character (0x00).	R	char[32]	-	-	-	
33848	ISOModbusUnitsSystem	ISO 17089 Modbus unit system Selects the units for the Modbus communication for the ISO 17089 Modbus registers block (32678 to 34112). When set to 0, units for ISO 17089 Modbus registers block for read and write operation is bar (Bar), C (Degree Celsius), m3 (cubic meters), m3/hr (cubic meters per hour) and m/s (meter per second). When set to 1, units for ISO 17089 Modbus registers block for read and write operation is psi (Pounds per square inch), F (Degree Fahrenheit), ft3 (cubic feet), ft3/hr (cubic feet per hour) and ft/s (feet per second). When set to 2, units for ISO 17089 Modbus registers block for read and write operation is MPa (Megapascal), K (Kelvin), m3 (cubic meters), m3/hr (cubic meters per hour) and m/s (meter per second). This configuration is different from the units system (UnitsSystem) and volumetric flow rate time unit for Modbus communication (VolFlowRateTimeUnit) which determines units for the Modbus communication for non-ISO 17089 Modbus registers.	RW	long	-	-	-	bar, C, m3, m3/hr, m/s (0) psi, F, ft3, ft3/hr, ft/s (1) MPa, K, m3, m3/hr, m/s (2)
33850	ISOModbusMeterFunctionalityIdentifier	ISO 17089 Modbus meter functionality identifier This is a 32-bit bitfield value where each bit represents meter functionality as per ISO 17089 Modbus specification. Bit 0 is set to 1 if meter is configured to use written values of the process data for pressure and temperature through ISO 17089 Modbus registers (34050 & 34052). Other bits, bit 1 to bit 31, are reserved for future use and are set to 0.	R	long	-	-	-	
33852	QMin	Minimum volumetric flow rate as stamped on the physical nameplate of the meter Minimum volumetric flow rate as set by the user or at the factory.	R	float	m3/hr	ft3/hr	m3/hr	
33854	QMax	Maximum volumetric flow rate as stamped on the physical nameplate of the meter Maximum volumetric flow rate as set by the user or at the factory.	R	float	m3/hr	ft3/hr	m3/hr	
33856	PressureMinOperating	Minimum operating pressure as stamped on the physical nameplate of the meter Minimum operating pressure as set by the user or at the factory in gage.	R	float	bar	psi	MPa	
33858	PressureMaxOperating	Maximum operating pressure as stamped on the physical nameplate of the meter Maximum operating pressure as set by the user or at the factory in gage.	R	float	bar	psi	MPa	
33860	TemperatureMinOperating	Minimum operating temperature as stamped on the physical nameplate of the meter Minimum operating temperature as set by the user or at the factory.	R	float	deg C	deg F	K	
33862	TemperatureMaxOperating	Maximum operating temperature as stamped on the physical nameplate of the meter Maximum operating temperature as set by the user or at the factory.	R	float	deg C	deg F	K	
34048	ISOModbusProcessStatus	ISO 17089 Modbus process value status This is a 32-bit bitfield value where each bit represents process value status as per ISO 17089 Modbus specification. Bit 0 is set to 1 if flow-condition absolute pressure validity (PressureValidity) is TRUE (1). Bit 1 is set to 1 if flow-condition temperature validity (TemperatureValidity) is TRUE (1). Other bits, bit 2 to bit 31, are reserved for future use and are set to 0.	R	long	-	-	-	
34050	AbsFlowPressure	Flow-condition absolute pressure Flow-condition absolute pressure. If input pressure absolute/gage selector (InputPressureUnit) is "Gage", flow-condition absolute pressure = flow-condition pressure (FlowPressure) + specified atmospheric pressure (AtmosphericPress). Otherwise, if input pressure absolute/gage selector (InputPressureUnit) is "Absolute", flow-condition absolute pressure = flow-condition pressure (FlowPressure).	RW	float	bar	psi	MPa	
34052	FlowTemperature	Flow-condition temperature If flow-condition temperature input selector (EnableTemperatureInput) is "Fixed", flow-condition temperature = specified (fixed) flow-condition temperature (SpecFlowTemperature) when written via a Modbus register or via the HART Command-132 or via DB API protocol. Otherwise, if flow-condition temperature input selector is "Live", flow-condition temperature = average of live flow-condition temperature (LiveFlowTemperature) values for the past five seconds. If flow-condition temperature input selector is "Transmitter Head 1", flow-condition temperature is read from Transmitter Head 1 of a Dual-Configuration meter (ColocMeterIPAddress).	RW	float	deg C	deg F	K	