

Flexim FLUXUS[®] F/G831

Non-Intrusive Ultrasonic Flow
Meter for Gases and Liquids

For Operations in Hazardous Environments



Flexim FLUXUS® F/G831

Specifically Designed for Process Control Applications in Hazardous Areas

Oil and gas production and chemical processes from the oil field to the refinery and chemical plants require reliable and accurate flow measurement instrumentation to ensure all flows regardless of the fluid composition and abrasiveness are accounted for every step of the way, to improve field management operations and increase efficiencies.

The Emerson Flexim FLUXUS® F/G831 checks all the boxes. The combination of rugged and robust area FM Class I/Div. 1/Div. 2 rated design, 1 or 2 measurement channels for liquids and gases, a fast processor, advanced meter diagnostic capabilities and process inputs ensures optimal performance and durability under the harshest environments where additional safety is needed.

The addition of process inputs for pressure and temperature at the meter location means the FLUXUS® F/G831 flow meters can now provide standard volume flow and mass flow during standard operating conditions.

Emerson Offers the Superior Alternative:

Unrivaled Performance – Emerson's Flexim Non-Intrusive Ultrasonic Flow Meters offer exceptional reliability and accuracy at high and low flows due to their matched, calibrated and temperature compensated transducers, advanced signal processing capabilities and diagnostics.

Standard Volumetric Flow and Mass Compensation – Process inputs for pressure and temperature

Operational Safety – The FM Class I/Div. 1/Div. 2 rated measurement system cannot cause potential pipe leaks, be prone to clogging or any other related issues that can hinder process integrity.

Flexible Technology – Suited for multiple applications (liquids and gases) in a wide range of pipe sizes

Economical Solution – An externally mounted system means no need for process interruptions or additional engineering costs.

Maintenance Free – No contact with flowing media results in a completely maintenance free and durable metering solution capable of withstanding the the harshest environments.

Application Versatility

Chemical Industry

- Hazardous organic and inorganic fluids
- Acids and caustics
- Process gases
- Polymerization processes
- Infrastructural processes

Hydrocarbon Product Handling

- Pipeline integrity monitoring
- Allocation terminals
- LNG terminals
- Underground gas storage
- Gas distribution and compressor stations

Crude Oil Refining and Gas Processing

- Distillation columns
- Cracker and coker units
- Gas processing

Oil & Gas Exploration

- Gas injection, gas lift & water injection
- Scrubbers and reboilers
- Produced water management
- Chemical injection



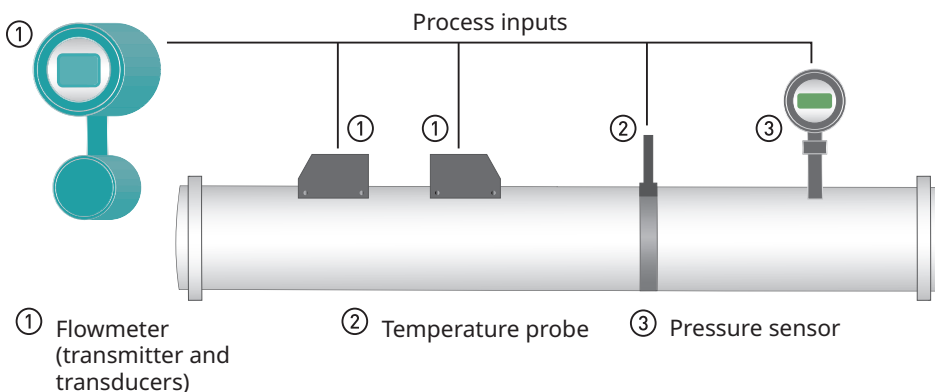
Safe, Reliable, Versatile

With its explosion proof housing, temperature or 4-20 mA inputs and stainless steel (SS316) corrosion resistant transducers, the FLUXUS® F/G831 series is perfectly suited for every demanding industrial application in and out of the oil field and the chemical industry.

The connection and electronic compartments of the FLUXUS® F/G831 series are hermetically sealed, so that the measurement system provides maximum operational reliability and safety, being FM Class I/Div. 1/Div. 2 rated.

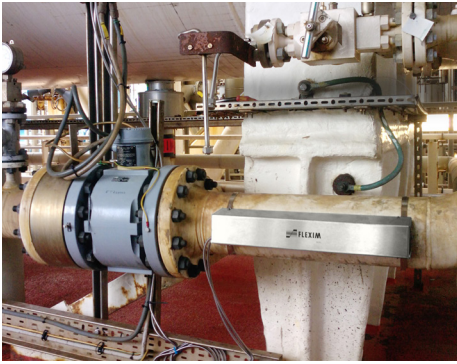
Not only is the FLUXUS® F/G831 versatile, safe and reliable, it is precise. With faster processing capabilities, the meter offers significantly improved accuracy and response time between measurement channels which results in better representation of flow profile and high accuracy. In addition, as with all other FLUXUS® meters, the FLUXUS® F/G831 comes with carefully matched and temperature compensated transducers (fully ANSI/ASME MFC 5M compliant) providing unmatched zero-point stability and precise bi-directional flow measurement over a wide range of conditions – extremely low to high flows.

Flowmeter with integrated pressure and temperature compensation



Advantages

- FM Class I/Div. 1/Div. 2 area rated
- Single & dual channel options available
- Powerful processor – Synchronized Channel Averaging
- Temperature and 4-20 mA process inputs
- Temperature compensated transducers
- Wide turndown ratio – Independent of pipe size, material, operating pressure, fluid and temperature
- High tolerance to entrained solids and gases
- Free of wear, tear and abrasion
- Not prone to clogging or corrosion – No pressure loss or source of potential leaks and fugitive emissions



TECHNICAL FACTS

FLUXUS® F/G831	Clamp-on ultrasonic measuring system for hazardous environments
Measurement principle	Transit time
Measurement functions	
Physical quantities	Volumetric flow rate, mass flow rate, flow velocity
Totalizers	Volume, mass
Diagnostic functions	Sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitude and transit times
Flow ranges	Velocity in ft/s
F831 (liquids)	0.03 ... 82
G831 (gases)	0.03 ... 115
Measurement uncertainty	Volumetric flow rate (measurement)
F831 (liquids)	± 1 % of reading ± 0.02 ft/s
G831 (gases)	± 1 ... 2 % of reading ± 0.02 ft/s
Repeatability	0.15 % of reading ± 0.02 ft/s
Transmitter	
Number of measuring channels	1/2
Explosion protection	Aluminum housing: FM Class I/Div. 1, FM Class 1/Div. 2, ATEX/IECEX Zone 1
Power supply	100 ... 230 V AC / 50 ... 60 Hz 20 ... 32 V DC
Outputs	4 ... 20 mA passive [Ex ia] or active/passive 4 ... 20 mA HART passive [Ex ia] or active/passive
Digital outputs	pulse/frequency/binary, [Ex ia] available
Inputs	Pt100/Pt1000, [Ex ia] available 4 ... 20 mA active [Ex ia] or active/passive
Digital communication	Modbus RTU, HART, Profibus PA, Foundation Fieldbus
Transducers	
Explosion protection	FM Class I/Div. 1, FM Class 1/Div. 2, ATEX/IECEX Zone 1
Temperature range (pipe wall)	-40 °F ... +464 °F / WI: -328 °F ... +1166 °F

For more detailed information please download the Technical Specifications here: www.Emerson.com.



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