

Rosemount™ 3051S High Static Differential Pressure Transmitter



Safety messages

This guide provides basic guidelines for the Rosemount™ 3051S High Static Differential Pressure Transmitter (3051SHP). It does not provide instructions for diagnostics, maintenance, service, troubleshooting, Explosion-proof, Flameproof, or intrinsically safe (I.S.) installations. Refer to the Rosemount 3051SHP [Reference Manual](#) for more information. This document is also available electronically on [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).

⚠ WARNING

Explosions could result in death or serious injury.

Installation of this transmitter in an explosive environment must be in accordance with the appropriate local, national, and international standards, codes, and practices. Review the approvals section of the *Quick Start Guide* for any restrictions associated with a safe installation.

Before connecting a handheld communicator in an explosive atmosphere, ensure that the instruments in the loop are installed in accordance with intrinsically safe or non-incendive field wiring practices.

In an explosion-proof/flameproof installation, do not remove the transmitter covers when power is applied to the transmitter.

⚠ WARNING

Process leaks could result in death or serious injury.

To avoid process leaks, ensure secure connection with coned-and-threaded connection. Install and tighten process connectors before applying pressure.

⚠ WARNING

Electrical shock could cause death or serious injury.

Avoid contact with the leads and terminals. High voltage that may be present on leads can cause electrical shock.

⚠ WARNING

Refer to the *Product certifications* section of this Quick Start Guide documentation when using the RFID tag (option code Y3) for required installation conditions.

⚠ CAUTION

This device complies with Part 15 of the Federal Communication Commission (FCC) Rules. Operation is subject to the following conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

This device must be installed to ensure a minimum antenna separation distance of 20 cm from all persons.

NOTICE

Power module considerations:

The power module may be replaced in a hazardous area. The power module has surface resistivity greater than one gigaohm and must be properly installed in the wireless device enclosure. Care must be taken during transportation to and from the point of installation to prevent electrostatic charge build-up.

NOTICE

Shipping considerations for wireless products.

The unit was shipped without the power module installed. Prior to re-shipment, ensure that the power module has been removed.

Each power module contains two "C" size primary lithium batteries. Primary lithium batteries are regulated in transportation by the U.S. Department of Transportation, and are also covered by International Air Transport Association (IATA), International Civil Aviation Organization (ICAO), and European Ground Transportation of Dangerous Goods (ARD). It is the responsibility of the shipper to ensure compliance with these or any other local requirements. Consult current regulations and requirements before shipping.

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1 System readiness

1.1 Confirm HART® revision capability

If using HART-based control or asset management systems, confirm the HART capability of those systems prior to transmitter installation. Not all systems are capable of communicating with HART Revision 7 protocol. This transmitter can be configured for either HART Revision 5 or 7.

For instructions on how to change the HART revision of the transmitter, see the [Rosemount 3051S Reference Manual](#).

1.2 Confirm correct device driver

Procedure

1. Verify the latest device driver (DD/DTM™) is loaded on your systems to ensure proper communications.
2. Download the latest device driver at Emerson.com/global or FieldCommGroup.org.

1.3 Rosemount 3051S device revisions and drivers

[Table 1-1](#) provides the information necessary to ensure you have the correct device driver and documentation for your device.

Table 1-1: Rosemount 3051S Device Revisions and Files

	Identify device		Find device driver		Review instructions	Review functionality
Software Release Date	NAMUR Software Revision ⁽¹⁾	HART Software Revision ⁽²⁾	HART Universal Revision	Device Revision ⁽³⁾	Manual Document Number	Changes to Software ⁽⁴⁾
Apr-16	1.0.0	20	7	4	00809-0100-4801	See ⁽⁴⁾ for list of changes.
			5	3		

Table 1-1: Rosemount 3051S Device Revisions and Files
(continued)

	Identify device		Find device driver		Review instructions	Review functionality
Oct-10	N/A	12	5	3	00809-01 00-4801	Added Power Advisory, mA Output, Power Consumption, Coefficient of Variation
May-07	N/A	7	5	2	00809-01 00-4801	Update Statistical Process Monitoring Capability
Sep-06	N/A	4, 5, 6	5	1	00809-01 00-4801	N/A

- (1) NAMUR software revision is located on the hardware tag of the device. In accordance with NE53, revisions of the least significant level X (of 1.0.X) do not change functionality or operation of the device and will not be reflected in the review functionality column.
- (2) HART software revision can be read using a HART-capable configuration tool.
- (3) Device driver file names use Device and DD Revision, e.g. 10_01. HART Protocol is designed to enable legacy device driver revisions to continue to communicate with new HART devices. To access new functionality, the new device driver must be downloaded. Emerson recommends downloading new device driver files to ensure full functionality.
- (4) HART Revision 5 and 7 selectable.

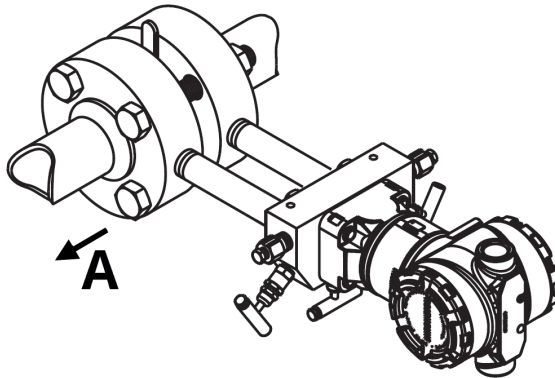
2 Transmitter installation

2.1 Mount the transmitter in liquid applications

Procedure

1. Place taps to the side of the line.
2. Mount beside or below the taps.
3. Mount the transmitter so the drain/vent valves are oriented upward.

Figure 2-1: Mounting the Transmitter in Liquid Applications



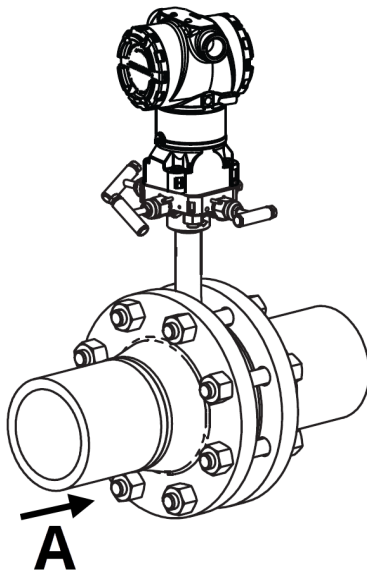
A. Flow

2.2 Mount the transmitter in gas applications

Procedure

1. Place taps in the top or side of the line.
2. Mount beside or above the taps.

Figure 2-2: Mounting the Transmitter in Gas Applications



A. Flow

2.3 Using a mounting bracket

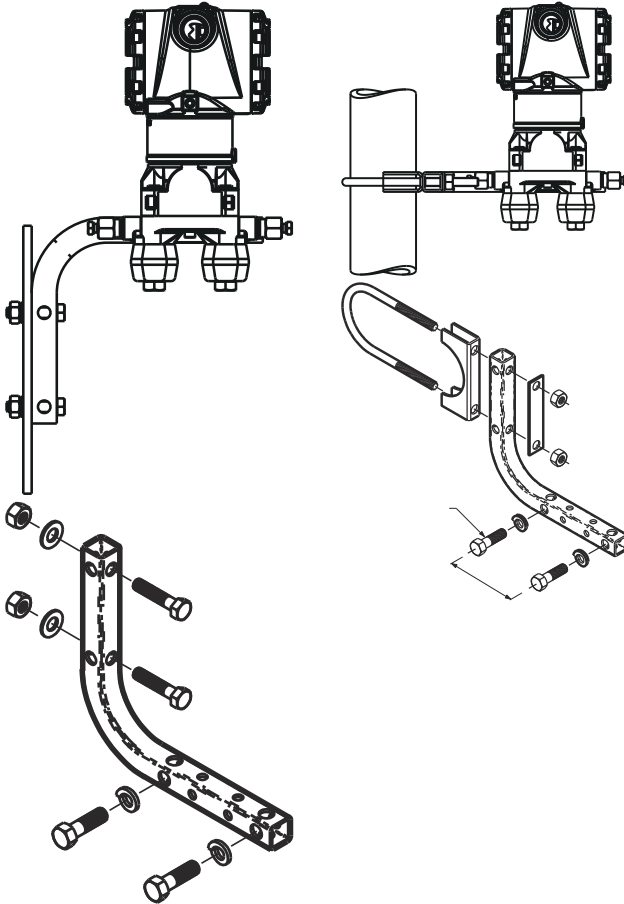
If the transmitter requires a mounting bracket, use the following images for instructions on properly mounting the transmitter using the mounting brackets provided by Emerson. Use only the bolts provided with the transmitter or sold as Emerson spare parts.

Torque bolts to 125 in-lb.

Figure 2-3: Mounting Bracket Usage

Panel mount

Pipe mount



2.4 Environmental seal for housing

Thread sealing (PTFE) tape or paste on male threads of conduit is required to provide a water/dust tight conduit seals and meets requirements of NEMA® Type 4X, IP66, and IP68. Consult factory if other Ingress Protection ratings are required.

For M20 threads, install conduit plugs to full thread engagement or until mechanical resistance is met.

2.5 Installing high pressure coned and threaded connection

The transmitter comes with an autoclave connection designed for high pressure applications. Use the following steps to properly connect the transmitter to your process:

Procedure

1. Apply a process-compatible lubricant to the gland nut threads.
2. Slip the gland nut onto the tube, then thread the collar onto the tube end.

Note

The collar is reverse-threaded.

3. Apply a small amount of process-compatible lubricant applied to the tube cone to help prevent galling and facilitate sealing.
4. Insert the tubing into the connection and tighten securely with fingers.
5. Torque the gland nut to 25 ft-lb.

NOTICE

The transmitter is equipped with a weep hole for safety and leak detection. If fluid begins to leak from the weep hole, isolate the process pressure, disconnect the transmitter, and reseal until the leak is resolved. All Rosemount 3051SHP Transmitters come with a 316L SST tag attached to the module.

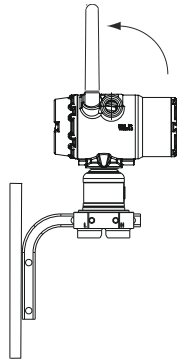
2.6 Wireless considerations (if applicable)

Power up sequence

The power module should not be installed on any wireless device until the Emerson Wireless Gateway (Gateway) has been installed and functioning properly. See [Connect the power module for WirelessHART® transmitter](#) for more details.

Antenna position

Position the antenna vertically, either straight up or straight down (see [Figure 2-4](#)). The antenna should be approximately 3 ft. (1 m) from any large structure or building to allow clear communication to other devices.

Figure 2-4: Antenna Position

2.7 Mount the high gain, remote antenna (WN wireless option only)

The high gain, remote antenna option provides flexibility for mounting the transmitter based on wireless connectivity, lightning protection, and current work practices (see [Figure 2-5](#)).

NOTICE

If the supplied remote mount antenna kit is not installed per these instructions, Emerson is not responsible for wireless performance or non-compliance with spectrum regulations.

The remote antenna option is specifically engineered to provide installation flexibility while optimizing wireless performance and local spectrum approvals. To maintain wireless performance and avoid non-compliance with spectrum regulations, do not change the length of cable or the antenna type.

Before installing, consult with each of the following:

- Local area electrical inspector
- Electrical officer
- Work area supervisor

Install remote antenna components for the transmitter in compliance with local and national electrical codes and use best practices for lightning protection.

When installing the remote mount antenna for the transmitter, always use established safety procedures to avoid falling or contact with high-power electrical lines.

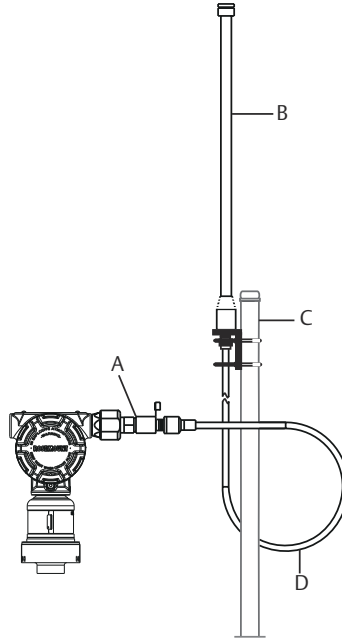
The high gain, remote mount antenna kit includes coaxial sealant for the cable connections for the lightning arrester and antenna.

Procedure

1. Find a location where the remote antenna has optimal wireless performance. Ideally this will be 15–25 ft. (4.6–7.6 m) above the ground or 6 ft. (2 m) above obstructions or major infrastructure.
2. Mount the antenna on a 1.5- to 2-inch pipe mast using the supplied mounting equipment.
3. Connect the lightning arrester directly to the top of the transmitter.
4. Install the grounding lug, lock washer, and nut on top of lightning arrester.
5. Connect the antenna to the lightning arrester using the supplied LMR-400 coaxial cable ensuring the drip loop is not closer than 1 ft. (0.3 m) from the lightning arrester.
6. Use the coaxial sealant to seal each connection between the wireless field device, lightning arrester, cable, and antenna.
7. Ensure the mounting mast and lightning arrester are grounded according to local/national electrical code.

Example

Figure 2-5: Rosemount 3051S with High Gain, Remote Antenna

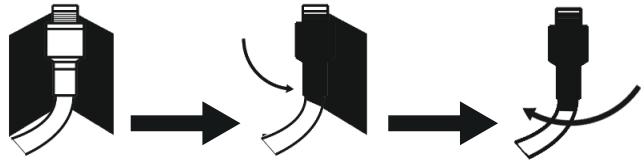


- A. *Lightning arrester*
- B. *Antenna*
- C. *Mounting mast*
- D. *Drip loop*

Note

Weatherproofing is required. The remote mount antenna kit includes coaxial sealant for weather proofing the cable connections for the lightning arrester, antenna, and the transmitter. Coaxial sealant must be applied to guarantee performance of the wireless field network. See [Figure 2-6](#) for details on how to apply coaxial sealant.

Figure 2-6: Applying Coaxial Sealant to Cable Connections



Postrequisites

Any spare lengths of coaxial cable should be placed in 1 ft. (0.3 m) coils.

3 Rotate housing

To improve field access to wiring or to better view the optional LCD display:

Procedure

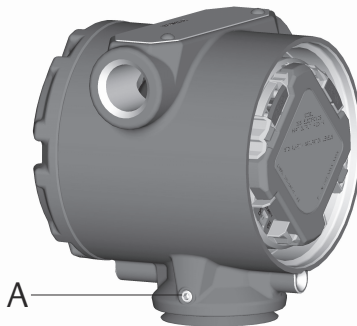
1. Loosen the housing rotation set screw.
2. Rotate the housing clockwise to the desired location. If the desired location cannot be achieved due to thread limit, rotate the housing counterclockwise to the desired location (up to 360° from thread limit).

NOTICE

Overrotation may sever the electrical connection between the sensor module and the feature board electronics. Before rotating the housing more than 180°, perform a disassembly procedure.

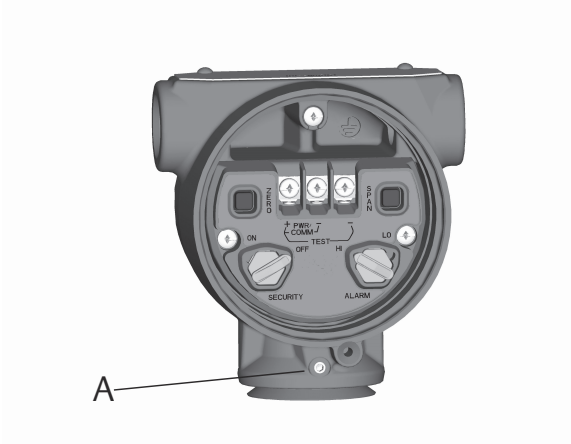
3. Retighten the housing rotation set screw up to 30 in-lb.
4. For wireless, consider access to the power module when selecting housing rotation.

Figure 3-1: Transmitter Housing Set Screw (Plantweb)



A. Housing rotation set screw (3/32 in.)

Figure 3-2: Transmitter Housing Set Screw (Junction Box)



A. Housing rotation set screw (3/32 in.)

4 Set switches and jumpers

If alarm and security adjustment option is not installed, the transmitter will operate normally with the default alarm condition alarm **High** and the security **Off**.

Procedure

1. If the transmitters are live, set the loop to **Manual** and remove power.

⚠ CAUTION

Do not remove the transmitter covers in explosive atmospheres when the circuit is live.

2. Remove the electronics compartment cover.

⚠ CAUTION

Do not remove the housing cover in explosive environments.

Note

On:

- Junction box housing, remove the terminal block cover
 - Plantweb™ housing, the cover is opposite the field terminals side
-

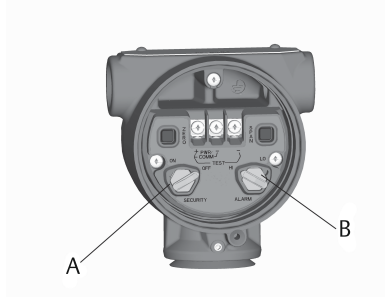
3. To set the security and alarm on:
 - Junction box housing, pull the pins out and rotate 90° into desired position.
 - Plantweb housing, slide the security and alarm switches into the preferred position by using a small screwdriver.

Note

An LCD display or an adjustment module must be in place to activate the switches.

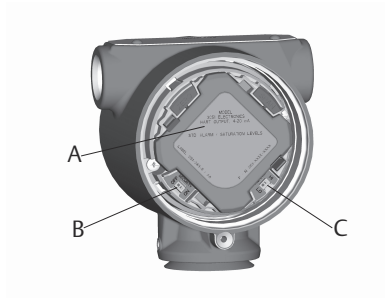
4. To meet explosion-proof requirements, reinstall the housing cover so metal contacts metal.

Figure 4-1: Transmitter Switch and Jumper Configuration (Junction Box)



- A. Security
- B. Alarm

Figure 4-2: Transmitter Switch and Jumper Configuration (Plantweb)



- A. Meter/adjustment module
- B. Security
- C. Alarm

5 Power up transmitter

This section provides the procedures necessary to power up transmitters. Each unique procedure is specific to the protocol used. Find the necessary procedure using the following list:

- [Connect wiring and power up for wired HART configuration](#)
- [Connect wiring and power up FOUNDATION™ Fieldbus transmitter](#)
- [Connect the power module for WirelessHART® transmitter](#)

5.1 Connect wiring and power up for wired HART configuration

Use the following steps to wire the transmitter:

Procedure

1. Remove and discard orange conduit plugs.
2. Remove the housing cover labeled `Field Terminals`.
3. Connect the positive lead to the + terminal, and the negative lead to the – terminal.

NOTICE

Avoid test diode damage.

Do not connect the power across the test terminals. Power could damage the test diode in the test connection. Twisted pairs yield best results. Use 24 AWG to 14 AWG wire and do not exceed 5,000 feet (1500 meters). For single compartment housing (Junction Box housing), shielded signal wiring should be used in high EMI/RFI environments.

4. Ensure full contact with terminal block screw and washer. When using a direct wiring method, wrap wire clockwise to ensure it is in place when tightening the terminal block screw.

NOTICE

Avoid loosening connection

Emerson does not recommend using a pin or ferrule wire terminal as the connection may be more susceptible to loosening over time or under vibration.

- If the optional process temperature input is not installed, plug and seal the unused conduit connection. If the optional process temperature input is being utilized, see [Install optional process temperature input \(Pt 100 RTD sensor\)](#) for more information.

When the enclosed threaded plug is utilized in the conduit opening, it must be installed with a minimum thread engagement in order to comply with explosion-proof requirements. For straight threads, a minimum of seven threads must be engaged. For tapered threads, a minimum of five threads must be engaged.

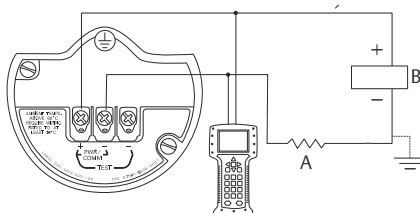
- If applicable, install wiring with a drip loop. Arrange the drip loop so the bottom is lower than the conduit connections and the transmitter housing.
- Reinstall the housing cover and tighten so the cover is fully seated with metal to metal contact between the housing and cover in order to meet explosion proof requirements.

Example

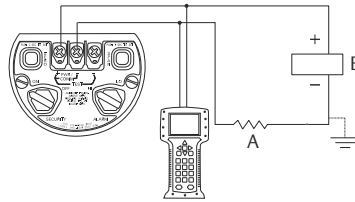
[Transmitter wiring](#) shows the wiring connections necessary to power a wired HART transmitter and enable communications with a handheld communicator.

5.2 Transmitter wiring

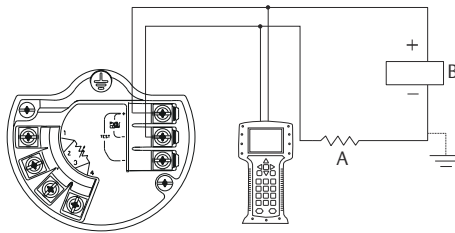
Figure 5-1: Plantweb™ Housing



- $RL \geq 250 \Omega$
- Power supply

Figure 5-2: Junction Box

- A. $RL \geq 250 \Omega$
 B. Power supply

Figure 5-3: With Optional Process Temperature Connection

- A. $RL \geq 250 \Omega$
 B. Power supply

Note

Installation of the transient protection terminal block does not provide transient protection unless the transmitter case is properly grounded.

5.3 Signal wiring grounding

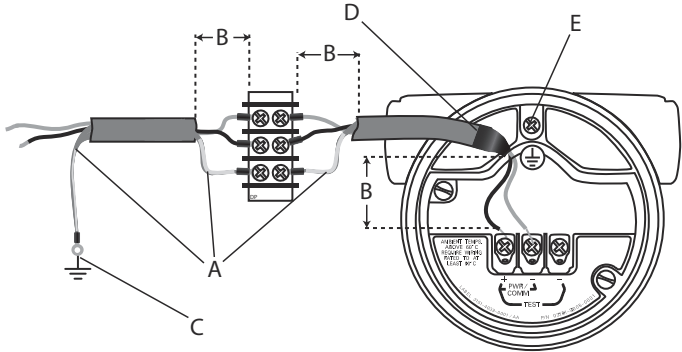
Do not run signal wiring in conduit or open trays with power wiring, or near heavy electrical equipment. Grounding terminations are provided on the sensor module and inside the terminal compartment. These grounds are used when transient protection terminal blocks are installed or to fulfill local regulations.

Procedure

1. Remove the field terminals housing cover.
2. Connect the wiring pair and ground as indicated in [Figure 5-4](#). The cable shield should:
 - Be trimmed close and insulated from touching the transmitter housing

- Continuously connect to the termination point
- Be connected to a good earth ground at the power supply end

Figure 5-4: Wiring



- A. Insulate shield
- B. Minimize distance
- C. Connect shield back to the power supply ground
- D. Trim shield and insulate
- E. Safety ground

3. Replace the housing cover.

NOTICE

Emerson recommends the cover be tightened until there is no gap between the cover and the housing.

4. Plug and seal unused conduit connections with the provided conduit plug.

NOTICE

To comply with explosion-proof requirements, the enclosed threaded plug must be installed with a minimum thread engagement when used in the conduit opening. For straight threads, a minimum of seven threads must be engaged. For tapered threads, a minimum of five threads must be engaged.

5.4 Remote display wiring and power up (if applicable)

The remote mount display and Interface system consists of a local transmitter and a remote mount LCD display assembly. The local Rosemount 3051S assembly includes a Junction Box housing with a three-position terminal block integrally mounted to a sensor module. The remote mount LCD display assembly consists of a dual compartment Plantweb housing with a seven position terminal block. See [Figure 5-5](#) for complete wiring instructions. The following is a list of necessary information specific to the remote mount display system:

- Each terminal block is unique for the remote display system.
- A 316 SST housing adaptor is permanently secured to the remote mount LCD display Plantweb housing, providing an external ground and a means for field mounting with the provided mounting bracket.
- A cable is required for wiring between the transmitter and remote mount LCD display. The cable length is limited to 100 ft.
- 50 ft. (option M8) or 100 ft. (option M9) cable is provided for wiring between the transmitter and remote mount LCD display. Option M7 does not include cable; see the following recommended specifications:
 - [Cable type](#)
 - [Cable length](#)
 - [Cable capacitance](#)
 - [Intrinsic safety consideration](#)

Cable type

Emerson recommends Madison AWM Style 2549 cable. Other comparable cable may be used if it has independent dual twisted shielded pair wires with an outer shield. The power wires must be 22 AWG minimum and the CAN communication wires must be 24 AWG minimum.

Cable length

The cable length is up to 100 ft., depending upon cable capacitance.

Cable capacitance

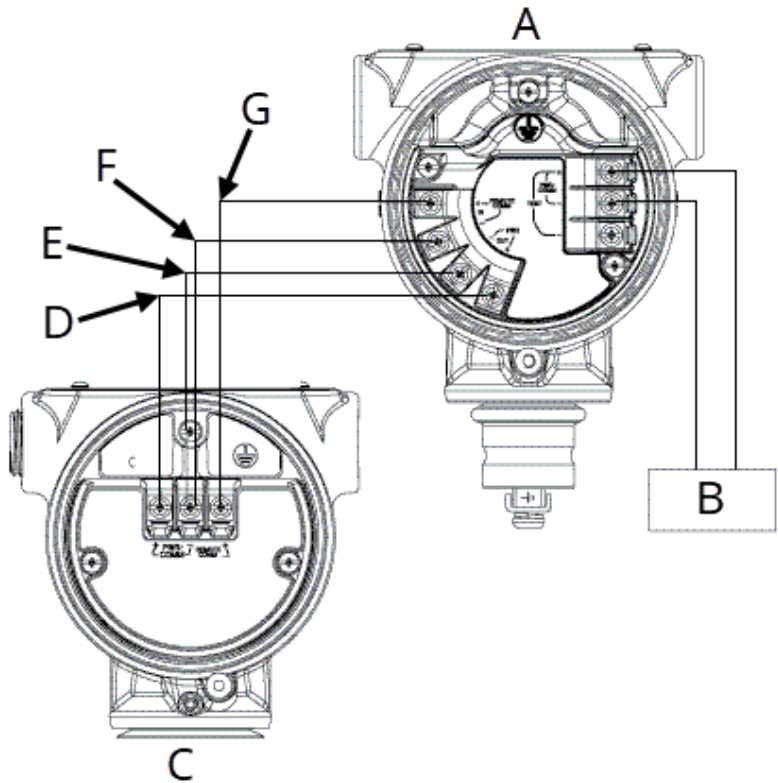
The capacitance from the CAN communications line to the CAN return line as wired must be less than 5,000 picofarads total. This allows up to 50 picofarads per foot for a 100-foot cable.

Intrinsic safety consideration

The transmitter assembly with remote display has been approved with Madison AWM Style 2549 cable. Alternate cable may be used as long as the transmitter with remote display and cable is configured according to the installation control drawing or certificate. Refer to appropriate approval certificate or control drawing in Appendix B of the Rosemount 3051S [Reference Manual](#) for remote cable IS requirements.

⚠ CAUTION

Do not apply power to the remote communications terminal. Follow wiring instructions carefully to prevent damage to system components.

Figure 5-5: Remote Mount Display Wiring Diagram

- A. Remote mount display
- B. 4–20 mA
- C. Junction box housing
- D. Red: 22 AWG
- E. Black: 22 AWG
- F. Blue: 24AWG
- G. White: 24AWG

Note

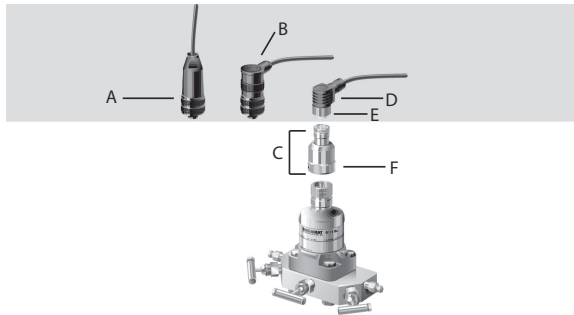
Wire colors provided are per Madison AWM Style 2549 cable. Wire color may vary depending on cable selected.

Madison AWM Style 2549 cable includes a ground shield. This shield must be connected to earth ground at either the sensor module or the remote display, but not both.

5.5 Quick connect wiring (if applicable)

As standard, the Rosemount 3051S Quick Connect arrives properly assembled to the sensor module and is ready for installation. Cordsets and field wireable connectors (in shaded area) are sold separately.

Figure 5-6: Rosemount 3051S Quick Connect Exploded View



- A. *Straight field wireable connector (part number 03151-9063-0001), supplied by customer*
- B. *Right angle field wireable connector (part number 03151-9063-0002), supplied by customer*
- C. *Quick Connect housing*
- D. *Cordset, supplied by vendor*
- E. *Coupling nut*
- F. *Quick Connect coupling nut*

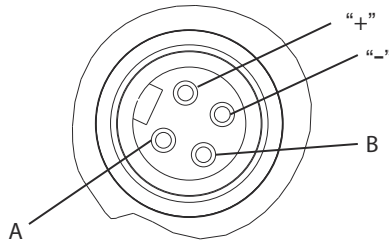
Note

If Quick Connect is ordered as a Rosemount 300S spare housing or is removed from the sensor module, follow the instructions below for proper assembly prior to field wiring.

Procedure

1. Place the Quick Connect onto the sensor module. To ensure proper pin alignment, remove coupling nut prior to installing quick connect onto the sensor module.
2. Place coupling nut over quick connect and wrench tighten to a maximum of 300 in-lb (34 N-m).
3. Tighten the set screw up to 30 in-lb using a 3/32-in. hex wrench.
4. Install cordset/field wireable connectors onto the Quick Connect. Do not over tighten.

Figure 5-7: Quick Connect Housing Pin-Out



- A. Ground
- B. No connection

Note

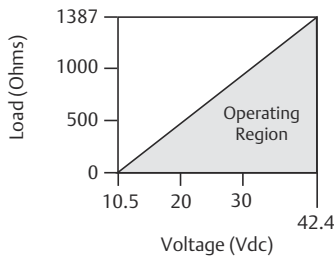
For other wiring details, refer to pin-out drawing and the cordset manufacturer’s installation instructions.

5.6 Power supply

The DC power supply should provide power with less than two percent ripple. The total resistance load is the sum of the resistance of the signal leads and the load resistance of the controller, indicator, and related pieces. Note the resistance of intrinsic safety barriers, if used, must be included.

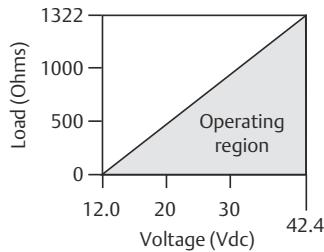
The Communication Device requires a minimum loop resistance of 250Ω for communication.

Figure 5-8: Load Limitation (Standard Transmitter)



Maximum Loop Resistance = 43.5 x (Power Supply Voltage - 10.5)

Figure 5-9: Load Limitation (HART Diagnostic Transmitter [Option Code DA2] Differential Pressure and Temperature Transmitter)



Maximum Loop Resistance = $43.5 \times (\text{Power Supply Voltage} - 12.0)$

5.7 Install optional process temperature input (Pt 100 RTD sensor)

Use only ATEX/IECEX Flameproof cables (Temperature Input Code C30, C32, C33, or C34) to meet ATEX/IECEX Flameproof certification.

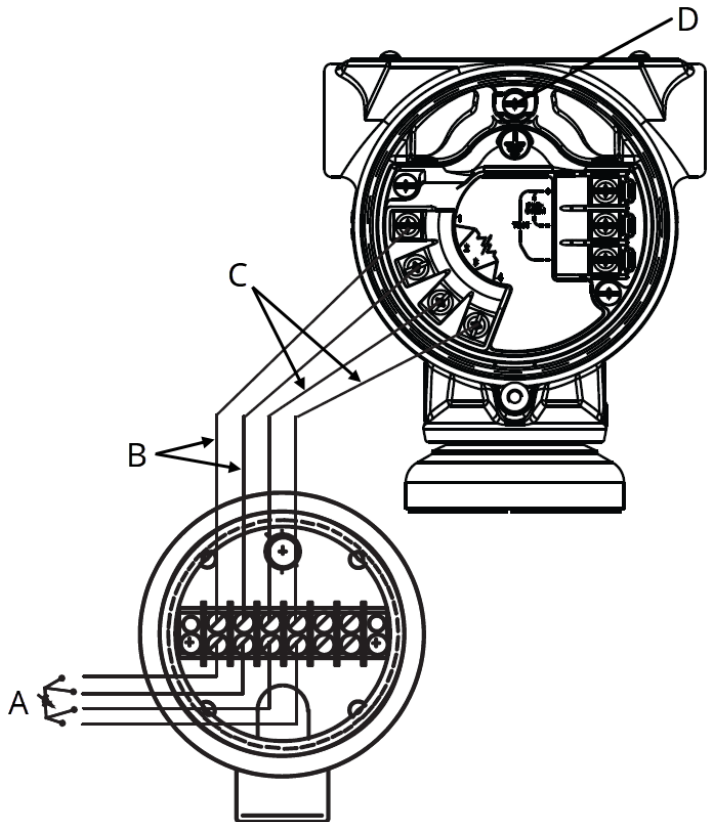
Procedure

1. Mount the Pt 100 RTD sensor in the appropriate location.
2. **Note**
Use shielded 4-wire cable for the process temperature connection.

Connect the RTD cable to the transmitter by inserting the cable wires through the unused housing conduit and connect to the four screws on the transmitter terminal block.

Use an appropriate cable gland to seal the conduit opening around the cable.

3. Connect the RTD cable shield wire to the ground lug in the housing.

Figure 5-10: Transmitter RTD wiring connection

- A. Pt 100 RTD sensor
- B. Red RTD cable assembly wires
- C. White RTD cable assembly wires
- D. Ground lug

5.8 Connect wiring and power up FOUNDATION™ Fieldbus transmitter

Cable connection

The segment cable can enter the transmitter through either conduit connection on the housing. Avoid cable entering the housing vertically. Drip loops are recommended for installations where moisture can accumulate and enter the terminal compartment.

Power supply

The transmitter requires between 9 and 32 Vdc (9 and 15 Vdc for FISCO) at the terminals to operate and provide complete functionality.

Power conditioner

A fieldbus segment requires a power conditioner to isolate the power supply filter and decouple the segment from other segments attached to the same power supply.

Signal termination

Every fieldbus segment requires terminators at each end of the segment. Failure to properly terminate segments may cause communication errors with devices on the segment.

Transient protection

Transient protection devices require the transmitter be grounded for proper operation. Refer to [Figure 5-11](#) for further information.

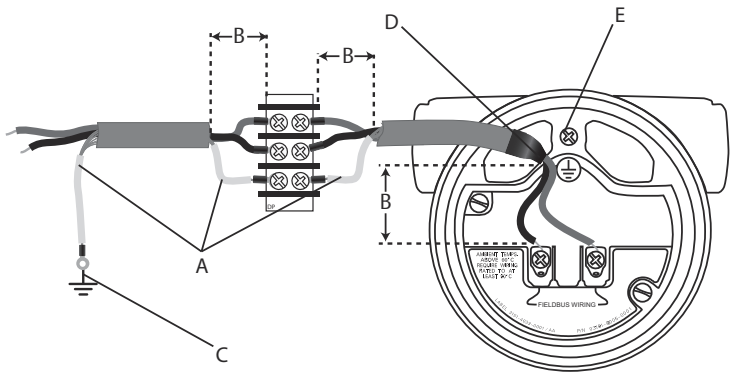
5.8.1 Grounding

Grounding terminations are provided on the sensor module and inside the terminal compartment. These grounds are used when transient protect terminal blocks are installed or to fulfill local regulations.

Procedure

1. Remove the FIELD TERMINALS housing cover.
2. **Note**
The terminals are not polarity sensitive. The cable shield should:
 - Be trimmed close and insulated from touching the transmitter housing
 - Continuously connect to the termination point
 - Be connected to a good earth ground at the power supply end

Connect the wiring pair and ground as indicated in [Figure 5-11](#).

Figure 5-11: Wiring

- A. Insulate shield
- B. Minimize distance
- C. Connect shield back to the power supply ground
- D. Trim shield and insulate
- E. Safety ground

3. Replace the housing cover.

Note

Emerson recommends tightening the cover until no gap exists between the cover and the housing.

4. Plug and seal the unused conduit connection with the provided conduit plug.

NOTICE

When the enclosed threaded plug is utilized in the conduit opening, it must be installed with a minimum thread engagement in order to comply with explosion-proof requirements. For straight threads, a minimum of seven threads must be engaged. For tapered threads, a minimum of five threads must be engaged.

5.9 Connect the power module for *WirelessHART*[®] transmitter

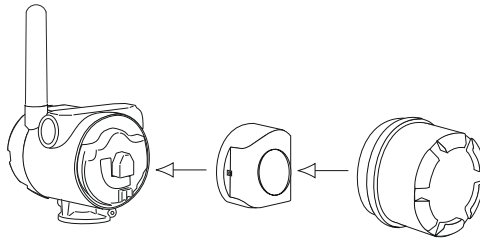
The power module should not be installed on any wireless device until the Gateway is installed and functioning properly. This transmitter uses the black power module (order model number

701PBKKEF). Wireless devices should also be powered up in order of proximity from the Gateway, beginning with the closest. This will result in a simpler and faster network installation. Enable active advertising on the Gateway to ensure new devices join the network faster. For more information, see the [Emerson Wireless 1410 Gateway Reference Manual](#).

Procedure

1. Remove the housing cover on the field terminal side.
2. Connect the black power module.

Figure 5-12: Power module for *WirelessHART* transmitter connections



6 Verify configuration

Use any compliant master to communicate with and verify configuration of the transmitter. Make sure to download the latest device driver from the Device Install Kit site. Refer to [Table 6-1](#) for the latest device revision for each potential configuration.

Configuration can be verified using two methods:

- Using the Communication Device
- Via AMS Device Manager

Fast Keys for using a Communication Device are provided in [Table 6-2](#).

To verify wireless operation, refer to [Verify WirelessHART operation using the Local display \(LCD\)](#); verification can also be done at the device via the LCD display.

Table 6-1: Device Revisions

Device configuration	Device revision
Rosemount 3051S HART (wired)	7
Rosemount 3051S FOUNDATION™ Fieldbus	23
Rosemount 3051S <i>Wireless</i> HART	3
Rosemount 3051S MultiVariable™	1
Rosemount 3051S HART® Diagnostics (DA2)	3

6.1 Verify with Communication Device

Connecting to a Communication Device

For the Communication Device to interface with the transmitter, power must be supplied to the transmitter. For wireless configuration, the communicator connections are located behind the power module on the terminal block (see [Figure 6-1](#)). For wired configurations, the connections are on the terminal block (see [Figure 6-2](#), [Figure 6-3](#), or [Figure 6-4](#)).

Communication Device connections

Figure 6-1: WirelessHART® terminal block

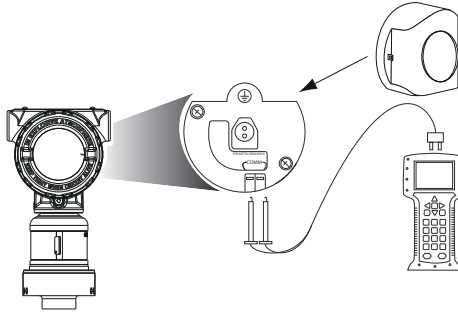


Figure 6-2: HART® and DA2 terminal block

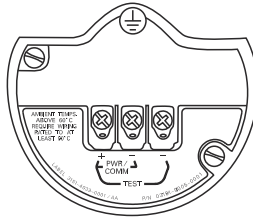


Figure 6-3: Multivariable terminal block

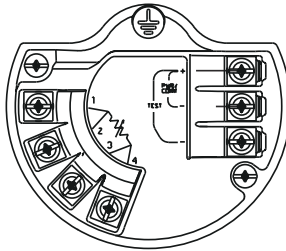
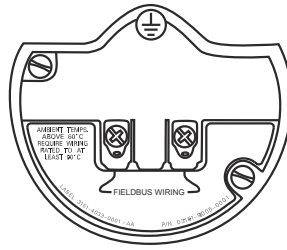


Figure 6-4: FOUNDATION™ Fieldbus terminal block



6.2 Fast Key sequence for critical parameters

Verify basic configuration parameters using a Communication Device. At a minimum, verify the parameters below as part of the configuration and startup procedure.

Note

If no Fast Key sequence is provided, that parameter is not required to be verified for that configuration.

Table 6-2: Fast Key Sequences

Function	HART® protocol	FOUNDATION Fieldbus protocol	Wireless HART® protocol	Differential pressure and temperature measurement	Advanced diagnostics
Damping	2, 2, 1, 5	2, 1, 2	2, 2, 2, 4	1, 3, 7	2, 2, 1, 1, 3
DP Zero Trim	3, 4, 1, 3	2, 1, 1	2, 1, 2	1, 2, 4, 3, 1	3, 4, 1, 1, 1, 3
DP Units	2, 2, 1, 2	3, 2, 1	2, 2, 2, 3	1, 3, 3, 1	2, 1, 1, 1, 2, 1
Range Analog Output	2, 2, 1, 4	N/A	N/A	1, 2, 4, 1	3, 4, 1, 2, 3
Tag	2, 2, 5, 1	4, 1, 3	2, 2, 9, 1	1, 3, 1	2, 1, 1, 1, 1, 1
Transfer	2, 2, 1, 4	N/A	2, 2, 4, 2	1, 3, 6	2, 2, 1, 1, 4

For instructions on how to configure an AI block in your FOUNDATION Fieldbus transmitter, refer to the [Rosemount 3051S FOUNDATION Fieldbus Reference Manual](#).

Verify *WirelessHART* operation using the Local display (LCD)

The LCD display will show the output values based on the wireless update rate. Refer to the [Rosemount 3051S Wireless Reference Manual](#) for error codes and other LCD display messages. Press and hold the **Diagnostic** button for at least five seconds to display the **TAG, Device ID, Network ID, Network Join Status, and Device Status** screens.

Searching for network	Joining network	Connected with limited bandwidth	Connected
<p>The LCD screen displays 'NETWK' at the top and 'SRCHNG' at the bottom. A stylized antenna icon is positioned above the text.</p>	<p>The LCD screen displays 'NETWK' at the top and 'NEGOT' at the bottom. A stylized antenna icon is positioned above the text.</p>	<p>The LCD screen displays 'NETWK' at the top and 'LIM-OP' at the bottom. A stylized antenna icon is positioned above the text.</p>	<p>The LCD screen displays 'NETWK' at the top and 'OK' at the bottom. A stylized antenna icon is positioned above the text.</p>

Note

It may take several minutes for the device to join the network. For advanced troubleshooting of the wireless network or Gateway, refer to:

- [Rosemount 3051S WirelessHART Reference Manual](#)
- [Emerson 1410 Wireless Gateway Reference Manual](#)
- [Emerson 1420 Wireless Gateway Quick Start Guide](#)

7 Trim the transmitter

Transmitters are shipped either:

- fully calibrated per request
- by the factory default of full scale:
 - **Lower Range Value** = 0
 - **Upper Range Value** = upper range limit

7.1 Zero trim

A zero trim is a single-point adjustment used for compensating mounting position and line pressure effects. When performing a zero trim, ensure the equalizing valve is open and all wet legs are filled to the correct level.

- If zero offset is less than 3% of true zero, follow the [Using the Communication Device](#) instructions to perform a zero trim.
- If zero offset is greater than 3% of true zero, follow the [Using the transmitter zero adjustment button](#) instructions below to rerange.
- If hardware adjustments are not available, see the Rosemount 3051S Reference Manual to perform a rerange using the Communication Device.

7.1.1 Using the Communication Device

Procedure

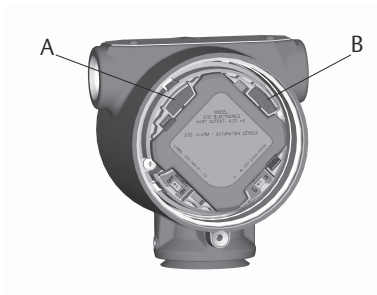
1. Equalize or vent the transmitter and connect Communication Device.
2. At the menu, input the Fast Key sequence (see [Table 6-2](#)).
3. Follow the commands to perform a zero trim.

7.1.2 Using the transmitter zero adjustment button

Procedure

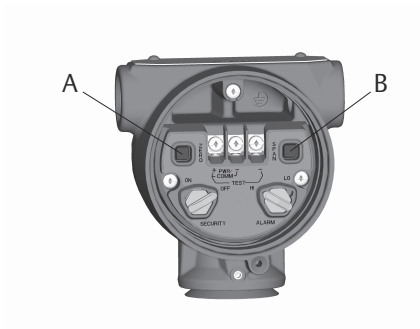
Push and hold the **Zero Adjustment** button for 2–10 seconds.

Figure 7-1: Transmitter Adjustment Buttons (Plantweb™)



- A. Zero
- B. Span

Figure 7-2: Transmitter Adjustment Buttons (Junction Box)



- A. Zero
- B. Span

8 Safety Instrumented Systems (4-20 mA only)

For safety certified installations, refer to the appropriate manual for installation procedure and system requirements.

9 Product certifications

Rev 3.1

Ordinary Location Certification

As standard, the transmitter has been examined and tested to determine that the design meets the basic electrical, mechanical, and fire protection requirements by a nationally recognized test laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

European Directive Information

A copy of the EU Declaration of Conformity can be found at the end of the Quick Start Guide. The most recent revision of the EU Declaration of Conformity can be found at emerson.com/rosemount.

Installing Equipment in North America

The US National Electrical Code® (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

9.1 USA

E5 US Explosionproof, Dust Ignition-proof

Certificate	1143113
Markings	XP CL I, DIV 1, GP B, C, D; T5; DIP CL II, DIV 1, GP E, F, G; CL III; -50°C ≤ Ta ≤ +85°C; Seal Not Required; Type 4X

I5 US Intrinsically Safe; Nonincendive

Certificate	1143113
Markings	IS CL I,II,III, DIV 1, GP A, B, C, D, E, F, G, T4; Class 1, Zone 0 AEx ia IIC T4(-50°C ≤ Ta ≤ +70°C) [HART]; T4(-50°C ≤ Ta ≤ +60°C) [Fieldbus]; NI CL 1, DIV 2, GP A, B, C, D, T5, Ta = 70°C; Install Per 03251-1006; Type 4X

IE US FISCO Intrinsically Safe

Certificate 1143113

Markings IS CL I, DIV 1, GP A, B, C, D, T4(-50°C ≤ Ta ≤ +60°C);
Class 1, Zone 0 AEx ia IIC T4;
Install Per 03251-1006; Type 4X

9.2 Canada

E6 Canada Explosion-proof, Dust Ignition-proof, Division 2

Certificate 1143113

Markings Class I, Groups B, C, D, -50°C ≤ Ta ≤ +85°C;
Class II, Groups E, F, G;
Class III;
Suitable for Class I, Zone 1, Group IIB+H2, T5;
Class I, Division 2, Groups A, B, C, D;
Suitable for Class I, Zone 2, Group IIC, T5;
Seal Not Required; Dual Seal; Type 4X

I6 Canada Intrinsically Safe

Certificate 1143113

Markings Intrinsically Safe Class I, Division 1; Groups A, B, C, D;
Suitable for Class 1, Zone 0, IIC, T3C, Ta = 70°C;
Install Per 03251-1006; Dual Seal; Type 4X

IF Canada FISCO Intrinsically Safe

Certificate 1143113

Markings Intrinsically Safe Class I, Division 1; Groups A, B, C, D;
Suitable for Class 1, Zone 0, IIC, T3C, Ta = 70°C;
Install Per 03251-1006; Dual Seal; Type 4X

9.3 Europe

E1 ATEX Flameproof

Certificate DEKRA 15ATEX0108X

Markings Ⓢ II 1/2 G Ex db IIC T6...T4 Ga/Gb,
T6(-60°C ≤ Ta ≤ +70°C),
T4/T5(-60°C ≤ Ta ≤ +80°C);

$V_{\max} 42.4VDC$

Temperature class	Process connection temperature	Ambient temperature
T6	-60 °C to +70 °C	-60 °C to +70 °C
T5	-60 °C to +80 °C	-60 °C to +80 °C
T4	-60 °C to +120 °C	-60 °C to +80 °C

Special Conditions for Safe Use (X):

1. This device contains a thin wall diaphragm less than 1 mm thick that forms a boundary between Category 1G (process connection) and Category 2G (all other parts of the equipment). The model code and datasheet are to be consulted for details of the diaphragm material. During installation, maintenance and use the environmental conditions to which the diaphragm will be subjected shall be taken into account. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime.
2. Flameproof joints are not intended for repair.
3. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could cause electrostatic build-up on painted surfaces, and only clean the painted surfaces with a damp cloth. If paint is ordered through a special option code, contact the manufacturer for more information.
4. Appropriate cable, glands and plugs need to be suitable for a temperature of 5°C greater than maximum specified temperature for location where installed.

Conduit/Cable Entries

Unless otherwise marked, the conduit/cable entries in the housing enclosure use a ½-14 NPT form. Only use plugs, adapters, glands, or conduit with a compatible thread form when closing these entries. Entries marked M20 are M20 x 1.5 thread form. On devices with multiple conduit entries, all entries will have the same thread form. When installing in a hazardous location, use only appropriately listed or Ex certified plugs, glands, or adapters in cable/conduit entries.

I1 ATEX Intrinsic Safety

Certificate BAS01ATEX1303X

Markings  II 1 G Ex ia IIC T4 Ga, T4(-60°C ≤ Ta ≤ +70°C)

Model	U_i	I_i	P_i	C_i	L_i
SuperModule	30 V	300 mA	1.0 W	30 nF	0
3051S...A; 3051SF...A; 3051SAL...C; 3051SHP...D... A	30 V	300 mA	1.0 W	12 nF	0
3051S...F; 3051SF...F; 3051SHP...D...F	30 V	300 mA	1.3 W	0	0
3051S...F...IA; 3051SF ...F... IA; 3051SHP...D...F...IA	17.5 V	380 mA	5.32 W	0	0
3051S ...A...M7, M8, or M9; 3051SF ...A...M7, M8, or M9; 3051SAL...C... M7, M8, or M9; 3051SHP...D... M7, M8, or M9;	30 V	300 mA	1.0 W	12 nF	60 μ H
3051SAL; 3051SAM	30 V	300 mA	1.0 W	12 nF	33 μ H
3051SAL...M7, M8, or M9 3051SAM...M7, M8, or M9	30 V	300 mA	1.0 W	12 nF	93 μ H
RTD option for 3051SF	5 V	500 mA	0.63 W	---	---
3051SHP...7...A	30 V	300 mA	1.0 W	14.8 nF	0
RTD option for 3051SHP... 7...A	30 V	2.31 mA	17.32 mW	---	---
3051SHP...7...F	30 V	300 mA	1.3 W	0	0
3051SHP...7...F...IA	17.5 V	380 mA	5.32 W	0	0
RTD option for 3051SHP... 7...F	30 V	18.24 mA	137 mW	0.8 nF	1.33 mH

Special Conditions for Safe Use (X):

1. The Model 3051S Transmitters fitted with transient protection are not capable of withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This must be taken into account during installation.
2. The terminal pins of the Model 3051S SuperModule must be provided with a degree of protection of at least IP20 in accordance with IEC/EN 60529.
3. The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however,

care should be taken to protect it from impact or abrasion if located in a zone 0 area.

IA ATEX FISCO

Certificate BAS01ATEX1303X

Markings  II 1 G Ex ia IIC T4 Ga, T4(-60°C ≤ Ta ≤ +70°C)


	FISCO
Voltage U _i	17.5 V
Current I _i	380 mA
Power P _i	5.32 W
Capacitance C _i	0
Inductance L _i	0

Special Conditions for Safe Use (X):

1. The Model 3051S Transmitters fitted with transient protection are not capable of withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This must be taken into account during installation.
2. The terminal pins of the Model 3051S SuperModule must be provided with a degree of protection of at least IP20 in accordance with IEC/EN 60529.
3. The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 area.

ND ATEX Dust

Certificate BAS01ATEX1374X



Markings  II 1 D Ex ta IIIC T₅₀₀105°C Da, (-20°C ≤ Ta ≤ +85°C),
V_{max} = 42.4 V

Special Conditions for Safe Use (X):

1. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP66.
2. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66.

3. Cable entries and blanking plugs must be suitable for the ambient temperature range of the apparatus and capable of withstanding a 7J impact test.
4. The SuperModule(s) must be securely screwed in place to maintain the ingress protection of the enclosure(s).

N1 ATEX Type n

Certificate	BAS01ATEX3304X
Markings	 II 3 G Ex nA IIC T5 Gc;  II 3 G Ex ec IIC T5 Gc; (-40°C ≤ Ta ≤ +85°C) V _{max} = 45V

Special Condition for Safe Use (X):

1. The equipment is not capable of withstanding the 500V insulation test required by Clause 6.5.1 of EN 60079-15:2010 or Clause 6.1 of EN IEC 60079-7:2015+A1:2018. This must be taken into account when installing the equipment.

Note

RTD Assembly is not included with the Rosemount 3051SFx Type n Approval.

9.4 International

E7 IECEx Flameproof and Dust

Certificate	IECEx DEK 15.0072X, IECEx BAS 09.0014X
Markings	Ex db IIC T6...T4 Ga/Gb, T6(-60°C ≤ Ta ≤ +70°C), T4/T5(-60°C ≤ Ta ≤ +80°C); Ex ta IIIC T ₅₀₀ 105°C Da (-20°C ≤ Ta ≤ +85°C) V _{max} = 42.4 VDC

Temperature class	Process connection temperature	Ambient temperature
T6	-60 °C to +70 °C	-60 °C to +70 °C
T5	-60 °C to +80 °C	-60 °C to +80 °C
T4	-60 °C to +120 °C	-60 °C to +80 °C

Special Conditions for Safe Use (X):

1. This device contains a thin wall diaphragm less than 1 mm thick that forms a boundary between EPL Ga (process connection) and EPL Gb (all other parts of the equipment). The model code and datasheet are to be consulted for details of the diaphragm material. During installation, maintenance and use the environmental conditions to which the diaphragm will be subjected shall be taken into account. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime.
2. Flameproof joints are not intended for repair.
3. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could cause electrostatic build-up on painted surfaces, and only clean the painted surfaces with a damp cloth. If paint is ordered through a special option code, contact the manufacturer for more information.
4. Appropriate cable, glands and plugs need to be suitable for a temperature of 5°C greater than maximum specified temperature for location where installed.
5. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP66
6. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66.
7. Cable entries and blanking plugs must be suitable for the ambient temperature range of the apparatus and capable of withstanding a 7J impact test.
8. The 3051S-* super module must be securely screwed in place to maintain the ingress protection of the enclosure.

Conduit/Cable Entries

Unless otherwise marked, the conduit/cable entries in the housing enclosure use a ½-14 NPT form. Only use plugs, adapters, glands, or conduit with a compatible thread form when closing these entries. Entries marked M20 are M20 x 1.5 thread form. On devices with multiple conduit entries, all entries will have the same thread form. When installing in a hazardous location, use only appropriately listed or Ex certified plugs, glands, or adapters in cable/conduit entries.

I7 IECEx Intrinsic Safety

Certificate IECEx BAS 04.0017X

Markings Ex ia IIC T4 Ga, T4(-60°C ≤ Ta ≤ +70°C)

Model	U _i	I _i	P _i	C _i	L _i
SuperModule	30 V	300 mA	1.0 W	30 nF	0
3051S...A; 3051SF...A; 3051SAL...C; 3051SHP...D... A	30 V	300 mA	1.0 W	12 nF	0
3051S...F; 3051SF...F; 3051SHP...D...F	30 V	300 mA	1.3 W	0	0
3051S...F...IA; 3051SF ...F... IA; 3051SHP...D...F...IA	17.5 V	380 mA	5.32 W	0	0
3051S ...A...M7, M8, or M9; 3051SF ...A...M7, M8, or M9; 3051SAL...C... M7, M8, or M9; 3051SHP...D... M7, M8, or M9;	30 V	300 mA	1.0 W	12 nF	60 μH
3051SAL; 3051SAM	30 V	300 mA	1.0 W	12 nF	33 μH
3051SAL...M7, M8, or M9 3051SAM...M7, M8, or M9	30 V	300 mA	1.0 W	12 nF	93 μH
RTD option for 3051SF	5 V	500 mA	0.63 W	---	---
3051SHP...7...A	30 V	300 mA	1.0 W	14.8 nF	0
RTD option for 3051SHP... 7...A	30 V	2.31 mA	17.32 mW	---	---
3051SHP...7...F	30 V	300 mA	1.3W	0	0
3051SHP...7...F...IA	17.5 V	380 mA	5.32 W	0	0
RTD option for 3051SHP... 7...F	30 V	18.24 mA	137 mW	0.8 nF	1.33 mH

Special Conditions for Safe Use (X):

1. The Model 3051S Transmitters fitted with transient protection are not capable of withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This must be taken into account during installation.
2. The terminal pins of the Model 3051S SuperModule must be provided with a degree of protection of at least IP20 in accordance with IEC/EN 60529.

- The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 area.

IG IECEx FISCO

Certificate	IECEx BAS 04.0017X
Markings	Ex ia IIC T4 Ga, T4(-60°C ≤ Ta ≤ +70°C)

Parameter	FISCO
Voltage U_i	17.5 V
Current I_i	380 mA
Power P_i	5.32 W
Capacitance C_i	0
Inductance L_i	0

Special Conditions for Safe Use (X):

- The Model 3051S Transmitters fitted with transient protection are not capable of withstanding the 500V test as defined in Clause 6.3.13 of EN 60079-11:2012. This must be taken into account during installation.
- The terminal pins of the Model 3051S SuperModule must be provided with a degree of protection of at least IP20 in accordance with IEC/EN 60529.
- The Model 3051S enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 area.

N7 IECEx Type n

Certificate	IECEx BAS 04.0018X
Markings	Ex nA IIC T5 Gc, Ex ec IIC T5 Gc; (-40°C ≤ Ta ≤ +85°C)

Special Condition for Safe Use (X):

- The equipment is not capable of withstanding the 500V insulation test required by Clause 6.5.1 of IEC 60079-15:2010 or Clause 6.1 of IEC 60079-7:2017. This must be taken into account when installing the equipment.

9.5 Brazil

E2 Brazil Flameproof

Certificate	UL-BR 16.0855X
Markings	Ex db IIC T6...T4 Ga/Gb, T6(-60°C ≤ Ta ≤ +70°C), T4/T5(-60°C ≤ Ta ≤ +80°C)

Specific Conditions for Safe Use (X):

1. This device contains a thin wall diaphragm less than 1 mm thickness that forms a boundary between zone 0 (process connection) and zone 1 (all other parts of the equipment). The model code and datasheet are to be consulted for details of the diaphragm material. Installation, maintenance and use shall take into account the environmental conditions to which the diaphragm will be subjected. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime.
2. Flameproof joints are not intended for repair.
3. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could cause electrostatic build-up on painted surfaces, and only clean the painted surfaces with a damp cloth. If paint is ordered through a special option code, contact the manufacturer for more information.

9.6 EAC

EM EAC Flameproof and Dust

Certificate	EAЭC KZ 7500525.01.01.00672
Markings	0/1 Ex db IIC T6...T4 Ga/Gb X T6(-60°C ≤ Ta ≤ +70°C), T4/T5(-60°C ≤ Ta ≤ +80°C); Ex ta IIIC T105°C T ₅₀₀ 95°C Da X (-20°C ≤ Ta ≤ +85°C)

See Certificate for Specific Conditions for safe use.

IM EAC Intrinsic Safety

Certificate	EAЭC KZ 7500525.01.01.00672
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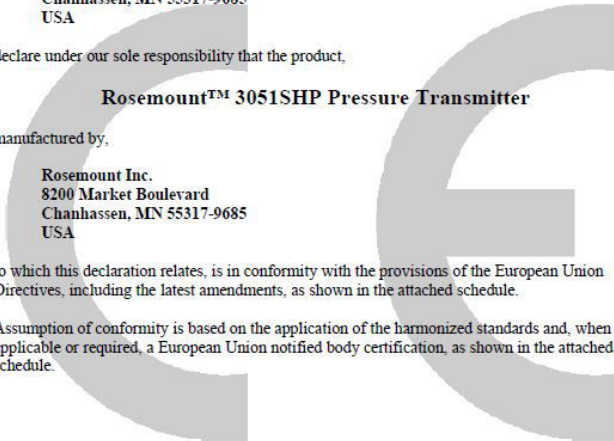

Markings 0Ex ia IIC T4 Ga X; T4 (-60°C ≤ Ta ≤ +70°C)



See Certificate for Specific Conditions for safe use.



9.7 Combinations

- K1** Combination of E1, I1, N1, and ND
- K7** Combination of E7, I7, and N7
- KC** Combination of E1, E5, I1, and I5
- KD** Combination of E1, E5, E6, I1, I5, and I6
- KG** Combination of IA, IE, IF, and IG
- KM** Combination of EM and IM

9.8 Rosemount 3051SHP Declaration of Conformity

	EU Declaration of Conformity No: RMD 1104 Rev. G	
<p>We,</p> <p style="margin-left: 40px;">Rosemount Inc. 8200 Market Boulevard Chanhassen, MN 55317-9685 USA</p> <p>declare under our sole responsibility that the product,</p> <p style="text-align: center;">Rosemount™ 3051SHP Pressure Transmitter</p> <p>manufactured by,</p> <p style="margin-left: 40px;">Rosemount Inc. 8200 Market Boulevard Chanhassen, MN 55317-9685 USA</p> <p>to which this declaration relates, is in conformity with the provisions of the European Union Directives, including the latest amendments, as shown in the attached schedule.</p> <p>Assumption of conformity is based on the application of the harmonized standards and, when applicable or required, a European Union notified body certification, as shown in the attached schedule.</p>		
		
 <hr/> <small>(signature)</small>	<p>Vice President of Global Quality</p> <hr/> <small>(function)</small>	
<p>Mark Lee</p> <hr/> <small>(name)</small>	<p>22-Jan-21; Boulder, CO USA</p> <hr/> <small>(date of issue & place)</small>	
<small>Page 1 of 3</small>		

	EU Declaration of Conformity No: RMD 1104 Rev. G	
EMC Directive (2014/30/EU) Harmonized Standards: EN 61326-1:2013, EN61326-2-3: 2013		
Radio Equipment Directive (RED) (2014/53/EU) Harmonized Standards: EN 300 328 V2.1.1 EN 301 489-1 V2.2.0 EN 301 489-17 V3.2.0 EN 61010-1: 2010 EN 62479: 2010		
PED Directive (2014/68/EU) QS Certificate of Assessment - Certificate No. 12698-2018-CE-ACCREDIA Module H Conformity Assessment		
ATEX Directive (2014/34/EU) DEKRA 15ATEX0108X - Flameproof Certificate Equipment Group II Category 1/2 G Ex db IIC T6...T4 Ga/Gb Harmonized Standards Used: EN60079-0:2012+A11:2013, EN60079-1:2014, EN60079-26:2015 BAS01ATEX1303X – Intrinsic Safety Certificate Equipment Group II, Category 1 G Ex ia IIC T4 Ga Harmonized Standards Used: EN 60079-0:2012+A11:2013, EN 60079-11:2012		
Page 2 of 3		

	<h2>EU Declaration of Conformity</h2> <p>No: RMD 1104 Rev. G</p>	
<p>BAS01ATEX3304X – Type n Certificate Equipment Group II, Category 3 G Ex nA IIC T5 Gc Harmonized Standards Used: EN 60079-0:2012+A11:2013, EN 60079-15:2010</p>		
<p>BAS01ATEX1374X – Dust Certificate Equipment Group II, Category 1 D Ex ta IIIC T105°C T50095°C Da Harmonized Standards Used: EN 60079-0:2012+A11:2013, Other Standards Used: EN 60079-31:2009 (a review against EN 60079-31:2014, which is harmonized, shows no significant changes relevant to this equipment so EN 60079-31:2009 continues to represent “State of the Art”)</p>		
<p>PED Notified Body</p> <p>DNV GL Assurance Italia S.r.l. [Notified Body Number: 0496] Via Energy Park 14, N-20871 Vimercate (MB), Italy</p>		
<p>ATEX Notified Bodies for EU Type Examination Certificate</p> <p>DEKRA Certification B.V. [Notified Body Number: 0344] Utrechtseweg 310 Postbus 5185 6802 ED Arnhem Netherlands</p> <p>SGS FIMKO OY [Notified Body Number: 0598] P.O. Box 30 (Särkiniementie 3) 00211 HELSINKI Finland</p>		
<p>ATEX Notified Bodies for Quality Assurance</p> <p>SGS FIMKO OY [Notified Body Number: 0598] P.O. Box 30 (Särkiniementie 3) 00211 HELSINKI Finland</p>		
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9.9 Y3 ATEX/IECEx RFID tag approvals

Certificate	IECEx EPS 15.0042X, EPS 15 ATEX 1 1011 X
Markings	II 2G Ex ia IIC T6/T4 Gb, II 2D Ex ia IIC T80/T130C Db

Conditions of certification

Maximum operating temperature: -58 °F (-50 °C) to +158 °F (+70 °C)

The RFID tags shall never be exposed to high electromagnetic field strengths according to IEC 60079-14.

Electrostatic charges shall be avoided. The tags shall never be used next to strong charge generating processes.

⚠ WARNING

Additional warnings

The plastic enclosure may present a potential electrostatic ignition hazard.

RFID tag has limitations in ambient temperature and zone installation areas (Zones 1 & 21) as compared to the gauge.

9.10 China RoHS

含有China RoHS 管控物质超过最大浓度限值的部件型号列表 Rosemount 3051SHP
List of Rosemount 3051SHP Parts with China RoHS Concentration above MCVs

部件名称 Part Name	有害物质 / Hazardous Substances					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr +6)	多溴联苯 Polybrominated biphenyls (PBB)	多溴联苯醚 Polybrominated diphenyl ethers (PBDE)
电子组件 Electronics Assembly	X	O	O	O	O	O
壳体组件 Housing Assembly	X	O	O	X	O	O
传感器组件 Sensor Assembly	X	O	O	X	O	O

本表格系依据SJ/T11364的规定而制作。

This table is proposed in accordance with the provision of SJ/T11364.

Q: 意为该部件的所有均质材料中该有害物质的含量均低于GB/T 26572所规定的限量要求。

O: Indicate that said hazardous substance in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

X: 意为在该部件所使用的所有均质材料里，至少有一类均质材料中该有害物质的含量高于GB/T 26572所规定的限量要求。

X: Indicate that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.



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For more information: [Emerson.com/global](https://emerson.com/global)

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