Quick Start Guide
00825-0100-4001, Rev JD
September 2016

Rosemount™ 3051 Pressure Transmitter and Rosemount 3051CF Series Flowmeter

with 4-20 mA HART® and 1-5 Vdc Low Power Protocol





HART COMMUNICATION PROTOCOL

EMERSON™
Process Management

NOTICE

This guide provides basic guidelines for Rosemount 3051 Transmitters. It does not provide instructions for configuration, diagnostics, maintenance, service, troubleshooting, Explosion-Proof, Flame-Proof, or intrinsically safe (I.S.) installations. Refer to the Rosemount 3051 Reference Manual for more instruction. This manual is also available electronically EmersonProcess.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 Rosemount 3051 Reference Manual for any restrictions associated with a safe installation.

- Before connecting a HART-based communicator in an explosive atmosphere, make sure the instruments in the loop are installed in accordance with intrinsically safe or non-incendive field wiring practices.
- In an Explosion-Proof/Flame-Proof installation, do not remove the transmitter covers when power is applied to the unit.

Process leaks may cause harm or result in death.

- To avoid process leaks, only use the o-ring designed to seal with the corresponding flange adapter.

Electrical shock can result in death or serious injury.

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

Conduit/cable entries

- Unless marked, the conduit/cable entries in the transmitter housing use a $^{1}/2$–14 NPT thread form. Entries marked “M20” are M20 × 1.5 thread form. On devices with multiple conduit entries, all entries will have the same thread form. Only use plugs, adapters, glands, or conduit with a compatible thread form when closing these entries.
- When installing in a hazardous location, use only appropriately listed or Ex certified plugs, adapters, or glands in cable/conduit entries.

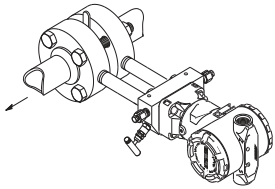
Contents

Mount the transmitter 3
Consider housing rotation 7
Set the jumpers 8
Connect the wiring and power up 8
Verify configuration 11
Trim the transmitter 14
Safety Instrumented Systems (SIS) 15
Product Certifications 18

1.0 Mount the transmitter

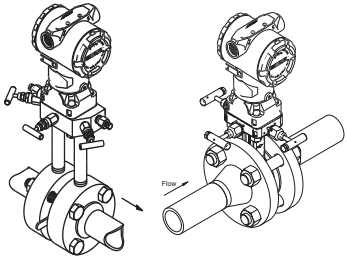
1.1 Liquid flow applications

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.



1.2 Gas flow applications

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



1.3 Steam flow applications

1. Place taps to the side of the line.
2. Mount beside or below the taps.
3. Fill impulse lines with water.

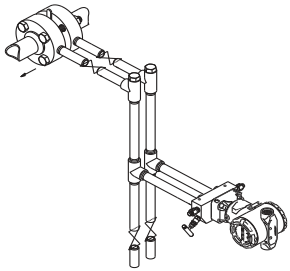
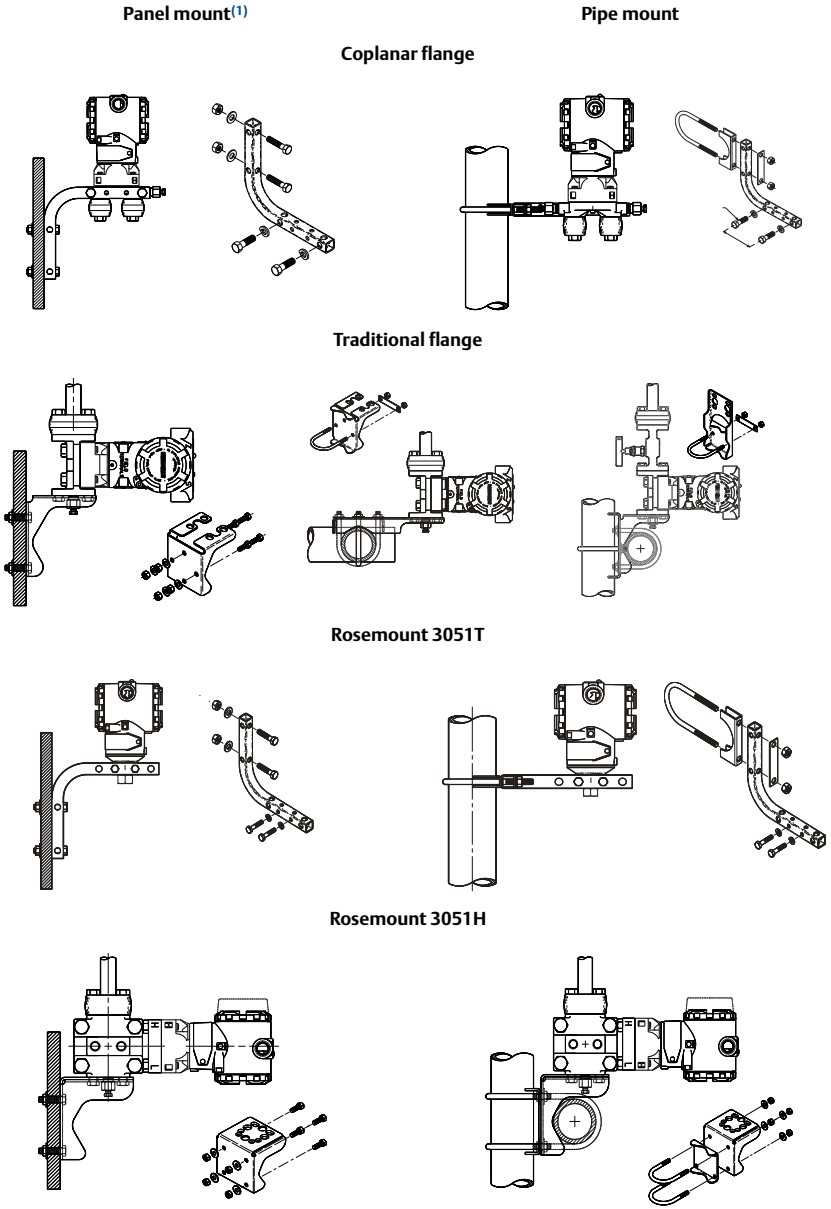


Figure 1. Panel and Pipe Mount

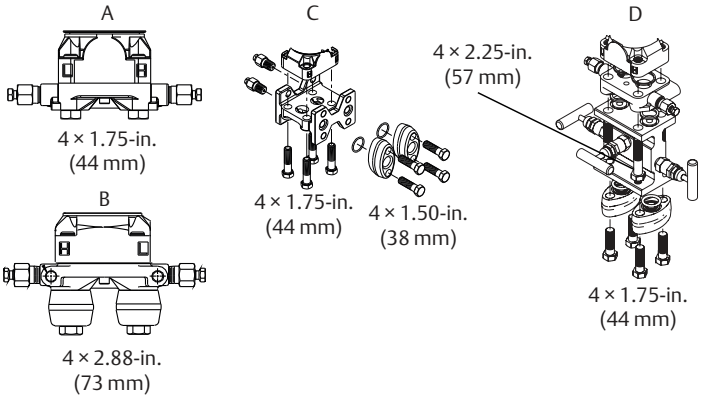


1. Panel bolts are customer supplied.

1.4 Bolting considerations

If the transmitter installation requires assembly of the process flanges, manifolds, or flange adapters, follow these assembly guidelines to ensure a tight seal for optimal performance characteristics of the transmitters. Use only bolts supplied with the transmitter or sold by Emerson™ as spare parts. Figure 2 illustrates common transmitter assemblies with the bolt length required for proper transmitter assembly.

Figure 2. Common Transmitter Assemblies



A. Transmitter with coplanar flange
B. Transmitter with coplanar flange and optional flange adapters
C. Transmitter with traditional flange and optional flange adapters
D. Transmitter with coplanar flange and optional manifold and flange adapters

Bolts are typically carbon steel or stainless steel. Confirm the material by viewing the markings on the head of the bolt and referencing Table 1. If bolt material is not shown in Table 1, contact the local Emerson Process Management representative for more information.

Use the following bolt installation procedure:

1. Carbon steel bolts do not require lubrication and the stainless steel bolts are coated with a lubricant to ease installation. However, no additional lubricant should be applied when installing either type of bolt.
2. Finger-tighten the bolts.
3. Torque the bolts to the initial torque value using a crossing pattern. See Table 1 for initial torque value.
4. Torque the bolts to the final torque value using the same crossing pattern. See Table 1 for final torque value.
5. Verify that the flange bolts are protruding through the isolator plate before applying pressure.

Table 1. Torque Values for the Flange and Flange Adapter Bolts

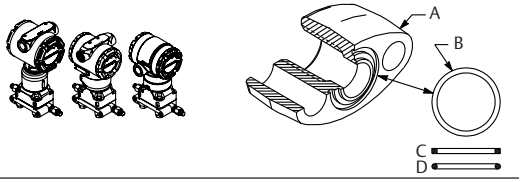
Bolt material	Head markings	Initial torque	Final torque
Carbon Steel (CS)	B7M	300 in-lb	650 in-lb
Stainless Steel (SST)	316 · B8M · 316 · 316 R · STM 316 · SW 316	150 in-lb	300 in-lb

1.5 O-rings with flange adapters

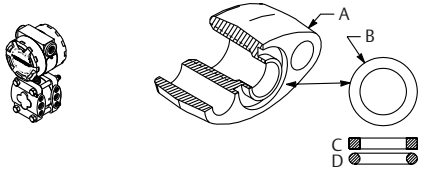
⚠ WARNING

Failure to install proper flange adapter O-rings may cause process leaks, which can result in death or serious injury. The two flange adapters are distinguished by unique O-ring grooves. Only use the O-ring that is designed for its specific flange adapter, as shown below:

Rosemount 3051S/3051/2051/3095



Rosemount 1151



A. Flange adaptor
B. O-ring
C. PTFE based (profile is square)
D. Elastomer (profile is round)

Whenever the flanges or adapters are removed, visually inspect the O-rings. Replace them if there are any signs of damage, such as nicks or cuts. If you replace the O-rings, re-torque the flange bolts and alignment screws after installation to compensate for seating of the PTFE O-rings.

1.6 Environmental seal for housing

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

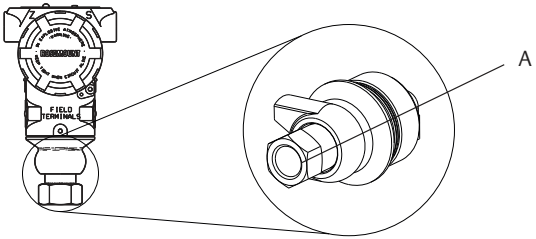
For M20 threads, install conduit plugs to full thread engagement or until mechanical resistance is met.

1.7 In-line gage transmitter orientation

The low side pressure port (atmospheric reference) on the in-line gage transmitter is located in the neck of the transmitter, behind the housing. The vent path is 360° around the transmitter between the housing and sensor. (See Figure 3.)

Keep the vent path free of any obstruction, including but not limited to paint, dust, and lubrication by mounting the transmitter so that the process can drain away.

Figure 3. In-line Gage Low Side Pressure Port



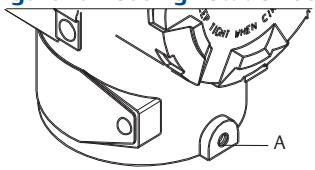
A. Low side pressure port (atmospheric reference)

2.0 Consider housing rotation

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

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

Figure 4. Housing Rotation Set Screw



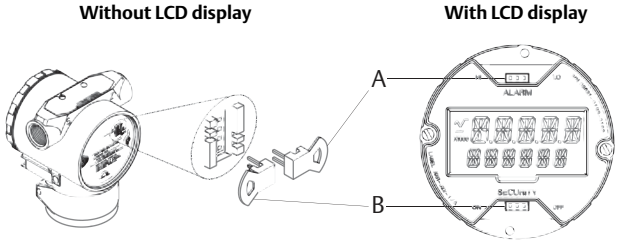
A. Housing rotation set screw ($^{5}/_{64}$-in.)

3.0 Set the jumpers

If alarm and security jumpers are not installed, the transmitter will operate normally with the default alarm condition alarm *high* and the security *off*.

1. If the transmitter is installed, secure the loop, and remove power.
2. Remove the housing cover opposite the field terminal side. Do not remove the instrument cover in explosive atmospheres when the circuit is live.
3. Reposition the jumper. Avoid contact with the leads and the terminals. See Figure 5 for the location of the jumper and the *ON* and *OFF* positions.
4. Reattach the transmitter cover. The cover must be fully engaged to comply with explosion-proof requirements.

Figure 5. Transmitter Electronics Board



A. Alarm
B. Security

4.0 Connect the wiring and power up

Use the following steps to wire the transmitter:

1. Remove the housing cover on the field terminals side.
2. Connect the positive lead to the "+" terminal (PWR/COMM) and the negative lead to the "–" terminal.
3. 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.

Note
The use of a pin or a ferrule wire terminal is not recommended as the connection may be more susceptible to loosening over time or under vibration.

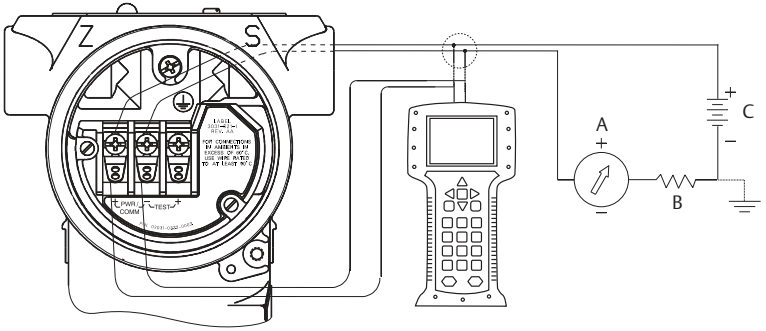
4. Ensure proper grounding. It is important that the instrument cable shield:
   - Be trimmed close and insulated from touching the transmitter housing
   - Be connected to the next shield if cable is routed through a junction box
   - Be connected to a good earth ground at the power supply end

Note
Do not connect the powered signal wiring to the test terminals. Power could damage the test diode in the test connection. Shielded twisted pair cable should be used for best results. Use 24 AWG or larger wire and do not exceed 5,000 feet (1500 meters).

5. Plug and seal unused conduit connections.
6. 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.
7. Replace the housing cover.

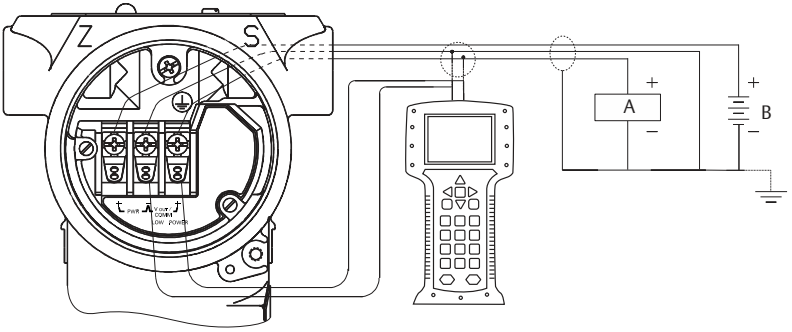
Figure 6 shows wiring connections necessary to power a Rosemount 3051 and enable communications with a hand-held Field Communicator. For low-power transmitters, refer to the Rosemount 3051 Reference Manual.

Figure 6. Transmitter Wiring Diagrams (4–20 mA)



A. Current meter
B. $R_L \geq 250\Omega$
C. 24 Vdc supply

Figure 7. Low Power Transmitter Wiring



A. Voltmeter
B. 6–12 Vdc supply

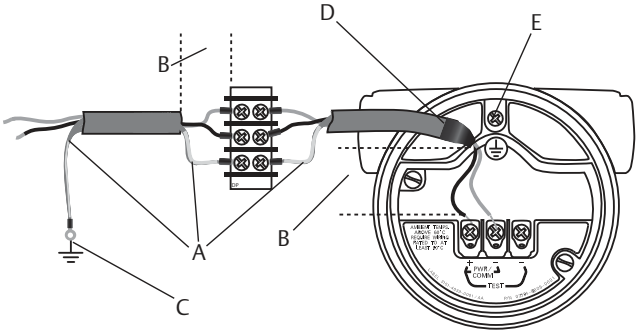
Note
Installation of the transient protection terminal block does not provide transient protection unless the Rosemount 3051 case is properly grounded.

4.1 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 outside of the electronics housing and inside the terminal compartment. These grounds are used when transient protect terminal blocks are installed or to fulfill local regulations. See Step 2 for more information on how the cable shield should be grounded.

1. Remove the field terminals housing cover.
2. Connect the wiring pair and ground as indicated in Figure 8. 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 8. Wiring



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

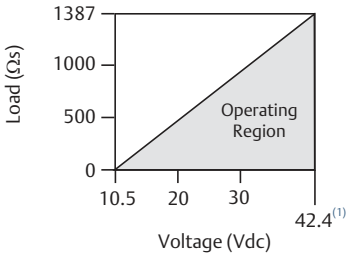
3. Replace the housing cover. It is recommended that the cover be tightened until there is no gap between the cover and the housing.
4. Plug and seal unused conduit connections.

4.2 Power supply for 4–20 mA HART

Transmitter operates on 10.5–42.4 Vdc. The dc power supply should provide power with less than two percent ripple.

Figure 9. Load Limitation

Max. Loop Resistance = 43.5 (Power Supply Voltage – 10.5)



Communication requires a minimumloop resistance of 250 ohms.

1. For CSA approval, power supply must not exceed 42.4 V.

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 that the resistance of intrinsic safety barriers, if used, must be included.

4.3 Power supply for 1–5 Vdc HART Low Power

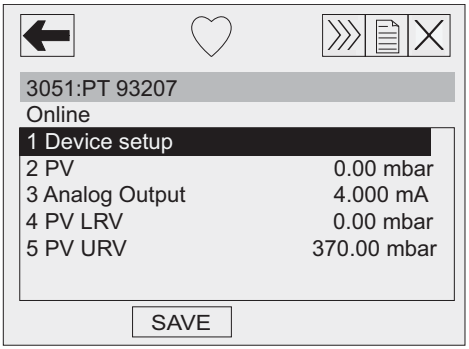
Low power transmitters operate on 6–12 Vdc. The dc power supply should provide power with less than two percent ripple. The V_{out} load should be 100 kW or greater.

5.0 Verify configuration

5.1 Field Communicator user interface

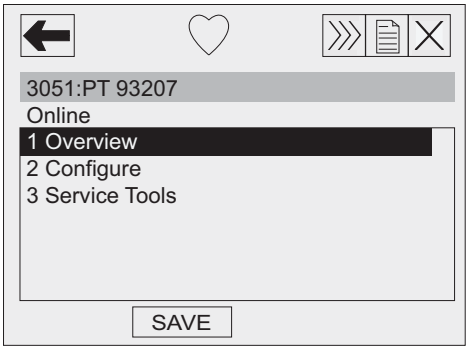
The Traditional Interface - Device Revision 3 and DD Revision 2 Fast Key sequence can be found on page 12.

Figure 10. Traditional Interface - Device Revision 3 and DD Revision 2



The Device Dashboard - Device Revision 3 and DD Revision 6 Fast Key sequence can be found on page 12.

Figure 11. Device Dashboard - Device Revision 3 and DD Revision 6



Note

A check (✓) indicates the basic configuration parameters. At minimum, these parameters should be verified as part of the configuration and startup procedure.

Table 2. Traditional Interface - Device Revision 3 and DD Revision 2 Fast Key Sequence

	Function	Fast Key sequence
	Alarm and Saturation Levels	1, 4, 2, 7
	Analog Output Alarm Type	1, 4, 3, 2, 4
	Burst Mode Control	1, 4, 3, 3, 3
	Burst Operation	1, 4, 3, 3, 3
	Custom Meter Configuration	1, 3, 7, 2
	Custom Meter Value	1, 4, 3, 4, 3
✓	Damping	1, 3, 6
	Date	1, 3, 4, 1
	Descriptor	1, 3, 4, 2
	Digital To Analog Trim (4–20 mA Output)	1, 2, 3, 2, 1
	Disable Local Span/Zero Adjustment	1, 4, 4, 1, 7
	Field Device Information	1, 4, 4, 1
	Full Trim	1, 2, 3, 3
	Keypad Input – Rerange	1, 2, 3, 1, 1
	Local Zero and Span Control	1, 4, 4, 1, 7
	Loop Test	1, 2, 2
	Lower Sensor Trim	1, 2, 3, 3, 2
	Message	1, 3, 4, 3

Table 2. Traditional Interface - Device Revision 3 and DD Revision 2 Fast Key Sequence

	Function	Fast Key sequence
	Meter Options	1, 4, 3, 4
	Number of Requested Preambles	1, 4, 3, 3, 2
	Poll Address	1, 4, 3, 3, 1
	Poll a Multidropped Transmitter	Left Arrow, 4, 1, 1
	Range Values	1, 3, 3
	Rerange	1, 2, 3, 1
	Scaled D/A Trim (4–20 mA Output)	1, 2, 3, 2, 2
	Self Test (Transmitter)	1, 2, 1, 1
	Sensor Info	1, 4, 4, 2
	Sensor Temperature	1, 1, 4
	Sensor Trim Points	1, 2, 3, 3, 5
	Status	1, 2, 1, 1
✓	Tag	1, 3, 1
	Transfer Function (Setting Output Type)	1, 3, 5
✓	Transmitter Security (Write Protect)	1, 3, 4, 4
	Trim Analog Output	1, 2, 3, 2
✓	Units (Process Variable)	1, 3, 2
	Upper Sensor Trim	1, 2, 3, 3, 3
	Zero Trim	1, 2, 3, 3, 1

Table 3. Device Dashboard - Device Revision 3 and DD Revision 6 Fast Key Sequence

	Function	Fast Key sequence
✓	Alarm and Saturation Levels	1, 7, 5
	Burst Mode Control	2, 2, 4, 1
	Burst Option	2, 2, 4, 2
	Custom Display Configuration	2, 2, 3
✓	Damping	2, 2, 1, 2
	Date	2, 2, 6, 1, 4
	Descriptor	2, 2, 6, 1, 5
	Digital to Analog Trim (4–20 mA Output)	3, 4, 2, 1
	Disable Zero & Span Adjustment	2, 2, 5, 2
	Rerange with Keypad	2, 2, 2, 1
	Loop Test	3, 5, 1

Table 3. Device Dashboard - Device Revision 3 and DD Revision 6 Fast Key Sequence

	Function	Fast Key sequence
	Lower Sensor Trim	3, 4, 1,2
	Message	2, 2, 6, 1, 6
✓	Range Values	2, 2, 2
	Scaled D/A Trim (4–20 mA Output)	3, 4, 2, 2
	Sensor Temperature/Trend (Rosemount 3051S)	2, 2, 1, 6
✓	Tag	2, 2, 6, 1,1
✓	Transfer Function	2, 2, 1, 3
	Transmitter Security (Write Protect)	2, 2, 5, 1
✓	Units	2, 2, 1, 1
	Upper Sensor Trim	3, 4, 1, 1
	Zero Trim	3, 4, 1, 3

6.0 Trim the transmitter

Note
Transmitters are shipped fully calibrated per request or by the factory default of full scale (span = upper range limit).

6.1 Zero trim

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

There are two methods to compensate for mounting effects:

- Field Communicator
- Transmitter zero adjustment buttons

Select the appropriate method and follow instructions below:

Using the Field Communicator

If zero offset is within 3% of URL, follow the Using the Field Communicator instructions below. This zero trim will affect the 4–20 mA value, the HART PV, and the display value.

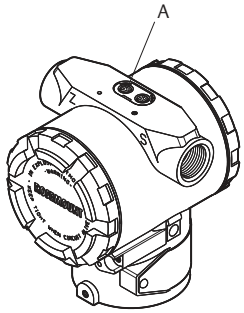
1. Equalize or vent the transmitter and connect Field Communicator.
2. At the menu, input the HART Fast Key sequence (refer to Table 2 or Table 3).
3. Follow the commands to perform a zero trim.

Using the transmitter zero adjustment buttons

Using the transmitter zero adjustment buttons, the lower range value (LRV) will be set to the pressure applied to the transmitter. This adjustment will affect the 4–20 mA value only. Perform the following steps to perform a rerange using the zero adjustment buttons.

1. Loosen the certifications label screw and slide the label to expose the zero adjustment buttons.
2. Set the 4 mA point by pressing the **Zero** button for two seconds. Verify the output is 4 mA. The optional LCD display will show ZERO PASS.

Figure 12. Zero Adjustment Buttons



A. Zero adjustment buttons

7.0 Safety Instrumented Systems (SIS)

The following section applies to Rosemount 3051C Transmitters used in SIS applications.

7.1 Installation

No special installation is required in addition to the standard installation practices outlined in this document. Always ensure a proper seal by installing the electronics housing cover(s) so that metal contacts metal.

The loop must be designed so the terminal voltage does not drop below 10.5 Vdc when the transmitter output is 22.5 mA.

Position the security switch to the *ON* position to prevent accidental or deliberate change of configuration data during normal operation.

7.2 Configuration

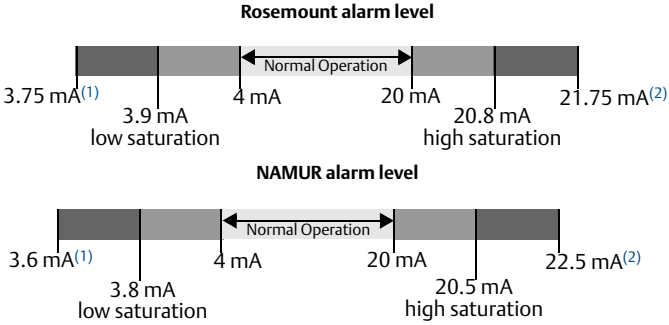
Use any HART-compliant master to communicate with and verify configuration of the Rosemount 3051.

User-selected damping will affect the transmitters ability to respond to changes in the applied process. The *damping value + response time* must not exceed the loop requirements.

Note

1. Transmitter output is not safety-rated during the following: configuration changes, multidrop, loop test. Alternative means should be used to ensure process safety during transmitter configuration and maintenance activities.
2. DCS or safety logic solver must be configured to match transmitter configuration. Figure 13 identifies the two alarm levels available and their operation values. Position the alarm switch to the required HI or LO alarm position.

Figure 13. Alarm Levels



1. Transmitter failure, hardware alarm in LO position.
2. Transmitter failure, hardware alarm in HI position.

Note
Some detected faults are indicated on the analog output at a level above high alarm regardless of the alarm switch selection.

7.3 Operation and maintenance

Proof test and inspection

The following proof tests are recommended. Proof test results and corrective actions taken must be documented at EmersonProcess.com/Rosemount/Report-A-Failure in the event that an error is found in the safety functionality.

Use the Fast Key sequences in Table 2 on page 12 or Table 3 on page 13 to perform a loop test, analog output trim, or sensor trim. See the Rosemount 3051 Reference Manual for additional information.

Proof test 1(1)

This proof test will detect 59.6% of DU failures not detected by the Rosemount 3051 automatic diagnostics.

1. Execute the *Master Reset* command to initiate start-up diagnostics.
2. Enter the milliampere value representing a high alarm state
3. Check the reference meter to verify the mA output corresponds to the entered value.
4. Enter the milliampere value representing a low alarm state
5. Check the reference meter to verify the mA output corresponds to the entered value.

1. *This test will detect approximately 59.6% of possible DU failures in the transmitter.*

Proof test 2[1]

This proof test, when combined with the five-year proof-test, will detect 94.6% of DU failures not detected by the Rosemount 3051 automatic diagnostics.

1. Execute the *Master Reset* command to initiate start-up diagnostics.
2. Perform a minimum two point sensor calibration check using the 4–20 mA range points as the calibration points.s
3. Check the reference mA meter to verify the mA output corresponds to the pressure input value.
4. If necessary, use one of the "Trim" procedures available in the Rosemount 3051 Reference Manual to calibrate.

Note
The user determines the proof-test requirements for impulse piping.

Visual inspection

Not required.

Special tools

Not required.

Product repair

All failures detected by the transmitter diagnostics or by the proof-test must be reported. Feedback can be submitted electronically at EmersonProcess.com/Rosemount/Report-A-Failure.

The Rosemount 3051 is repairable by major component replacement. Follow the instructions in the Rosemount 3051 Reference Manual for additional information.

7.4 Reference

Specifications

The Rosemount 3051 must be operated in accordance to the functional and performance specifications provided in the Rosemount 3051 Reference Manual.

Failure rate data

The FMEDA report includes failure rates and common cause Beta factor estimates. This report is available at EmersonProcess.com/Rosemount.

Rosemount 3051 safety failure values

Safety accuracy: 0.065%
Safety response time: 100 msec

Product life

50 years – based on worst case component wear-out mechanisms – not based on wear-out process wetted materials

1. *This test will detect approximately 94.6% of possible DU failures in the transmitter.*

8.0 Product Certifications

Rev 1.4

8.1 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 EmersonProcess.com/Rosemount.

8.2 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).

8.3 North America

E5 USA Explosionproof (XP) and Dust-Ignitionproof (DIP)
Certificate: 0T2H0.AE
Standards: FM Class 3600 – 2011, FM Class 3615 – 2006, FM Class 3810 – 2005, ANSI/NEMA 250 – 2003
Markings: XP CL I, DIV 1, GP B, C, D; DIP CL II, DIV 1, GP E, F, G; CL III; T5(–50 °C ≤ T_a ≤ +85 °C); Factory Sealed; Type 4X

I5 USA Intrinsic Safety (IS) and Nonincendive (NI)
Certificate: FM16US0120X
Standards: FM Class 3600 – 2011, FM Class 3610 – 2010, FM Class 3611 – 2004, FM Class 3810 – 2005, ANSI/NEMA 250 – 2008
Markings: IS CL I, DIV 1, GP A, B, C, D; CL II, DIV 1, GP E, F, G; Class III; DIV 1 when connected per Rosemount drawing 03031-1019; NI CL 1, DIV 2, GP A, B, C, D; T4(–50 °C ≤ T_a ≤ +70 °C) [HART], T5(–50 °C ≤ T_a ≤ +40 °C) [HART]; T4(–50 °C ≤ T_a ≤ +60 °C) [Fieldbus/PROFIBUS®]; Type 4x

Special Conditions for Safe Use (X):

1. The Rosemount 3051 Transmitter housing contains aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact and friction.
2. The Rosemount 3051 Transmitter with the transient terminal block (Option code T1) will not pass the 500 Vrms dielectric strength test and this must be taken into account during installation.

IE USA FISCO
Certificate: FM16US0120X
Standards: FM Class 3600 – 2011, FM Class 3610 – 2010, FM Class 3611 – 2004, FM Class 3810 – 2005
Markings: IS CL I, DIV 1, GP A, B, C, D when connected per Rosemount drawing 03031-1019 (–50 °C ≤ T_a ≤ +60 °C); Type 4x

Special Conditions for Safe Use (X):

1. The Rosemount 3051 Transmitter housing contains aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact and friction.
2. The Rosemount 3051 Transmitter with the transient terminal block (Option code T1) will not pass the 500 Vrms dielectric strength test and this must be taken into account during installation.

C6 Canada Explosionproof, Dust-Ignitionproof, Intrinsic Safety and Nonincendive
Certificate: 1053834
Standards: ANSI/ISA 12.27.01-2003, CSA Std. C22.2 No. 30-M1986, CSA Std. C22.2 No.142-M1987, CSA Std. C22.2. No.157-92, CSA Std. C22.2 No. 213-M1987
Markings: Explosionproof for Class I, Division 1, Groups B, C and D; Suitable for Class I, Zone 1, Group IIB+H2, T5; Dust-Ignitionproof Class II, Division 1, Groups E, F, G; Class III Division 1; Intrinsically Safe Class I, Division 1 Groups A, B, C, D when connected in accordance with Rosemount drawing 03031-1024, Temperature Code T3C; Suitable for Class I, Zone 0; Class I Division 2 Groups A, B, C and D, T5; Suitable for Class I Zone 2, Group IIC; Type 4X; Factory Sealed; Single Seal (See drawing 03031-1053)

E6 Canada Explosionproof, Dust-Ignitionproof and Division 2
Certificate: 1053834
Standards: ANSI/ISA 12.27.01-2003, CSA Std. C22.2 No. 30-M1986, CSA Std. C22.2 No.142-M1987, CSA Std. C22.2 No. 213-M1987
Markings: Explosionproof Class I, Division 1, Groups B, C and D; Suitable for Class I, Zone 1, Group IIB+H2, T5; Dust-Ignitionproof for Class II and Class III, Division 1, Groups E, F and G; Class I, Division 2, Groups A, B, C and D; Suitable for Class I Zone 2, Group IIC; Type 4X; Factory Sealed; Single Seal (See drawing 03031-1053)

8.4 Europe

E8 ATEX Flameproof and Dust
Certificate: KEMA00ATEX2013X; Baseefa11ATEX0275X
Standards: EN60079-0:2012, EN60079-1:2007, EN60079-26:2007, EN60079-31:2009
Markings: Ⓔx II 1/2 G Ex d IIC T6/T5 Ga/Gb, T6(–50 °C ≤ T_a ≤ +65 °C), T5(–50 °C ≤ T_a ≤ +80 °C);
Ⓔx II 1 D Ex ta IIIC T95 °C T_{500} 105 °C Da (–20 °C ≤ T_a ≤ +85 °C)

Table 4. Process Temperature

Temperature class	Process temperature
T6	–50 °C to +65 °C
T5	–50 °C to +80 °C

Special Conditions for Safe Use (X):

1. This device contains a thin wall diaphragm. 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. For information on the dimensions of the flameproof joints the manufacturer shall be contacted.
3. Some variants of the equipment have reduced markings on the nameplate. Refer to the Certificate for full equipment marking.

I1 ATEX Intrinsic Safety and Dust
Certificate: BAS97ATEX1089X; Baseefa11ATEX0275X
Standards: EN60079-0:2012, EN60079-11:2012, EN60079-31:2009
Markings: HART: Ex II 1 G Ex ia IIC T5/T4 Ga, T5(–60 °C ≤ T_a ≤ +40 °C), T4(–60 °C ≤ T_a ≤ +70 °C)
Fieldbus/PROFIBUS: Ex II 1 G Ex ia IIC Ga T4(–60 °C ≤ T_a ≤ +60 °C)
DUST: Ex II 1 D Ex ta IIIC T95 °C T_{500} 105 °C Da (–20 °C ≤ T_a ≤ +85 °C)

Table 5. Input Parameters

Parameter	HART	Fieldbus/PROFIBUS
Voltage U_i	30 V	30 V
Current I_i	200 mA	300 mA
Power P_i	0.9 W	1.3 W
Capacitance C_i	0.012 µF	0 µF
Inductance L_i	0 mH	0 mH

Special Conditions for Safe Use (X):

1. The apparatus is not capable of withstanding the 500 V insulation test required by clause 6.3.12 of EN60079-11:2012. This must be taken into account when installing the apparatus.
2. The 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 Zone 0.
3. Some variants of the equipment have reduced markings on the nameplate. Refer to the Certificate for full equipment marking.

IA ATEX FISCO
Certificate: BAS97ATEX1089X
Standards: EN60079-0:2012, EN60079-11:2009
Markings: Ex II 1 G Ex ia IIC T4 Ga (–60 °C ≤ T_a ≤ +60 °C)

Table 6. Input Parameters

Parameter	FISCO
Voltage U_i	17.5 V
Current I_i	380 mA
Power P_i	5.32 W
Capacitance C_i	<5 nF
Inductance L_i	<10 µH

Special Conditions for Safe Use (X):

1. The apparatus is not capable of withstanding the 500 V insulation test required by clause 6.3.12 of EN60079-11:2012. This must be taken into account when installing the apparatus.
2. The 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 Zone 0.

N1 ATEX Type n and Dust
Certificate: BAS00ATEX3105X; Baseefa11ATEX0275X
Standards: EN60079-0:2012, EN60079-15:2010, EN60079-31:2009
Markings: Ex II 3 G Ex nA IIC T5 Gc (–40 °C ≤ T_a ≤ +70 °C);
Ex II 1 D Ex ta IIIC T95 °C T_{500} 105 °C Da (–20 °C ≤ T_a ≤ +85 °C)

Special Conditions for Safe Use (X):

1. This apparatus is not capable of withstanding the 500 V insulation test that is required by EN60079-15. This must be taken into account when installing the apparatus.
2. Some variants of the equipment have reduced markings on the nameplate. Refer to the Certificate for full equipment marking.

8.5 International

E7 IECEx Flameproof and Dust
Certificate: IECEx KEM 09.0034X; IECEx BAS 10.0034X
Standards: IEC60079-0:2011, IEC60079-1:2007-04, IEC60079-26:2006, IEC60079-31:2008
Markings: Ex d IIC T6/T5 Ga/Gb, T6(–50 °C ≤ T_a ≤ +65 °C), T5(–50 °C ≤ T_a ≤ +80 °C); Ex ta IIIC T95 °C T_{500} 105 °C Da (–20 °C ≤ T_a ≤ +85 °C)

Table 7. Process Temperature

Temperature class	Process temperature
T6	–50 °C to +65 °C
T5	–50 °C to +80 °C

Special Conditions for Safe Use (X):

1. This device contains a thin wall diaphragm. 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. For information on the dimensions of the flameproof joints the manufacturer shall be contacted.
3. Some variants of the equipment have reduced markings on the nameplate. Refer to the Certificate for full equipment marking.

I7 IECEx Intrinsic Safety
Certificate: IECEx BAS 09.0076X
Standards: IEC60079-0:2011, IEC60079-11:2011
Markings: HART: Ex ia IIC T5/T4 Ga, T5(–60 °C ≤ T_a ≤ +40 °C), T4(–60 °C ≤ T_a ≤ +70 °C)
Fieldbus/PROFIBUS: Ex ia IIC T4(–60 °C ≤ T_a ≤ +60 °C)

Table 8. Input Parameters

Parameter	HART	Fieldbus/PROFIBUS
Voltage U_i	30 V	30 V
Current I_i	200 mA	300 mA
Power P_i	0.9 W	1.3 W
Capacitance C_i	0.012 µF	0 µF
Inductance L_i	0 mH	0 mH

Special Conditions for Safe Use (X):

1. If the apparatus is fitted with optional 90 V transient suppressor, it is not capable of withstanding the 500 V insulation test required by IEC60079-11. This must be taken into account when installing the apparatus.
2. The 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 Zone 0.

IECEx Mining (Special A0259)
Certificate: IECEx TSA 14.0001X
Standards: IEC60079-0:2011, IEC60079-11:2011
Markings: Ex ia I Ma (–60 °C ≤ T_a ≤ +70 °C)

Table 9. Input Parameters

Parameter	HART	Fieldbus/PROFIBUS	FISCO
Voltage U_i	30 V	30 V	17.5 V
Current I_i	200 mA	300 mA	380 mA
Power P_i	0.9 W	1.3 W	5.32 W
Capacitance C_i	0.012 µF	0 µF	<5 nF
Inductance L_i	0 mH	0 mH	<10 µH

Special Conditions for Safe Use (X):

1. If the apparatus is fitted with optional 90 V transient suppressor, it is not capable of withstanding the 500 V insulation test required by IEC60079-11. This must be taken into account when installing the apparatus.
2. It is a condition of safe use that the above input parameters shall be taken into account during installation.
3. It is a condition of manufacture that only the apparatus fitted with housing, covers and sensor module housing made out of stainless steel are used in Group I applications.

N7 IECEx Type n
Certificate: IECEx BAS 09.0077X
Standards: IEC60079-0:2011, IEC60079-15:2010
Markings: Ex nA IIC T5 Gc (–40 °C ≤ T_a ≤ +70 °C)

Special Condition for Safe Use (X):

1. The apparatus is not capable of withstanding the 500 V insulation test required by IEC60079-15. This must be taken into account when installing the apparatus.

8.6 Brazil

E2 INMETRO Flameproof
Certificate: UL-BR 13.0643X
Standards: ABNT NBR IEC60079-0:2008 + Errata 1:2011,
ABNT NBR IEC60079-1:2009 + Errata 1:2011,
ABNT NBR IEC60079-26:2008 + Errata 1:2008
Markings: Ex d IIC T6/T5 Ga/Gb, T6(–50 °C ≤ T_a ≤ +65 °C), T5(–50 °C ≤ T_a ≤ +80 °C)

Special Conditions for Safe Use (X):

1. This device contains a thin wall diaphragm. 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. In case of repair, contact the manufacturer for information on the dimensions of the flameproof joints.
3. The capacitance of the wrap around label, being 1.6 nF, exceeds the limit in Table 9 of ABNT NBR IEC 60079-0. The user shall determine suitability for the specific application.

I2 INMETRO Intrinsic Safety
Certificate: UL-BR 13.0584X
Standards: ABNT NBR IEC60079-0:2008 + Errata 1:2011, ABNT NBR IEC60079-11:2009
Markings: HART: Ex ia IIC T5/T4 Ga, T5(–60 °C ≤ T_a ≤ +40 °C), T4(–60 °C ≤ T_a ≤ +70 °C)
Fieldbus/PROFIBUS: Ex ia IIC T4 Ga (–60 °C ≤ T_a ≤ +60 °C)

Table 10. Input Parameters

Parameter	HART	Fieldbus/PROFIBUS
Voltage U_i	30 V	30 V
Current I_i	200 mA	300 mA
Power P_i	0.9 W	1.3 W
Capacitance C_i	0.012 µF	0 µF
Inductance L_i	0 mH	0 mH

Special Conditions for Safe Use (X):

1. If the equipment is fitted with an optional 90 V transient suppressor, it is not capable of withstanding the 500 V insulation test required by ABNT NBR IRC 60079-11. This must be taken into account when installing the equipment.
2. The 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 Zone 0.

IB INMETRO FISCO
Certificate: UL-BR 13.0584X
Standards: ABNT NBR IEC60079-0:2008 + Errata 1:2011, ABNT NBR IEC60079-11:2009
Markings: Ex ia IIC T4 Ga (–60 °C ≤ T_a ≤ +60 °C)

Table 11. Input Parameters

Parameter	FISCO
Voltage U_i	17.5 V
Current I_i	380 mA
Power P_i	5.32 W
Capacitance C_i	<5 nF
Inductance L_i	<10 µH

Special Conditions for Safe Use (X):

1. If the equipment is fitted with an optional 90 V transient suppressor, it is not capable of withstanding the 500 V insulation test required by ABNT NBR IEC 60079-11. This must be taken into account when installing the equipment.
2. The 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 Zone 0.

8.7 China

E3 China Flameproof
Certificate: GYJ14.1041X; GYJ15.1368X [Flowmeters]
Standards: GB12476-2000; GB3836.1-2010, GB3836.2-2010, GB3836.20-2010
Markings: Ex d IIC T6/T5 Ga/Gb, T6(–50 °C ≤ T_a ≤ +65 °C), T5(–50 °C ≤ T_a ≤ +80 °C)

Special Conditions for Safe Use (X):

1. The relation between ambient temperature arrange and temperature class is as follows:

T_a	Temperature class
–50 °C ~ +80 °C	T5
–50 °C ~ +65 °C	T6

When used in a combustible dust environment, the maximum ambient temperature is 80 °C.
2. The earth connection facility in the enclosure should be connected reliably.
3. Cable entry certified by notified body with type of protection Ex d IIC in accordance with GB3836.1-2000 and GB3836.2-2000, should be applied when installed in a hazardous location. When used in combustible dust environment, cable entry in accordance with IP66 or higher level should be applied.
4. Obey the warning “Keep tight when the circuit is alive.”
5. End users are not permitted to change any internal components.
6. During installation, use and maintenance of this product, observe the following standards: GB3836.13-1997, GB3836.15-2000, GB3836.16-2006, GB50257-1996, GB12476.2-2006, GB15577-2007.

I3 China Intrinsic Safety
Certificate: GYJ13.1362X; GYJ15.1367X [Flowmeters]
Standards: GB3836.1-2010, GB3836.4-2010, GB3836.20-2010, GB12476.1-2000
Markings: Ex ia IIC Ga T4/T5

Special Conditions for Safe Use (X):

1. Symbol “X” is used to denote specific conditions of use:
   a. If the apparatus is fitted with an optional 90 V transient suppressor, it is not capable of withstanding the 500 V insulation test for 1 minute. This must be taken into account when installing the apparatus.
   b. The 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 Zone 0.
2. The relation between T code and ambient temperature range is:

Model	T code	Temperature range
HART	T5	–60 °C ≤ T_a ≤ +40 °C
HART	T4	–60 °C ≤ T_a ≤ +70 °C
Fieldbus/PROFIBUS/FISCO	T4	–60 °C ≤ T_a ≤ +60 °C

3. Intrinsically Safe parameters:

Parameter	HART	Fieldbus/PROFIBUS	FISCO
Voltage U_i	30 V	30V	17.5 V
Current I_i	200 mA	300 mA	380 mA
Power P_i	0.9 W	1.3 W	5.32 W
Capacitance C_i	0.012 µF	0 µF	<5 nF
Inductance L_i	0 mH	0mH	<10 µH

Note 1: FISCO parameters apply to both Group IIC and IIB.

Note 2: [For Flowmeters] When Rosemount 644 Temperature Transmitter is used, the transmitter should be used with Ex-certified associated apparatus to establish explosion protection system that can be used in explosive gas atmospheres. Wiring and terminals should comply with the instruction manual of both Rosemount 644 and associated apparatus. The cables between Rosemount 644 and associated apparatus should be shielded cables (the cables must have insulated shield). The shielded cable has to be grounded reliably in a non-hazardous area.

4. Transmitters comply with the requirements for FISCO field devices specified in IEC60079-27:2008. For the connection of an intrinsically safe circuit in accordance with FISCO Model, FISCO parameters are listed in the table above.
5. The product should be used with Ex-certified associated apparatus to establish explosion protection system that can be used in explosive gas atmospheres. Wiring and terminals should comply with the instruction manual of the product and associated apparatus.
6. The cables between this product and associated apparatus should be shielded cables (the cables must have insulated shield). The shielded cable has to be grounded reliably in a non-hazardous area.
7. End users are not permitted to change any intern components but to settle the problem in conjunction with the manufacturer to avoid damage to the product.
8. During installation, use and maintenance of this product, observe the following standards: GB3836.13-1997, GB3836.15-2000, GB3836.16-2006, GB50257-1996, GB12476.2-2006, GB15577-2007.

N3 China Type n
Certificate: GYJ15.1105X
Standards: GB3836.1-2010, GB3836.8-2003
Markings: Ex nA nL IIC T5 Gc (–40 °C ≤ T_a ≤ +70 °C)

Special Condition for Safe Use (X):

1. Symbol “X” is used to denote specific conditions of use: The apparatus is not capable of withstanding the 500 V test to earth for one minute. The must be taken into consideration during installation.

8.8 Japan

E4 Japan Flameproof
Certificate: TC20577, TC20578, TC20583, TC20584 [HART]; TC20579, TC20580, TC20581, TC20582 [Fieldbus]
Markings: Ex d IIC T5

8.9 Technical Regulations Customs Union (EAC)

EM EAC Flameproof
Certificate: RU C-US.GB05.B.01197
Markings: Ga/Gb Ex d IIC T5/T6 X, T5(–60 °C ≤ T_a ≤ +80 °C), T6(–60 °C ≤ T_a ≤ +65 °C)

Special Condition for Safe Use (X):

1. See certificate for special conditions.

IM EAC Intrinsically Safe
Certificate: RU C-US.GB05.B.01197
Markings: HART: 0Ex ia IIC T4/T5 Ga X, T4(–60 °C ≤ T_a ≤ +70 °C), T5(–60 °C ≤ T_a ≤ +40 °C)
Fieldbus/PROFIBUS: 0Ex ia IIC T4 Ga X (–60 °C ≤ T_a ≤ +60 °C)

Special Condition for Safe Use (X):

1. See certificate for special conditions.

8.10 Combinations

K2 Combination of E2 and I2
K5 Combination of E5 and I5
K6 Combination of C6, E8, and I1
K7 Combination of E7, I7, and N7
K8 Combination of E8, I1, and N1
KB Combination of E5, I5, and C6
KD Combination of E8, I1, E5, I5, and C6
KM Combination of EM and IM

8.11 Conduit Plugs and Adapters

IECEx Flameproof and Increased Safety
Certificate: IECEx FMG 13.0032X
Standards: IEC60079-0:2011, IEC60079-1:2007, IEC60079-7:2006-2007
Markings: Ex de IIC Gb

ATEX Flameproof and Increased Safety
Certificate: FM13ATEX0076X
Standards: EN60079-0:2012, EN60079-1:2007, IEC60079-7:2007
Markings:  II 2 G Ex de IIC Gb

Table 12. Conduit Plug Thread Sizes

Thread	Identification mark
M20 × 1.5	M20
1/2–14 NPT	1/2 NPT

Table 13. Thread Adapter Thread Sizes

Male thread	Identification mark
M20 × 1.5–6H	M20
1/2–14 NPT	1/2–14 NPT
3/4–14 NPT	3/4–14 NPT

Table 13. Thread Adapter Thread Sizes

Female thread	Identification mark
M20 × 1.5–6H	M20
1/2–14 NPT	1/2–14 NPT
G1/2	G1/2

Special Conditions for Safe Use (X):

1. When the thread adapter is used with an enclosure in type of protection increased safety "e" the entry thread shall be suitably sealed in order to maintain the ingress protection rating (IP) of the enclosure.
2. The blanking plug shall not be used with an adapter.
3. Blanking Plug and Threaded Adapter shall be either NPT or Metric thread forms. G1/2 thread forms are only acceptable for existing (legacy) equipment installations.

8.12 Additional Certifications

SBS American Bureau of Shipping (ABS) Type Approval
Certificate: 09-HS446883A-5-PDA
Intended Use: Marine and Offshore Applications — Measurement of either gauge or absolute pressure for liquid, gas, and vapor.

SBV Bureau Veritas (BV) Type Approval
Certificate: 23155
Requirements: Bureau Veritas Rules for the Classification of Steel Ships
Application: Class notations: AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS; Pressure transmitter type 3051 cannot be installed on diesel engines

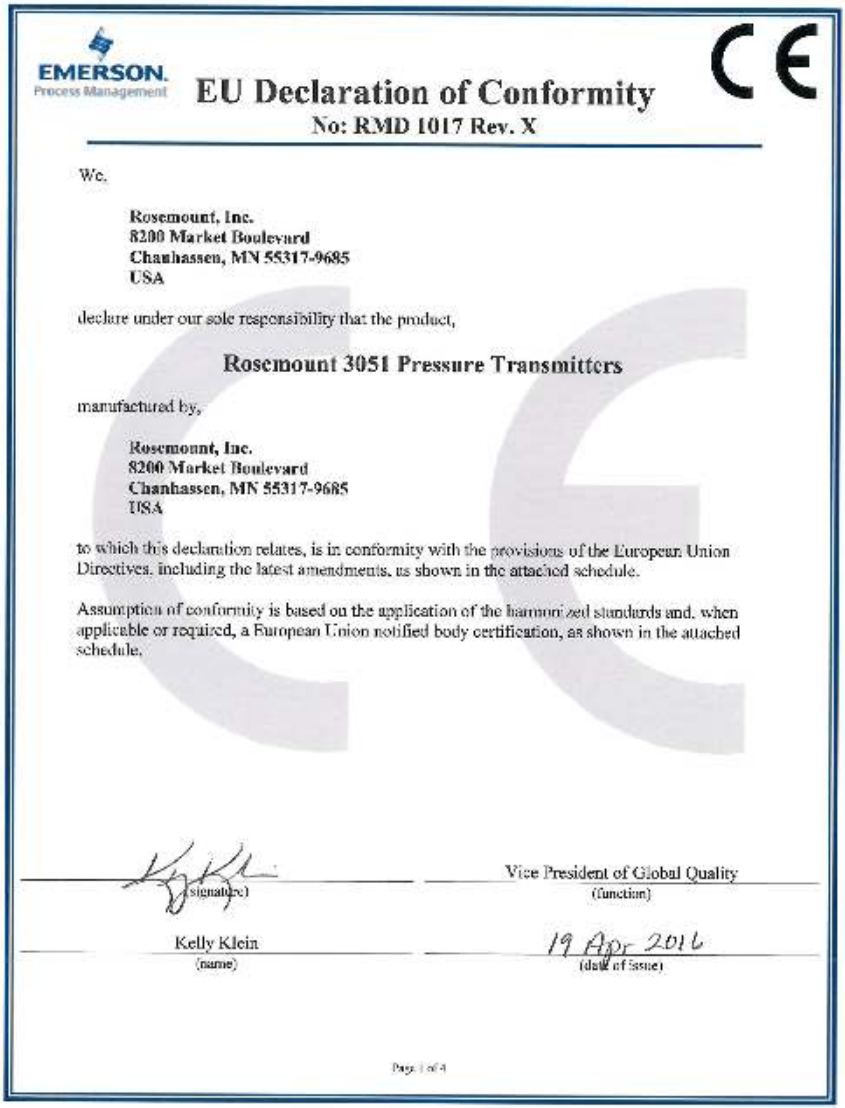
SDN Det Norske Veritas (DNV) Type Approval
Certificate: TAA000004F
Intended Use: DNV GL Rules for Classification — Ships and offshore units
Application:

Location classes	
Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	D

SLL Lloyds Register (LR) Type Approval
Certificate: 11/60002
Application: Environmental categories ENV1, ENV2, ENV3, and ENV5

C5 Custody Transfer - Measurement Canada Accuracy Approval
Certificate: AG-0226; AG-0454; AG-0477

Figure 14. Rosemount 3051 Declaration of Conformity



EMERSON. Process Management

CE

EU Declaration of Conformity

No: RMD 1017 Rev. X

We,

Rosemount, Inc.
8200 Market Boulevard
Chanhassen, MN 55317-9685
USA

declare under our sole responsibility that the product,

Rosemount 3051 Pressure Transmitters

manufactured by,

Rosemount, Inc.
8200 Market Boulevard
Chanhassen, MN 55317-9685
USA

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.

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.

(signature) — Vice President of Global Quality (function)

Kelly Klein (name) — 19 Apr 2016 (date of issue)

Page 1 of 4

EMERSON. Process Management

EU Declaration of Conformity

No: RMD 1017 Rev. X

CE

EMC Directive (2004/108/EC) ***This directive is valid until 19 April 2016***
EMC Directive (2014/30/EU) ***This directive is valid from 20 April 2016***

Harmonized Standards: EN 61326-1:2013, EN 61326-2-3:2013

PED Directive (97/23/EC) ***This directive is valid until 18 July 2016***
PED Directive (2014/68/EU) ***This directive is valid from 19 July 2016***

Rosemount 3051CA4; 3051CD2, 3, 4, 5; 3051HD2, 3, 4, 5; ***(also with P9 option)***
QS Certificate of Assessment - EC Certificate No. 59552-2009-CIS-HOU.-DNV
Module H Conformity Assessment
Other Standards Used: ANSI/ISA61010-1:2004

All other Rosemount 3051 Pressure Transmitters
Sound Engineering Practice

Transmitter Attachments: Diaphragm Seal, Process Flange, or Manifold
Sound Engineering Practice

Rosemount 3051C/Fx DP Flowmeters
See DSI 1000 Declaration of Conformity

Page 2 of 4



EMERSON.
Process Management

EU Declaration of Conformity

No: RMD 1017 Rev. X

ATEX Directive (94/9/EC) ***This directive is valid until 19 April 2016***
ATEX Directive (2014/34/EU) ***This directive is valid from 20 April 2016***

BAS97ATEX1089X - Intrinsic Safety
Equipment Group II Category 1 G
Ex ia IIC T5/T4 Ga
Harmonized Standards Used:
EN60079-0:2012, EN60079-11:2012

BAS00ATEX3105X - Type n and Certificate
Equipment Group II Category 3 G
Ex nA IIC T5 Gc
Harmonized Standards Used:
EN60079-0:2012, EN60079-15:2010

Baseefa11ATEX0275X - Dust Certificate
Equipment Group II Category 1 D
Ex ta IIIC T95°C T_{500}105°C Da
Harmonized Standards Used:
EN60079-0:2012, EN60079-31:2009

KEMA00ATEX2013X - Flameproof Certificate
Equipment Group II Category 1/2 G
Ex d IIC T6/T5 Ga/Gb
Harmonized Standards Used:
EN60079-0:2012, EN60079-1:2007, EN60079-26:2007

Page 3 of 4

EMERSON.
Process Management

EU Declaration of Conformity

No: RMD 1017 Rev. X

CE

PED Notified Body

Det Norske Veritas (DNV) [Notified Body Number: 0575]
Veritasveien 1, N-1322
Høvik, Norway

ATEX Notified Bodies

DEKRA [Notified Body Number: 0344]
Utrechtseweg 310, 6812 AR Arnhem
P.O. Box 5185, 6802 ED Arnhem
The Netherlands
Postbank 6794687

SGS Baseefa Limited [Notified Body Number: 1180]
Rockhead Business Park
Staden Lane
Buxton, Derbyshire
SK17 9RZ United Kingdom

ATEX Notified Body for Quality Assurance

SGS Baseefa Limited [Notified Body Number: 1180]
Rockhead Business Park
Staden Lane
Buxton, Derbyshire
SK17 9RZ United Kingdom

Page 1 of 4

含有China RoHS管控物质超过最大浓度限值的部件型号列表 Rosemount 3051
List of Rosemount 3051 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.

O: 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.

00825-0100-4001

Quick Start Guide
00825-0100-4001, Rev JD
September 2016

Global Headquarters
Emerson Process Management
6021 Innovation Blvd.
Shakopee, MN 55379, USA
+1 800 999 9307 or +1 952 906 8888
+1 952 949 7001
RFQ.RMD-RCC@EmersonProcess.com

North America Regional Office
Emerson Process Management
8200 Market Blvd.
Chanhassen, MN 55317, USA
+1 800 999 9307 or +1 952 906 8888
+1 952 949 7001
RMT-NA.RCCRFQ@Emerson.com

Latin America Regional Office
Emerson Process Management
1300 Concord Terrace, Suite 400
Sunrise, FL 33323, USA
+1 954 846 5030
+1 954 846 5121
RFQ.RMD-RCC@EmersonProcess.com

Europe Regional Office
Emerson Process Management Europe GmbH
Neuhofstrasse 19a P.O. Box 1046
CH 6340 Baar
Switzerland
+41 (0) 41 768 6111
+41 (0) 41 768 6300
RFQ.RMD-RCC@EmersonProcess.com

Asia Pacific Regional Office
Emerson Process Management Asia Pacific Pte Ltd
1 Pandan Crescent
Singapore 128461
+65 6777 8211
+65 6777 0947
Enquiries@AP.EmersonProcess.com

Middle East and Africa Regional Office
Emerson Process Management
Emerson FZE P.O. Box 17033,
Jebel Ali Free Zone - South 2
Dubai, United Arab Emirates
+971 4 8118100
+971 4 8865465
RFQ.RMTMEA@Emerson.com

Linkedin.com/company/Emerson-Process-Management

Twitter.com/Rosemount_News

Facebook.com/Rosemount

Youtube.com/user/RosemountMeasurement

Google.com/+RosemountMeasurement

Standard Terms and Conditions of Sale can be found at
www.Emerson.com/en-us/pages/Terms-of-Use.aspx
The Emerson logo is a trademark and service mark of Emerson Electric Co.
Rosemount and Rosemount logotype are trademarks of Emerson Process Management.
HART is a registered trademark of the FieldComm Group.
NEMA is a registered trademark and service mark of the National Electrical Manufacturers Association.
PROFIBUS is a registered trademark of PROFINET International (PI).
All other marks are the property of their respective owners.
© 2016 Emerson Process Management. All rights reserved.

ROSEMOUNT™

EMERSON™
Process Management