

# Rosemount™ 3051G Pressure Transmitter

with 4-20mA HART® Protocol (Revision 5 and 7)



## NOTICE

Before installing the transmitter, confirm the correct device driver is loaded on the host systems. See [System readiness](#).

## NOTICE

This Quick Start Guide provides basic guidelines for Rosemount 3051 transmitters. It does not provide instructions for configuration, diagnostics, maintenance, service, troubleshooting, explosion-proof, flameproof, or intrinsically safe (IS) installations. Refer to the [Rosemount 3051 Pressure Transmitter Manual](#) for more information. This manual is available electronically on [Emerson.com](#).

## ⚠ 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 [Product certifications](#) 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 transmitter.

## ⚠ WARNING

Process leaks could result in death or serious injury.

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

## ⚠ 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

### 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.

**⚠ WARNING**

**Physical access**

Unauthorized personnel may potentially cause significant damage to and/or misconfiguration of end users' equipment. This could be intentional or unintentional and needs to be protected against.

Physical security is an important part of any security program and fundamental in protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

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# 1 System readiness

## 1.1 Confirm HART® revision capability

- If using HART based control or asset management systems, please confirm the HART capability of those systems prior to transmitter installation. Not all systems are capable of communicating with HART Revision 7 protocol. You can configure this transmitter for either HART Revision 5 or 7.
- For instructions on how to change the HART revision of your transmitter, see [Switch HART revision mode](#).

## 1.2 Confirm correct device driver

- Verify that the latest device driver (DD/DTM™) is loaded on your systems to ensure proper communication.
- Download the latest device driver at [Emerson.com](#) or [FieldComm Group](#).

### 1.2.1 Device revisions and drivers

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

**Table 1-1: Device revisions and files**

Software release date	Identify device		Find device driver		Review instructions	Review functionality
	NAMUR software revision <sup>(1)</sup>	HART® software revision <sup>(1)</sup>	HART universal revision	Device revision <sup>(2)</sup>	Manual document number	Changes to software <sup>(3)</sup>
Dec-11	1.0.0	01	7	10	00809-010 0-4007	See <sup>(3)</sup> for list of changes.
			5	9		
Jan-98	N/A	178	5	3	00809-010 0-4001	N/A

<sup>(1)</sup> The NAMUR software revision is located on the hardware tag of the device. Use a HART-capable configuration tool to read the HART software revision.

<sup>(2)</sup> Device driver file names use device and DD revision (such as 10\_01). The HART protocol is designed to enable legacy device driver revisions to continue to communicate with new HART devices. To access new functionality, download the new device driver. Emerson recommends downloading new device driver files to ensure full functionality.

<sup>(3)</sup> HART Revision 5 and 7 selectable, safety certified, local operator interface, process alerts, scaled variable, configurable alarms, and expanded engineering units.

## 2 Transmitter installation

### 2.1 Mounting the transmitter

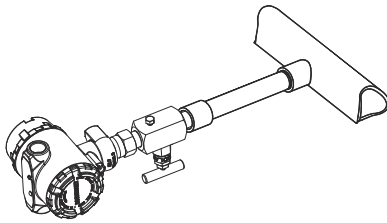
#### 2.1.1 Mount the transmitter in a liquid application

##### Procedure

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

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**Figure 2-1: Transmitter mounted in an in-line liquid application**

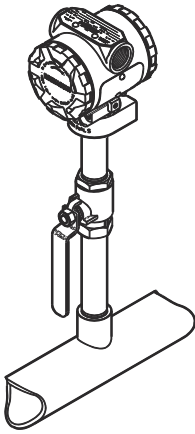


#### 2.1.2 Mount the transmitter in a gas application

##### Procedure

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

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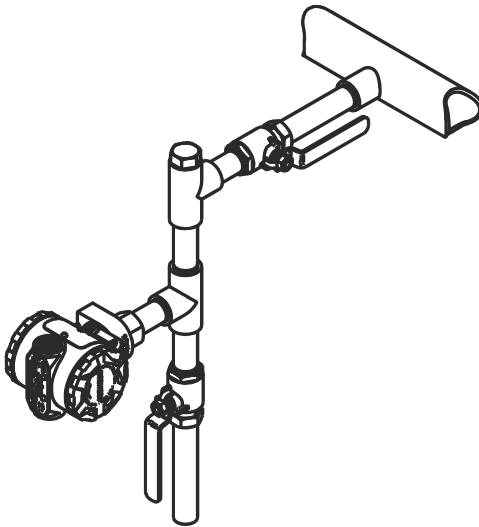
**Figure 2-2: Transmitter mounted in an in-line gas application**

### 2.1.3 Mount the transmitter in a steam application

#### Procedure

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

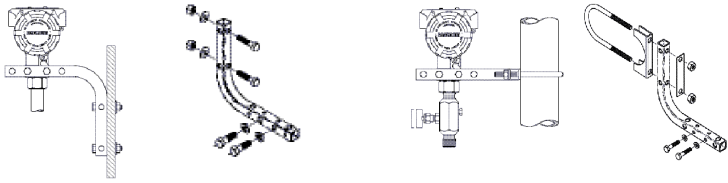
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**Figure 2-3: Transmitter mounted in an in-line steam application**

**Figure 2-4: Panel and ppe mounting**

**Panel mount<sup>(1)</sup>**

**Pipe mount**



*(1) 1.5 / 16 × 1½ panel bolts are customer-supplied.*

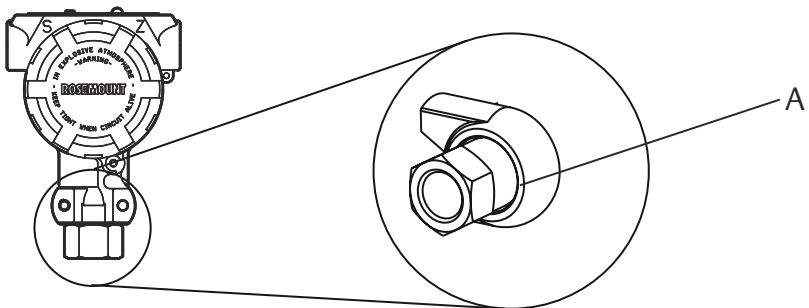
## 2.2 In-line gauge transmitter orientation

The low side pressure port (atmospheric reference) on the in-line gauge 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 2-5](#).

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 2-5: In-line gauge low side pressure port**



**A** Low side pressure port (atmospheric reference)



## 2.3 Set the switches

Set **Alarm** and **Security** switch configuration before installation as shown in [Figure 2-6](#).

- The **Alarm** switch sets the analog output alarm to high or low.
  - Default alarm is High.
- The **Security** switch allows (unlocked symbol) or prevents (locked symbol) any configuration of the transmitter.
  - Default security is Off (unlocked symbol).

To change the switch configuration:

### Procedure

1. If the transmitter is installed, secure the loop and remove power.
2. Remove the housing cover opposite the field terminal side.

### **⚠ WARNING**

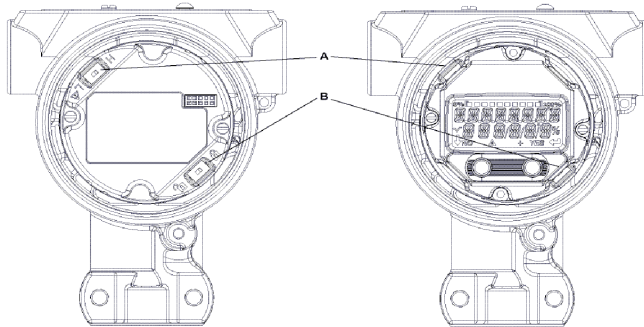
Do not remove the instrument cover in an explosive atmosphere when the circuit is live.

3. Slide the **Security** and **Alarm** switches into the preferred position using a small screwdriver.
4. Reattach the transmitter cover.  
The cover must be fully engaged to comply with explosion-proof requirements.

**Figure 2-6: Transmitter electronics board**

Without LCD display

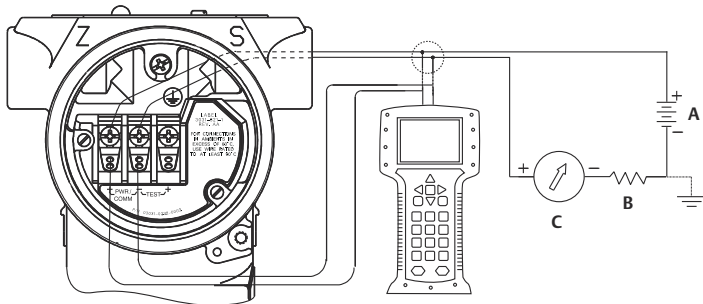
With LCD/local operator interface (LOI) display



- A. Alarm switch
- B. Security switch

## 2.4 Connect the wiring and power up

**Figure 2-7: Transmitter wiring diagrams (4–20 mA)**



- A. 24 Vdc supply
- B.  $R_L \geq 250$
- C. Current meter (optional)

Use shielded twisted pair cable for best results. Use 24 AWG or larger wire that does not exceed 5,000 ft. (1500 m) in length. 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.

## NOTICE

Installation of the transient protection terminal block does not provide transient protection unless the Rosemount 3051 case is properly grounded. Power could damage the test diode in the terminal block.

Do not run signal wiring in conduit or open trays with power wiring, or near heavy electrical equipment.

Do not connect the powered signal wiring to the test terminals.

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To wire the transmitter:

### Procedure

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. Ground housing to fulfill local grounding regulations.
4. Ensure proper grounding.

## NOTICE

It is important that the instrument cable is:

- Trimmed close and insulated from touching the transmitter housing.
  - Connected to the next shield if cable is routed through a junction box.
  - Connected to a good earth ground at the power supply end.
- 

5. If transient protection is needed, refer to [Grounding for transient terminal block](#) for grounding instructions.
6. Plug and seal unused conduit connections.
7. Replace the housing cover.



## 2.5.2 Verifying configuration using a Field Communicator

### Prerequisites

A Rosemount 3051 device driver (DD) must be installed on the Field Communicator to verify configuration. Fast Key sequences for the latest DD are shown in [Table 2-1](#). For Fast Key sequences using legacy DDs, contact your local Emerson representative.

### NOTICE

Emerson recommends installing the latest DD to access the complete functionality. Visit [FieldComm Group](#) for information on updating the DD Library.

### Procedure

Verify device configuration using the Fast Key sequences in [Table 2-1](#).

- A check (✓) in the first column indicates the basic configuration parameters. At minimum, verify these parameters as part of configuration and startup.
- A (7) in the first column indicates availability only in HART® Revision 7 mode.

**Table 2-1: Device Revision 9 and 10 (HART 7), DD Revision 1 Fast Key sequence**

	Function	Fast Key sequence	
		HART 7	HART 5
✓	Alarm and Saturation Levels	2, 2, 2, 5, 7	2, 2, 2, 5, 7
✓	Damping	2, 2, 1, 1, 5	2, 2, 1, 1, 5
✓	Range Values	2, 2, 2	2, 2, 2
✓	Tag	2, 2, 7, 1, 1	2, 2, 7, 1, 1
✓	Transfer Function	2, 2, 1, 1, 6	2, 2, 1, 1, 6
✓	Units	2, 2, 1, 1, 4	2, 2, 1, 1, 4
	Burst Mode	2, 2, 5, 3	2, 2, 5, 3
	Custom Display Configuration	2, 2, 4	2, 2, 4
	Date	2, 2, 7, 1, 4	2, 2, 7, 1, 3
	Descriptor	2, 2, 7, 1, 5	2, 2, 7, 1, 4
	Digital to Analog Trim (4 - 20 mA Output)	3, 4, 2	3, 4, 2

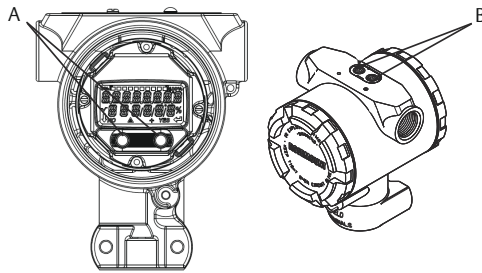
**Table 2-1: Device Revision 9 and 10 (HART 7), DD Revision 1 Fast Key sequence (continued)**

	Function	Fast Key sequence	
		HART 7	HART 5
	Disable Configuration Buttons	2, 2, 6, 3	2, 2, 6, 3
	Rerange with Keypad	2, 2, 2, 1	2, 2, 2, 1
	Loop Test	3, 5, 1	3, 5, 1
	Lower Sensor Trim	3, 4, 1, 2	3, 4, 1, 2
	Message	2, 2, 7, 1, 6	2, 2, 7, 1, 5
	Scaled D/A Trim (4 - 20 mA Output)	3, 4, 2	3, 4, 2
	Sensor Temperature/Trend (Rosemount 3051S)	3, 3, 3	3, 3, 3
	Upper Sensor Trim	3, 4, 1, 1	3, 4, 1, 1
	Digital Zero Trim	3, 4, 1, 3	3, 4, 1, 3
	Password	2, 2, 6, 5	2, 2, 6, 4
	Scaled Variable	3, 2, 2	3, 2, 2
	HART Revision 5 to HART Revision 7 Switch	2, 2, 5, 2, 3	2, 2, 5, 2, 3
7	Long Tag	2, 2, 7, 1, 2	N/A
7	Find Device	3, 4, 5	N/A
7	Simulate Digital Signal	3, 4, 5	N/A

### 2.5.3 Verifying configuration with Local Operator Interface (LOI)

The optional LOI can be used for commissioning the device. The LOI is a two button design with internal and external buttons. The internal buttons are located on the display of the transmitter, while the external buttons are located underneath the top metal tag. To activate the LOI push any button. LOI button functionality is shown on the bottom corners of the display. See [Table 2-1](#) and [Figure 2-10](#) for button operation and menu information.

**Figure 2-9: Internal and External LOI Buttons**



- A. Internal buttons
- B. External buttons

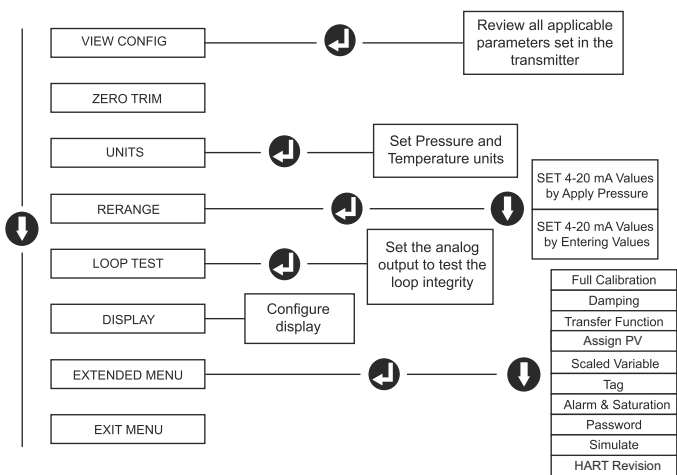
**Note**

See [Figure 2-10](#) to confirm external button functionality.

**Table 2-2: LOI Button Operation**

Button		
Left	No	SCROLL
Right	Yes	ENTER

**Figure 2-10: LOI Menu**



### 2.5.4 Switch HART revision mode

If the HART configuration tool is not capable of communicating with HART Revision 7, the Rosemount 3051 will load a generic menu with limited capability. The following procedures will switch the HART revision mode from the generic menu:

#### Procedure

**Manual Setup** → **Device Information** → **Identification** → **Message**

- a) To change to HART Revision 5, Enter: "HART5" in the Message field.
- b) To change to HART Revision 7, Enter: "HART7" in the Message field.

#### Note

See [Table 2-1](#) to change HART revision when the correct device driver is loaded.

## 2.6 Trim the transmitter

Devices are calibrated by the factory. Once installed, it is recommended to perform a zero trim on gage pressure transmitters to eliminate error due to mounting position or static pressure effects. A zero trim can be performed using either a Field Communicator or configuration buttons.



For instructions using AMS Device Manager, see the Rosemount 3051 HART 7 [Reference Manual](#).

### Note

When performing a zero trim, ensure that the equalization valve is open and all wet legs are filled to the correct level.

### Procedure

Choose your trim procedure.

- a) Analog Zero Trim – Sets the analog output to 4 mA.
  - Also referred to as a “rerange,” it sets the Lower Range Value (LRV) equal to the measured pressure.
  - The display and digital HART output remains unchanged.
- b) Digital Zero Trim – Recalibrates the sensor zero.
  - The LRV is unaffected. The pressure value will be zero (on display and HART output). 4 mA point may not be at zero.
  - This requires that the factory calibrated zero pressure is within a range of 3% of the URL [ $0 + 3\% \times \text{URL}$ ].

### Example

$\text{URV} = 250 \text{ inH}_2\text{O}$  Applied Zero Pressure =  $+ 0.03 \times 250 \text{ inH}_2\text{O} = + 7.5 \text{ inH}_2\text{O}$  (compared to factory settings) values outside this range will be rejected by the transmitter.

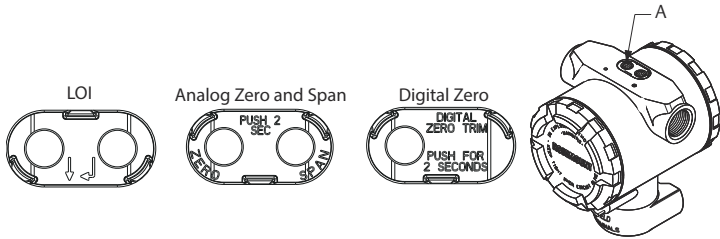
## 2.6.1 Trimming with a Field Communicator

### Procedure

1. Connect the Field Communicator (see [Connect the wiring and power up](#) for instructions).
2. Follow the HART menu to perform the desired zero trim.

**Table 2-3: Zero Trim Fast Keys**

	Analog zero (Set 4 mA)	Digital zero
Fast Key sequence	3, 4, 2	3, 4, 1, 3

**Figure 2-11: External Configuration Buttons**

### A. Configuration buttons

Use the following procedures to perform a Zero Trim:

#### Perform trim with LOI (option M4)

##### Procedure

1. Set the transmitter pressure.
2. See [Figure 2-10](#) for the operating menu.
  - a) Perform an analog zero trim by selecting Rerange.
  - b) Perform a digital zero trim by selecting Zero Trim.

#### Perform trim with analog zero and span (option D4)

##### Procedure

1. Set the transmitter pressure.
2. Press and hold the zero button for two seconds to perform an analog zero trim.

#### Perform trim with digital zero (option DZ)

##### Procedure

1. Set the transmitter pressure.
2. Press and hold the zero button for two seconds to perform a digital zero trim.

### 3 Safety instrumented systems installation

For Safety Certified installations, please refer to [Reference Manual](#) for installation procedure and system requirements.

## 4 Product certifications

### 4.1 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 [Emerson.com](https://www.emerson.com).

### 4.2 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).

### 4.3 North America

#### E5 USA Explosion proof (XP) and Dust Ignition-proof (DIP)

<b>Certificate</b>	1053834
<b>Markings</b>	XP: CL I, DIV 1, GP B, C, D T5; SEAL NOT REQUIRED DIP: CL II, DIV 1, GP E, F, G; CL III T5; -50 °C ≤ T <sub>a</sub> ≤ +85 °C TYPE 4X, IP 68 OPTIONAL: SINGLE SEAL

#### Specific Conditions for Use:

1. The Rosemount 3051 Transmitter housing may contain aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken during installation and use to prevent impact and friction.
2. Equipment evaluated for atmospheric pressure range between 80 kPa (0.8 bar) to 110 kPa (1.1 bar).
3. Process temperature limits shall be in accordance with 03031-1053.
4. Flame-proof joints are not intended for repair.

#### I5 USA Intrinsic Safety (IS) and Nonincendive (NI)

**Certificate** 1053834

<b>Standards</b>	FM 3600: 2022, FM 3610: 2018, FM 3611: 2021, ANSI/UL 61010-1-2019 Third Edition, ANSI/UL 60079-0: 2017, ANSI/UL 60079-11: 2013, ANSI-ISA-12.27.01-2022, ANSI/UL 50E (First Edition)
<b>Markings</b>	IS: CL I GP ABCD T4 IS: CL II GP EFG; CL III T4 CL I ZN 0 AEx ia IIC T4 Ga NI: CL I DIV 2 GP ABCD T4 -60 °C ≤ T <sub>a</sub> ≤ +70 °C OPTIONAL SINGLE SEAL TYPE 4X, IP 68 INSTALL PER 03031-1024.

### Specific Conditions for Use:

1. The Rosemount 3051G transmitter housing may contain aluminum and is considered a potential risk ignition by impact or friction. Care must be taken during installation and use to prevent impact and friction.
2. The Rosemount 3051G with the transient terminal block (Option code T1) will not pass the 500 VRMS dielectric strength test; this must be considered during installation.
3. Equipment evaluated for atmospheric pressure range between 80 kPa (0.8 bar) to 110 kPa (1.1 bar).
4. Maximum process temperature limits shall be in accordance with 03031-1053.

### C6 Canada Explosion proof, Dust Ignition-proof, Intrinsic Safety, and Division 2

**Certificate** 1053834

**Standards** CAN/CSA C22.2 No. 61010-1-12, CAN/CSA C22.2 No. 94.2-20, CSA C22.2 No. 25-17, CAN/CSA C22.2 No. 30:20, CAN/CSA C22.2 No. 213-17 +UPD1 (2018) +UPD2 (2019) +UPD3 (2021), CAN/CSA C22.2 No. 60079-0:19, CAN/CSA C22.2 No. 60079-1:16, CAN/CSA-60079-11:14, ANSI-ISA-12.27.01-2021

**Markings** XP: CL I, DIV 1, GP B, C, D T5  
Ex db IIC T5 Gb  
SEAL NOT REQUIRED  
DIP: CL II, DIV 1, GP E, F, G; CL III T5;  
T5:-50 °C ≤ T<sub>a</sub> ≤ 85 °C

IS: CL I GP ABCD T4  
 IS: CL II GP EFG; CL III T4  
 Ex ia IIC T4 Ga  
 NI: CL I DIV 2 GP ABCD T4  
 T4:  $-60\text{ °C} \leq T_a \leq +70\text{ °C}$ ;  
 INSTALL PER 03031-1024 (IS/NI ONLY)  
 SINGLE SEAL - TEMP LIMITS PER 03031-1053  
 TYPE 4X, IP 68

### Specific Conditions for Use:

1. The Rosemount 3051 Transmitter housing may contain aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken during installation and use to prevent impact and friction.
2. Equipment evaluated for atmospheric pressure range between 80 kPa (0.8 bar) to 110 kPa (1.1 bar).
3. The Rosemount 3051 with the transient terminal block (option code T1) will not pass the 500 VRMS dielectric strength test; this must be considered during installation.
4. Flame-proof joints are not intended for repair.

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

**Certificate** 1053834

**Standards** CAN/CSA C22.2 No. 61010-1-12, CAN/CSA C22.2 No. 94.2-20, CSA C22.2 No. 25-17, CAN/CSA C22.2 No. 30:20, CAN/CSA C22.2 No. 213-17 +UPD1 (2018) +UPD2 (2019) +UPD3 (2021), CAN/CSA C22.2 No. 60079-0:19, CAN/CSA C22.2 No. 60079-1:16, ANSI-ISA-12.27.01-2021

**Markings** XP: CL I, DIV 1, GP B, C, D T5  
 Ex db IIC T5 Gb  
 SEAL NOT REQUIRED  
 DIP: CL II, DIV 1, GP E, F, G; CL III T5;  
 T5:  $-50\text{ °C} \leq T_a \leq 85\text{ °C}$   
 NI: CL I DIV 2 GP ABCD T4  
 T4:  $-60\text{ °C} \leq T_a \leq +70\text{ °C}$ ;  
 SINGLE SEAL - TEMP LIMITS PER 03031-1053  
 TYPE 4X, IP 68

### Specific Conditions for Use:

1. The Rosemount 3051 Transmitter housing may contain aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken during installation and use to prevent impact and friction.
2. Equipment evaluated for atmospheric pressure range between 80 kPa (0.8 bar) to 110 kPa (1.1 bar).
3. Flame-proof joints are not intended for repair.

## 4.4 Europe

E8 ATEX/UKEX Flameproof and Dust

**ATEX Certificate:** KEMA97ATEX2378X (Ex db), BAS01ATEX1427X (Ex t)

**UKEX Certificate:** DEKRA 21 UKEX0289X (Ex db)

**Markings:** ⓈII 1/2 G Ex db IIC T6...T4 Ga/Gb, T6(-60 °C ≤ T<sub>a</sub> ≤ 70 °C), T5/T4(-60 °C ≤ T<sub>a</sub> ≤ 80 °C); ⓈII 1 D Ex t IIIC T50 °C T<sub>500</sub> 60 °C Da

**Table 4-1: Process Connection Temperature**

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 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.

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. The user must ensure that the maximum rated voltage and current (36 volts, 24 milliamps, d.c.) are not exceeded. All connections to other apparatus or associated apparatus shall have control over this voltage and current equivalent to a category 'ib' circuit according to EN 50020.
6. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP66.
7. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66.
8. Cable entries and blanking plugs must be suitable for the ambient range of the apparatus and capable of withstanding a 7 J impact test.
9. The 2088/2090 sensor module must be securely screwed in place to maintain the ingress protection of the enclosure.
10. Some variants of the equipment have reduced markings on the nameplate. Refer to the Certificate for full equipment marking.

#### I1 ATEX Intrinsic Safety

**Certificate:** BAS00ATEX1166X

**Standards:** EN60079-0:2012+A11:2013, EN60079-11:2012

**Markings:**  II 1 G Ex ia IIC T4 Ga (-55 °C ≤ T<sub>a</sub> ≤ +70 °C)

**Table 4-2: Input Parameters**

	<b>HART</b>
Voltage U <sub>i</sub>	30 V
Current I <sub>i</sub>	200 mA
Power P <sub>i</sub>	0.9 W
Capacitance C <sub>i</sub>	0.012 µF
Inductance L <sub>i</sub>	0 mH



### Special Conditions for Safe Use(X):

1. When fitted with a transient suppression terminal block, the equipment is not capable of withstanding the 500 V insulation test. This must be taken into account during installation.
2. The enclosure may be made of aluminium 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.

N1 ATEX Type n and Dust

**Certificate:** BAS00ATEX3167X; BAS01ATEX1427X

**Standards:** EN60079-0:2012, EN60079-15:2010, EN60079-31:2009

**Markings:**  II 3 G Ex nA IIC T5 Gc (-40 °C ≤ T<sub>a</sub> ≤ +70 °C);

 II 1 D Ex t IIIIC T50 °C T<sub>500</sub> 60 °C Da


### 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.

## 4.5 International

E7 IECEx Flameproof

**Certificate:** IECEx KEM 06.0021X

**Markings:**  Ex db IIC T6...T4 Ga/Gb T6(-60 °C ≤ T<sub>a</sub> ≤ +70 °C), T5/T4(-60 °C ≤ T<sub>a</sub> ≤ +80 °C)

**Table 4-3: Process Connection Temperature**

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 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.
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.

I7 IECEx Intrinsic Safety

- Certificate:** IECEx BAS 12.0071X
- Standards:** IEC60079-0:2011, IEC60079-11:2011
- Markings:**  ia IIC T4 Ga (-55 °C ≤ T<sub>a</sub> ≤ +70 °C)

**Table 4-4: Input Parameters**

Voltage U <sub>i</sub>	30 V
Current I <sub>i</sub>	200 mA
Power P <sub>i</sub>	0.9 W
Capacitance C <sub>i</sub>	0.012 μF
Inductance L <sub>i</sub>	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 a Zone 0 area.

## N7 IECEx Type n

<b>Certificate:</b>	IECEx BAS 12.0072X
<b>Standards:</b>	IEC60079-0:2011, IEC60079-15:2010
<b>Markings:</b>	⊕ nA IIC T5 Gc (-40 °C ≤ T <sub>a</sub> ≤ +70 °C)

**Special Condition for Safe Use(X):**

1. When fitted with a transient suppression terminal block, the Model 2088 is incapable of passing the 500 V isolation test. This must be taken into account when installing the apparatus.

## 4.6 Brazil

## E2 INMETRO Flameproof

<b>Certificate:</b>	UL-BR 15.0728X
<b>Markings:</b>	Ex db IIC T6...T4 Ga/Gb T4/T5(-60 °C ≤ T <sub>a</sub> ≤ +80 °C), T6(-60 °C ≤ T <sub>a</sub> ≤ +70 °C)

**Special 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.

## 4.7 China

## E3 China Flameproof

<b>Certificate:</b>	GYJ20.1285X
<b>Markings:</b>	Ex dIIC T6~T4 Ga/Gb

**Special Conditions for Safe Use(X):**

1. The ambient temperature range is:  $-20\text{ }^{\circ}\text{C} \leq +85\text{ }^{\circ}\text{C}$ .
2. The earth connection facility in the enclosure should be connected reliably.
3. During installation, there should be no mixture harmful to housing.
4. During installation in hazardous location, cable glands and blanking plugs, certified by state-appointed inspection bodies with Ex dIIC Gb type of protection should be used. Redundant cable entries should be blocked with blanking plugs.
5. During installation, use and maintenance of the product in explosive gas atmosphere, observe the warning "Don't open the cover when the circuit is alive".
6. End users is not permitted to change any components inside, but to settle the problem in conjunction with manufacturer to avoid damage to the product.
7. When installation, use and maintenance of this product, observe following standards:  
 GB3836.13-2013 "Explosive atmospheres-Part 13: Equipment repair, overhaul and reclamation"  
 GB3836.15-2000 "Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous area (other than mines)"  
 GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres Part 16: Inspection an maintenance of electrical installation(other than mines)"  
 GB50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering"

**I3 China Intrinsic Safety**

**Certificate:** GYJ20.1286X

**Markings:** Ex ec IIC T5 Gc ( $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$ )

**Special Conditions for Safe Use(X):**

1. The enclosure may contain 1 Non-metallic material, attention should be taken to avoid ignition hazard due to impact or friction when used in Zone 0.
2. When transient protection board is chosen (Option Code T1), this apparatus is not capable of withstanding the 500 V r.m.s insulation test required by Clause 6.3.12 of GB3836.4-2010.

### N3 NEPSI Increased Safety

**Certificate:** GYJ23.1240X

**Markings:** Ex ec IIC T5 Gc (-40 °C ≤ T<sub>a</sub> ≤ +70 °C)

#### 一、产品安全使用特定条件

1. 此设备不能承受 500V 交流有效值介电强度试验，安装时需考虑在内。
2. 产品使用环境温度范围：-40 °C~+70 °C

#### 二、产品使用注意事项

1. 最高输入电压：50 V
2. 产品外壳设有接地端子，用户在安装使用时应可靠接地。
3. 现场安装时，电缆引入口须选用国家指定的防爆检验机构按检验认可、具有 Ex ec IIC 防爆等级且达到 IP6X 外壳防护等级的电缆引入装置或堵封件，冗余电缆引入口须用堵封件有效密封。
4. 用户不得自行更换该产品的零部件，应会同产品制造商共同解决运行中出现的故障，以杜绝损坏现象的发生。
5. 产品的安装、使用和维护应同时遵守产品使用说明书、GB/T3836.13-2021“爆炸性环境 第 13 部分：设备的修理、检修、修复和改造”、GB/T3836.15-2017“爆炸性环境 第 15 部分：电气装置的设计、选型和安装”、GB/T3836.16-2022“爆炸性环境 第 16 部分：电气装置的检查与维护”和 GB50257-2014“电气装置安装工程爆炸和火灾危险环境电力装置施工及验收规范”的有关规定。

## 4.8 Combinations of certifications

- K3** Combination of E3 and I3
- K5** Combination of E5 and I5
- K6** Combination of C6, E8 and I1
- K8** Combination of E8, I1 and N1
- KB** Combination of E5, I5 and C6
- KD** Combination of E8, I1, E5, I5 and C6

## 4.9 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 4-5: Conduit Plug Thread Sizes**

Thread	Identification Mark
M20 × 1.5	M20
½ - 14 NPT	½ NPT




**Table 4-6: Thread Adapter Thread Sizes**



Male thread	Identification mark
M20 × 1.5-6G	M20
½ - 14 NPT	½ - 14 NPT
¾ - 14 NPT	¾ - 14 NPT
Female thread	Identification mark
M20 × 1.5-6H	M20
½ - 14 NPT	½ - 14 NPT
G½	G½

**Specific Conditions of Use (X):**


1. When the thread adapter or blanking plug 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. G½ thread forms are only acceptable for existing (legacy) equipment installations.

# 5 Declaration of Conformity

	<h2 style="margin: 0;">EU Declaration of Conformity</h2> <p style="margin: 0;">No: RMD 1089 Rev. M</p>	
<p>We,</p> <p><b>Rosemount, Inc.</b>  <b>6021 Innovation Blvd.</b>  <b>Shakopee, MN 55379</b>  <b>USA</b></p> <p>declare under our sole responsibility that the product,</p> <p style="text-align: center;"><b>Rosemount™ Models 3051D and 3051G Pressure Transmitters</b></p> <p>manufactured by,</p> <p><b>Rosemount Inc.</b>  <b>6021 Innovation Blvd.</b>  <b>Shakopee, MN 55379</b>  <b>USA</b></p> <p>to which this declaration relates, is in conformity with the provisions of the European Community 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 style="border: 0; border-top: 1px solid black;"/> <p>(signature)</p>	<p>Vice President of Global Quality</p> <hr style="border: 0; border-top: 1px solid black;"/> <p>(function name - printed)</p>	
<p>Mark Lee</p> <hr style="border: 0; border-top: 1px solid black;"/> <p>(name - printed)</p>	<p>June 14, 2023</p> <hr style="border: 0; border-top: 1px solid black;"/> <p>(date of issue)</p>	
<p>Page 1 of 4</p>		


	<h1>EU Declaration of Conformity</h1>	
<p>No: RMD 1089 Rev. M</p>		
<p><b>EMC Directive (2014/30/EU)</b></p>		
<p><b>All Models 3051D and 3051G Pressure Transmitters</b>  EN 61326-1:2013  EN 61326-2-3:2013</p>		
<p><b>PED Directive (2014/68/EU)</b></p>		
<p><b>Models 3051DP2, 3, 4, 5 with C-276 Isolators or options P7 or P9 Pressure Transmitters</b>  QS Certificate of Assessment - EC Certificate No. 12698-2018-CE-ACCREDIA  Module H Conformity Assessment  Other Standards Used: ANSI/ISA61010-1:2004</p>		
<p><b>All other model 3051D and 3051G Pressure Transmitters</b>  Sound Engineering Practice</p>		
<p><b>Transmitter Attachments: Diaphragm Seal - Process Flange - Manifold</b>  Sound Engineering Practice</p>		
<p><b>RoHS Directive (2011/65/EU)</b></p>		
<p><b>Models 3051D and 3051G Pressure Transmitters</b>  Harmonized Standard: EN IEC 63000:2018</p>		
<p><b>ATEX Directive (2014/34/EU)</b></p>		
<p><b>Model 3051D Pressure Transmitter</b></p>		
<p><b>Baseefa12ATEX0189X - Intrinsic Safety Certificate</b>  Equipment Group II Category 1 G  Ex ia IIC T4 Ga (-60°C ≤ Ta ≤ +70°C)  Harmonized Standards Used:  EN IEC 60079-0: 2018, EN 60079-11: 2012</p>		
<p><b>Baseefa12ATEX0190X - Type n Certificate</b>  Equipment Group II Category 3 G  Ex nA IIC T5 Gc (-40°C ≤ Ta ≤ +70°C)  Harmonized Standards Used:  EN IEC 60079-0: 2018, EN 60079-15: 2010</p>		
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## EU Declaration of Conformity

No: RMD 1089 Rev. M



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**Baseefa12ATEX0191 - Dust Certificate**  
 Equipment Group II Category 1 D  
 Ex ta IIIC T<sub>200</sub>105°C Da (-20°C ≤ Ta ≤ +85°C)  
 Harmonized Standards Used:  
 EN IEC 60079-0: 2018, EN 60079-31: 2014

**DEKRA12ATEX0212X - Flameproof Certificate**  
 Equipment Group II Category 1/2 G  
 Ex db IIC T<sub>6</sub> Ga/Gb (-50°C ≤ Ta ≤ +65°C)  
 T<sub>5</sub> Ga/Gb (-50°C ≤ Ta ≤ +70°C)  
 Harmonized Standards Used:  
 EN IEC 60079-0: 2018, EN 60079-1:2014, EN 60079-26:2015

**Model 3051G Pressure Transmitter**



**BAS00ATEX1166X - Intrinsic Safety Certificate**  
 Equipment Group II Category 1 G  
 Ex ia IIC T<sub>4</sub> Ga (-55 °C ≤ Ta ≤ +70 °C)  
 Harmonized Standards Used:  
 EN IEC 60079-0: 2018, EN 60079-11: 2012

**BAS00ATEX3167X - Type n Certificate**  
 Equipment Group II Category 3 G  
 Ex nA IIC T<sub>5</sub> Gc (-55 °C ≤ Ta ≤ 70 °C)  
 Harmonized Standards Used:  
 EN IEC 60079-0: 2018, EN 60079-15: 2010

**BAS01ATEX1427 - Dust Certificate**  
 Equipment Group II Category 1 D  
 Ex t IIIC T<sub>50</sub>°C T<sub>300</sub>60°C Da  
 Harmonized Standards Used:  
 EN 60079-0:2012+A11:2013 (A review against EN IEC 60079-0:2018 which is harmonized, shows no significant changes relevant to this equipment so EN60079-0:2012 + A11:2013 continues to represent "State of the Art"), EN 60079-31:2009

**KEMA97ATEX2378X Flameproof Certificate**  
 Equipment Group II Category 1/2 G  
 Ex db IIC T<sub>6</sub>..T<sub>4</sub> Ga/Gb  
 Harmonized Standards Used:  
 EN IEC 60079-0: 2018, EN 60079-1: 2014, EN 60079-26: 2015

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 **EU Declaration of Conformity**   
No: RMD 1089 Rev. M

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**PED Notified Body**

**DNV GL Business Assurance Italia S.r.l.** [Notified Body Number: 0496]  
Via Energy Park, 14, N-20871  
Vimercate (MB), Italy

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**ATEX Notified Bodies for EC Type Examination Certificate**

**DEKRA** [Notified Body Number: 0344]  
Meander 1051, 6825 MJ Arnhem  
P.O. Box 5185, 6802 ED Arnhem  
The Netherlands  
Postbank 6794687

**SGS FIMKO OY** [Notified Body Number: 0598]  
Takomotie 8  
FI-00380 Helsinki,  
Finland

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**ATEX Notified Body for Quality Assurance**

**SGS FIMKO OY** [Notified Body Number: 0598]  
Takomotie 8  
FI-00380 Helsinki,  
Finland

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## 6 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 3051  
List of 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	0	0	0	0	0
壳体组件 Housing Assembly	0	0	0	0	0	0
传感器组件 Sensor Assembly	X	0	0	0	0	0

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.

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

0: 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的所有均质材料里, 至少有一类均质材料中该有害物质含量高于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.

部件名称 Part Name	组装备件说明 Spare Parts Descriptions for Assemblies
电子组件 Electronics Assembly	电子电路板组件 Electronic Board Assemblies 端子块组件 Terminal Block Assemblies 升级套件 Upgrade Kits 液晶显示屏或本地操作界面 LCD or LOI Display
壳体组件 Housing Assembly	电子外壳 Electrical Housing
传感器组件 Sensor Assembly	传感器模块 Sensor Module



**Quick Start Guide**  
**00825-0100-4057, Rev. EC**  
**December 2023**

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