Rosemount™ 3051 Pressure Transmitter and Rosemount 3051CF DP Flow Meters

with *Wireless*HART® Protocol

ROSEMOUNT™

EMERSON.

Safety Messages

<div style="background:#4472C4;color:white;">

NOTICE

</div>

This guide provides basic guidelines for Rosemount 3051 Wireless Transmitters. It does not provide instructions for configuration, diagnostics, maintenance, service, troubleshooting or Intrinsically Safe (I.S.) installations. Refer to the for more instruction. This manual is also available electronically on Emerson.com/Rosemount.

Shipping considerations for wireless products:

The unit was shipped to you without the power module installed. Remove the power module prior to shipping the unit.

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

<div style="background:#ED7D31;color:black;">

⚠ WARNING

</div>

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

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.

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.

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 to protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

## Contents

1   Wireless considerations

1.1   Power up sequence

The power module should not be installed on any wireless device until the Emerson Wireless Gateway (Gateway) is installed and functioning properly. This transmitter uses the green power module (order model number 701PGNKF). Wireless devices should also be powered up in order of proximity from the Gateway, beginning with the closest. This will result in a simpler and faster network installation. Enable Active Advertising on the Gateway to ensure that new devices join the network faster. For more information, see the Emerson Wireless Gateway Reference Manual.

1.2   Connecting the transmitter with a Field Communicator

In order for the Field Communicator to interface with the transmitter, the power module must be connected. This transmitter uses the green power module (order model number 701PGNKF). Figure 1-1 shows how to connect the Field Communicator to the transmitter. Open the power module compartment to hook up the leads.

Figure 1-1: Field Communicator Connections
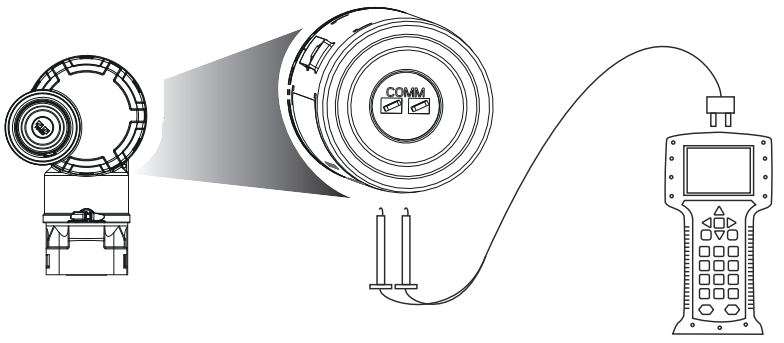
2 Transmitter installation

2.1 Mount the transmitter

Figure 2-1: Panel Mount Coplanar Flange
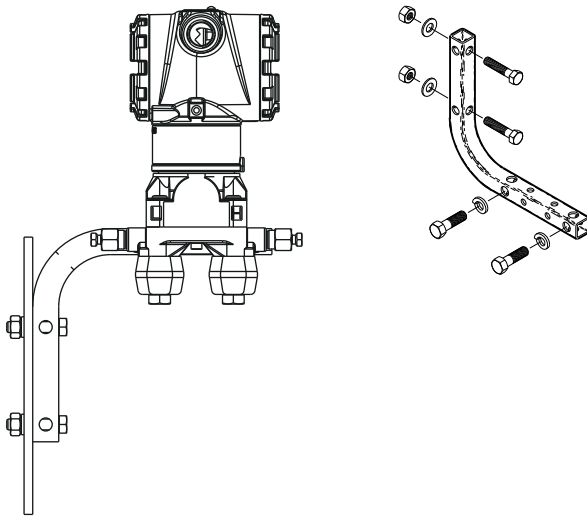
5/16 x 1½ panel bolts are customer supplied.
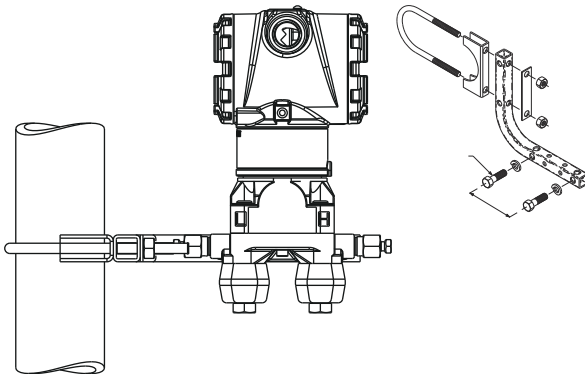

Figure 2-2: Pipe Mount Coplanar Flange

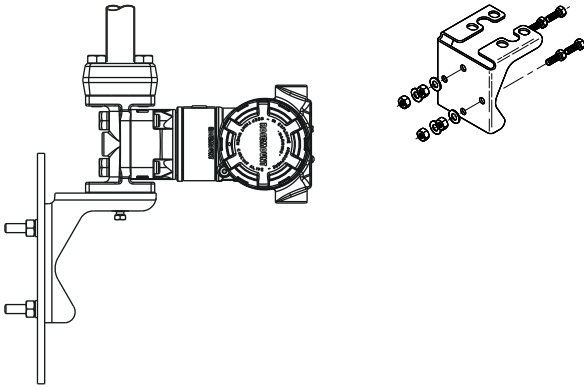### Figure 2-3: Panel Mount Traditional Flange
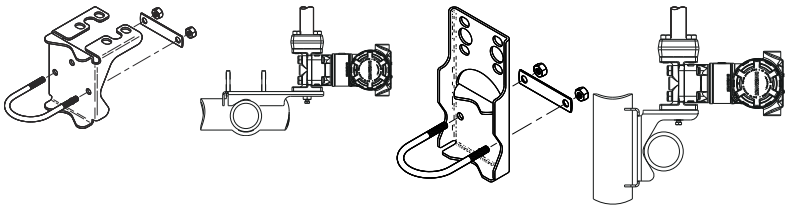

Figure 2-4: Pipe Mount Traditional Flange

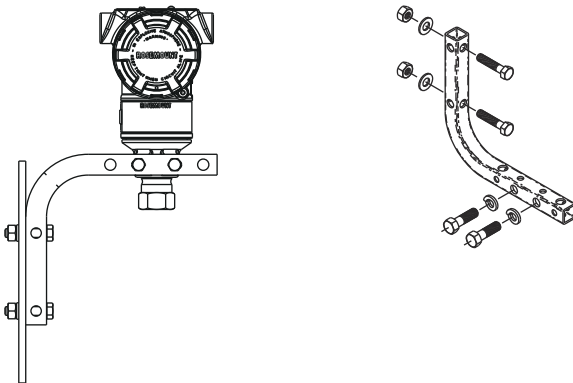### Figure 2-5: Panel Mount Rosemount 3051T

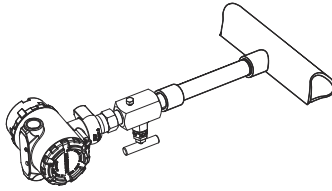**Figure 2-6: Pipe Mount Rosemount 3051T**

2.1.1 Mount the transmitter in liquid applications

Procedure

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

Figure 2-7: Mounting the Transmitter in Liquid Applications
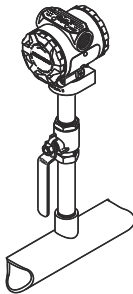
In-line

2.1.2 Mount the transmitter in gas applications

Procedure

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

Figure 2-8: Mounting the Transmitter in Gas Applications
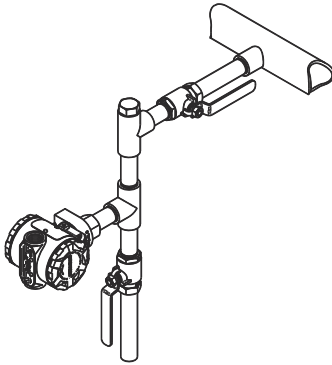
In-line

2.1.3   Mount the transmitter in steam applications

Procedure

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

Figure 2-9: Mounting the Transmitter in Steam Applications

In-line

2.1.4   Bolting consideration

If the transmitter installation requires assembly of the process flanges, manifolds, or flange adapters, follow the 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 2-10 illustrates common transmitter assemblies with the bolt length required for proper transmitter assembly.

Figure 2-10: Common Transmitter Assemblies

A

4 × 1.75-in. (44 mm)

B

4 × 2.88-in. (73 mm)

C

4 × 2.25-in. (57 mm)

4 × 1.75-in. (44 mm)

4 × 1.50-in. (38 mm)

D

4 × 1.75-in. (44 mm)
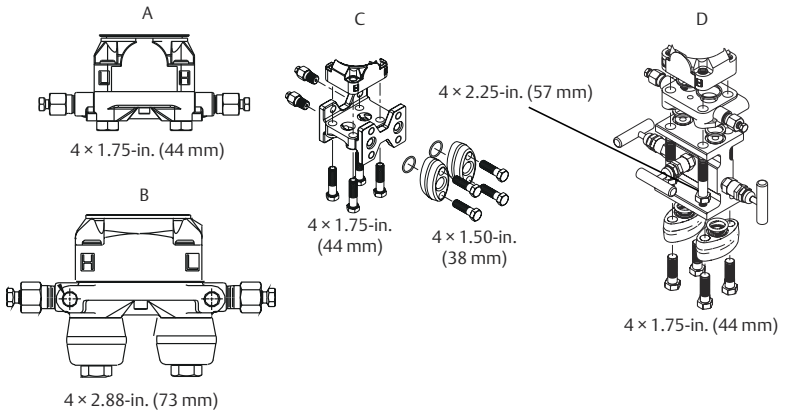
A. *Transmitter with coplanar flange*
B. *Transmitter with coplanar flange and optional flange adapters*
C. *Transmitter with traditional flange and optional flange adapters*
D. *Transmitter with coplanar flange and optional manifold and flange adapters*

Bolts are typically carbon steel or stainless steel. Confirm the material by viewing the markings on the head of the bolt and referencing Table 2-1. If bolt material is not shown in Table 2-1, contact a local Emerson representative for more information.

Carbon steel bolts do not require lubrication, and the stainless steel bolts are coated with a lubricant to ease installation. However, do not apply additional lubricant when installing either type of bolt.

Table 2-1: 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 ® STM 316 SW 316	150 in-lb	300 in-lb

Use the following bolt installation procedure:

Procedure

1. Use the fingers to tighten the bolts.
2. Torque the bolts to the initial torque value using a crossing pattern.
   See Table 2-1 for initial torque value.
3. Torque the bolts to the final torque value using the same crossing pattern.
   See Table 2-1 for final torque value.
4. Verify the flange bolts are protruding through the sensor module bolt holes before applying pressure.

2.1.5   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.

Figure 2-11: O-ring Location

Rosemount 3051S/3051/2051
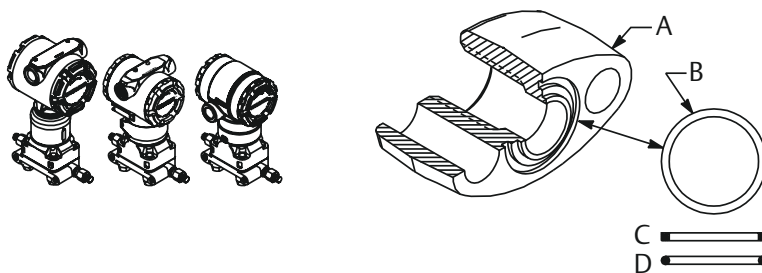
A. Flange adapter
B. O-ring
C. PFTE-based profile (square)
D. Elastomer profile (round)

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-ring.

2.1.6   Environmental seal for housing

For NEMA® 4X, IP66, and IP68 requirements, use thread sealing (PTFE) tape or paste on male threads of conduit to provide a water and dust tight seal. Consult factory if other ingress protection ratings are required.

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

2.1.7   Inline gage transmitter orientation

The low side pressure port (atmospheric reference) on the inline gage transmitter is located in the neck of the transmitter, behind the housing. The vent path is 360 degrees around the transmitter between the housing and sensor (see Figure 2-12).

Keep the vent path free of any obstruction, such as paint, dust, and lubrication, by mounting the transmitter so that the process can drain away.

Figure 2-12: Inline Gage Low Side Pressure Port
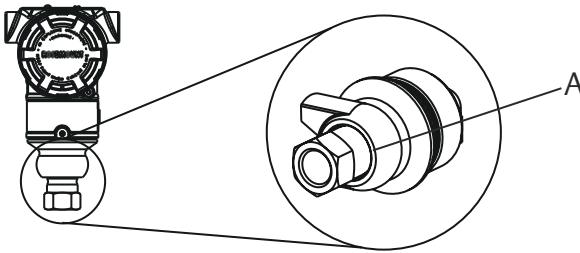
A.   Low side pressure port (atmospheric reference)

2.1.8   Install high pressure coned and threaded connection

The transmitter comes with an autoclave connection designed for pressure applications. Follow the steps below to properly connect the transmitter to your process.

Procedure

1. Apply a process-compatible lubricant to the gland nut threads.
2. Slip the gland nut onto the tube; then thread the collar onto the tube end.
    The collar is reverse threaded.
3. Apply a small amount of process-compatible lubricant to the tube cone to help prevent galling and facilitate sealing. Insert the tubing into the connection and use the fingers to tighten the bolts.
4. Tighten the gland nut to a torque of 25 ft-lb.

Note

A weep hole has been designed into the transmitter for safety and leak detection. If fluid begins to leak from the weep hole, isolate the process pressure, disconnect the transmitter, and reseal until the leak is resolved.

2.2   Consider housing rotation

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

Figure 2-13: Housing Rotation
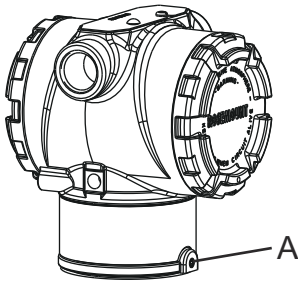
A.   Housing rotation set screw (5/64-in.)

Procedure

1. Loosen the housing rotation set screw using a 5/64-in. hex wrench.

2. Rotate the housing clockwise to the desired location.

3. If the desired location cannot be achieved due to thread limit, rotate the housing counterclockwise to the desired location (up to 360° from thread limit).

4. Retighten the housing rotation set screw to no more than 7 in-lb when it reaches the desired location.

2.3   Connect the power module

Procedure

1. Remove the power module cover.

2. Connect the green power module (see Figure 2-14).

Figure 2-14: Power Module
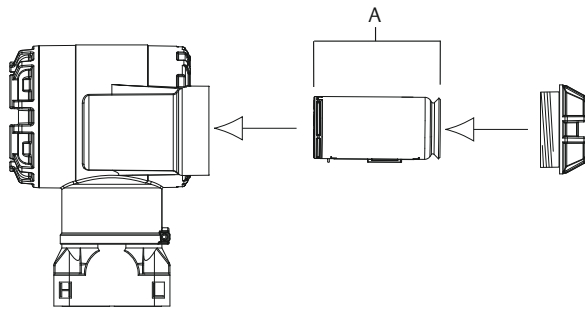
A. Power module

2.4   Trim the transmitter

Devices are calibrated by the factory. Once installed, it is recommended to perform a zero trim on gage and differential 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 Wireless Configurator, see the Rosemount 3051 Wireless Reference Manual.

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

⚠ CAUTION

It is not recommended to zero an absolute transmitter, Rosemount 3051CA or 3051TA models.

2.4.1   Trimming with a Field Communicator

Procedure

1. Equalize or vent the transmitter and connect Field Communicator.
2. At the menu, input the HART Fast Key sequence.
3. Follow the commands to perform a zero trim.
4. From the *Home* screen, enter the Fast Key sequence:

| Device dashboard Fast Keys	2, 1, 2

For connecting with a Field Communicator, refer to Figure 1-1.

2.4.2   Trimming with digital zero trim button

Procedure

1. Set the transmitter pressure.
2. Remove the electronics housing cover.
3. Press and hold the Zero button for two seconds to perform a digital zero trim.
4. Reinstall transmitter housing cover. Ensure a proper seal by installing the electronics housing cover so that polymer contacts polymer (i.e. no O-ring visible).

Figure 2-15: Digital Zero Button
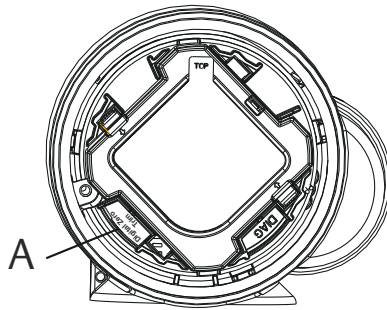
A. Digital zero button

Note
A zero trim can also be completed using AMS Wireless Configurator once the device has joined the network.

2.5   Verify transmitter configuration
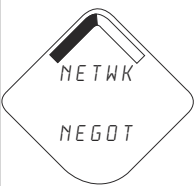
Operation can be verified in four locations:

- At the device via the Local Display (LCD display).
- By using the Field Communicator.
- Via the Emerson Wireless Gateway's integrated web interface.
- Via AMS Wireless Configurator.

2.5.1   Verify transmitter configuration using LCD display

The LCD display will show the output values at the same rate as the wireless update rate. Refer to the Rosemount 3051 Wireless Reference Manual for

error codes and other LCD display messages. Press and hold the Diagnostic button for at least five seconds to display the TAG, Device ID, Network ID, Network Join Status, and Device Status screens.

Searching for network	Joining network	Connected with limited bandwidth	Connected
NETWK SRCHNG	NETWK NEGOT	NETWK LIM-OP	NETWK OK

2.5.2   Verify transmitter configuration using Field Communicator

For HART Wireless transmitter communication, a Rosemount 3051 Wireless device descriptor is required. For connecting with a Field Communicator, refer to Figure 1-1.

From the Home screen, enter the Fast Key sequence:

Device dashboard Fast Keys	3, 5

Table 2-2: Device Revision 1, DD Revision 1 Fast Keys

Function	Fast Keys
Tag	2, 1, 1, 1, 1
Date	2, 1, 1, 1, 5
Descriptor	2, 1, 1, 1, 3
Message	2, 1, 1, 1, 4
Long Tag	2, 1, 1, 1, 2
Network ID	2, 2, 1, 1
Join Device to Network	2, 2, 1, 2
Update Rate	2, 1, 4
Range Values	2, 1, 1, 5
Transfer Function	2, 1, 1,6
Units	2, 1, 1, 2
Lower Sensor Trim	3, 5, 1, 1, 2
Upper Sensor Trim	3, 5, 1, 1, 1

Table 2-2: Device Revision 1, DD Revision 1 Fast Keys *(continued)*

Function	Fast Keys
Digital Zero Trim	3, 5, 1, 1, 3
Rerange by Applied Pressure	2, 2, 2, 2, 1
Custom Display Configuration	2, 1, 5
Scaled Variable	2, 1, 7, 1
Find Device	3, 5, 2
Simulate Digital Signal	3, 6

2.5.3 Verify transmitter configuration using Emerson Wireless Gateway

In the Gateway's integrated web interface, navigate to the *Explorer > Status* page. This page will show whether the device has joined the network and if it is communicating properly.

Note
It may take several minutes for the device to join the network. See the Emerson Wireless Gateway Quick Start Guide for more information.

Figure 2-16: Gateway Network Settings
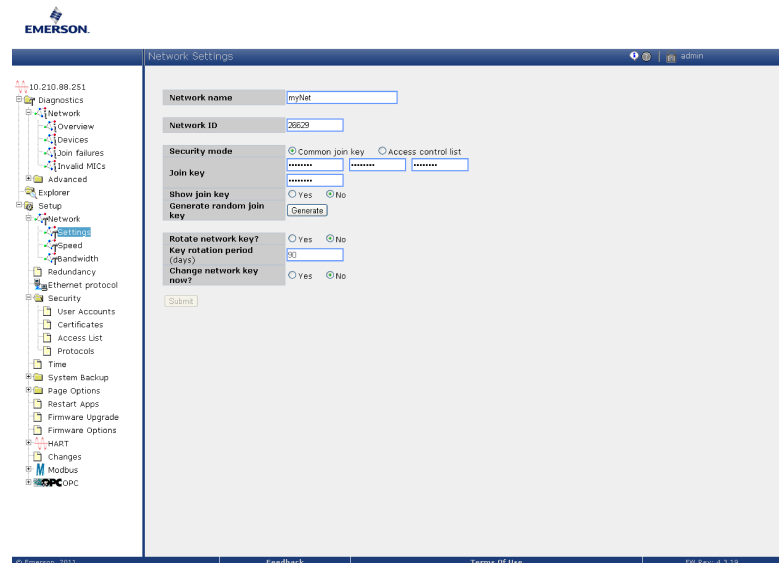
2.5.4   Verifying configuration using AMS Wireless Configurator

When the device has joined the network, it will appear in the AMS Wireless Configurator as shown in Figure 2-17.

Figure 2-17: Wireless Configurator Network Setup

3   Troubleshooting

If the device has not joined to the network after power up, verify the correct configuration of the network ID and join key. Verify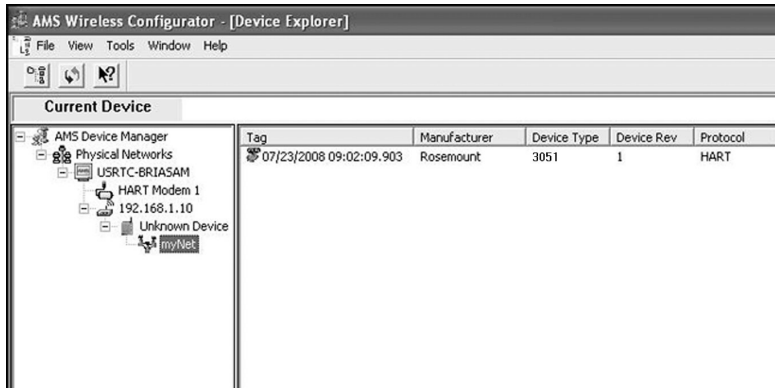 that active advertising has been enabled on the Emerson Wireless Gateway. The network ID and join key in the device must match the network ID and join key of the Gateway.

The network ID and join key may be obtained from the Gateway on the *Setup > Network > Settings* page on the web interface (see Figure 2-16). The network ID and join key may be changed in the wireless device by using the following Fast Key sequence. See the Rosemount 3051 Wireless Reference Manual for further troubleshooting.

From the Home screen, enter the Fast Key sequence:

Device Dashboard Fast Keys	3, 5

4   Product certifications

Rev 1.6

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/Rosemount.

4.2   Telecommunication Compliance

All wireless devices require certification to ensure that they adhere to
regulations regarding the use of the RF spectrum. Nearly every country
requires this type of product certification.

Emerson is working with governmental agencies around the world to supply
fully compliant products and remove the risk of violating country directives
or laws governing wireless device usage.

4.3   FCC and IC

This device complies with Part 15 of the FCC Rules. Operation is subject to
the following conditions: This device may not cause harmful interference.
This device must accept any interference received, including interference
that may cause undesired operation. This device must be installed to ensure
a minimum antenna separation distance of 20 cm from all persons.

4.4   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).

4.5   Installing in North America

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

4.5.1   USA

I5 U.S.A. Intrinsically Safe (IS)

Ranges 1-5 Certificate	FM19US0050X

Standards	FM Class 3600:2018, FM Class 3610:2018, FM Class 3810:2018, ANSI/ISA 60079-0:2013, ANSI/UL 60079-11:2014, NEMA 250:2003, ANSI/IEC 60529:2014, ANSI/UL 61010:2016
Markings	IS CL I, DIV 1, GP A, B, C, D T4; CL 1, Zone 0 AEx ia IIC T4; T4(−40 °C ≤ T_a ≤ +70 °C) when installed per Rosemount drawing 03031-1062; Type 4X/IP66/IP68

Special Conditions for Safe Use (X):

1. The Rosemount 3051 Wireless Pressure Transmitter shall only be used with the 701PGNKF Rosemount SmartPower™ Battery Pack.

2. The inline pressure sensor may contain more than 10 percent aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken into account during installation and used to prevent impact and friction.

3. The surface resistivity of the transmitter housing is greater than one gigaohm. To avoid electrostatic charge build-up, it must not be rubbed or cleaned with solvents or a dry cloth.

Range 6 Certificate	CSA 2526009
Standards	FM Class 3600 - 2011, FM Class 3610 - 2010, FM Class 3810 - 2005, ANSI/ISA 60079-0 - 2009, ANSI/ISA 60079-11 - 2009, UL 61010-1 (3rd edition), UL50E (1st Edition)
Markings	IS CL I, DIV 1, GP A, B, C, D T4; CL 1, Zone 0 AEx ia IIC T4; T4(-40 °C ≤ T_a ≤ +70 °C) when installed per Rosemount drawing 03031-1063; Type 4X/IP66/IP68

4.5.2   Canada
I6 Canada Intrinsically Safe

Certificate	CSA 2526009
Standards	CAN/CSA C22.2 No. 0-M91, CAN/CSA C22.2 No.94-M91, CSA Std C22.2 No. 142-M1987, CSA Std C22.2 No. 157-92, CSA Std C22.2 No. 60529:05
Markings	Intrinsically Safe for Class I, Division 1, Groups A, B, C, D, T4 when installed per Rosemount drawing 03031-1063; Type 4X/IP66/IP68

4.5.3   Europe
I1 ATEX Intrinsic Safety

Certificate	Baseefa12ATEX0228X
Standards	EN 60079-0: 2012, EN 60079-11: 2012
Markings	⊛Ex II 1 G Ex ia IIC T4 Ga, T4(−40 °C ≤ T_a ≤ +70 °C) IP66/IP68

Special Conditions for Safe Use (X):

1. The plastic enclosure may constitute a potential electrostatic ignition risk and must not be rubbed or cleaned with a dry cloth.

2. The Model 701PGNKF Power Module may be replaced in a hazardous area. The power module has a surface resistivity greater than 1 GΩ and must be properly installed in the wireless device enclosure. Care must be taken during transportation to and from the point of installation to prevent electrostatic charge build-up.

4.5.4   International
I7 IECEx Intrinsic Safety

Certificate	IECEx BAS 12.0124X
Standards	IEC 60079-0: 2011, IEC 60079-11: 2011
Markings	Ex ia IIC T4 Ga, T4(−40 °C ≤ T_a ≤ +70 °C) IP66/IP68

Special Conditions for Safe Use (X):

1. The plastic enclosure may constitute a potential electrostatic ignition risk and must not be rubbed or cleaned with a dry cloth.

2. The Emerson 701PGNKF Power Module may be replaced in a hazardous area. The power module has a surface resistivity greater than 1 GΩ and must be properly installed in the wireless device enclosure. Care must be taken during transportation to and from the point of installation to prevent electrostatic charge build-up.

4.5.5   Brazil
I2 INMETRO Intrinsic Safety

Certificate	UL-BR 13.0534X
Standards	ABNT NBR IEC 60079-0:2008 + Errata 1:2011, ABNT NBR IEC 60079-11:2009
Markings	Ex ia IIC T4 IP66 Ga, T4(−40 °C ≤ T_a ≤ +70 °C)

Special Condition for Safe Use (X):

See certificate for special conditions.

4.5.6   China
I3 China Intrinsic Safety

Certificate	GYJ13.1362X, GYJ15.1367X [Flow Meters]
Standards	GB3836.1-2010, GB3836.4-2010, GB3836.20-2010
Markings	Ex ia IIC T4 Ga, T4(−40 ~ +70 °C)

Special Conditions for Safe Use (X):

See certificate for special conditions.

4.5.7   Japan
I4 TIIS Intrinsic Safety

Certificate	TC22022X (Rosemount 3051C/L), TC22023X (Rosemount 3051T), TC22024X (Rosemount 3051CFx)
Markings	Ex ia IIC T4 Ga, T4(−20 ~ +60 °C)

Special Conditions for Safe Use (X):

See certificate for special conditions.

4.5.8   EAC – Belarus, Kazakhstan, Russia
IM Technical Regulation Customs Union (EAC) Intrinsic Safety

Certificate	TU RU C-US.AA87.B.00534
Markings	0Ex ia IIC T4 Ga X; (−40 °C ≤ T_a ≤ +70 °C)

Special Conditions for Safe Use (X):

See certificate for special conditions.

4.5.9   Korea
IP Korea Intrinsic Safety

Certificate	13-KB4BO-0295X
Markings	Ex ia IIC T4 (−40 °C ≤ T_a ≤ +70 °C)

Special Conditions for Safe Use (X):

See certificate for special conditions.

4.5.10 Additional Certifications
SBS American Bureau of Shipping (ABS) Type Approval

Certificate   15-HS1405241-PDA

Intended Use Marine & 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

4.6   Declaration of Conformity

EMERSON

EU Declaration of Conformity
No: RMD 1087 Rev. I

CE

We,

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

declare under our sole responsibility that the product,

Rosemount 2051/3051 Wireless 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)

Chris LaPoint
(name)

Vice President of Global Quality
(function)

1-Feb-19; Shakopee, MN USA
(date of issue)

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EMERSON **EU Declaration of Conformity** CE

No: RMD 1087 Rev. I

EMC Directive (2014/30/EU)

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

Radio Equipment Directive (RED) (2014/53/EU)

Harmonized Standards:
EN 300 328 V2.1.1
EN 301 489-1 V2.2.0
EN 301 489-17 V3.2.0
EN 61010-1: 2010
EN 62479: 2010

PED Directive (2014/68/EU)

Rosemount 2051/3051CA4; 2051/3051CG2, 3, 4, 5; 2051/3051CD2, 3, 4, 5; (also with P9 option)
QS Certificate of Assessment – Certificate No. 12698-2018-CE-ACCREDIA
Module H Conformity Assessment
Other Standards Used:
ANSI/ISA 61010-1:2004
EN 60770-1:1999
Note – previous PED Certificate No. 59552-2009-CE-HOU-DNV

All other Rosemount 2051/3051 Wireless Pressure Transmitters
Sound Engineering Practice

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

Rosemount 2051CFx/3051CFx DP Flowmeters
Refer to Declaration of Conformity DSI1000

Page 2 of 3

EU Declaration of Conformity
No: RMD 1087 Rev. I

ATEX Directive (2014/34/EU)

Baseefa12ATEX0228X – Intrinsic Safety Certificate
Equipment Group II, Category I G
Ex ia IIC T4 Ga
Harmonized Standards:
EN 60079-0:2012 + A11:2013
EN 60079-11:2012

PED Notified Body

DNV GL Business Assurance Italia S.r.l. [Notified Body Number: 0496]
Via Energy Park, 14, N-20871
Vimercate (MB), Italy
Note – equipment manufactured prior to 20 October 2018 may be marked with the previous PED Notified Body number; previous PED Notified Body information was as follows:
Det Norske Veritas (DNV) [Notified Body Number: 0575]
Veritasveien 1, N-1322
Hovik, Norway

ATEX Notified Body

SGS FIMCO OY [Notified Body Number: 0598]
P.O. Box 30 (Särkiniementie 3)
00211 HELSINKI
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ATEX Notified Body for Quality Assurance

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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.

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