

Rosemount™ 3051 Pressure Transmitter



With the Rosemount 3051 Pressure Transmitter, you'll gain more control over your plant. You'll be able to reduce product variation and complexity as well as your total cost of ownership by leveraging one device across a number of pressure, level, and flow applications. You'll have access to information you can use to diagnose, correct, and even prevent issues. And with unparalleled reliability and experience, the Rosemount 3051 is the industry standard that will help you perform at higher levels of efficiency and safety so you can remain globally competitive.

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Setting the standard for pressure measurement

Proven best-in-class performance, reliability, and safety



- More than ten million installed
- Reference accuracy 0.04 percent of span
- Installed total performance of 0.14 percent of span
- 10-year stability of 0.2 percent of URL
- SIL 2/3 certified (IEC 61508)

Maximize installation and application flexibility with the Coplanar™ platform

- Improve reliability and performance with integrated DP Flow meters, DP Level solutions, and integral manifolds.
- Easy installation with all solutions fully assembled, leak-tested, and calibrated.
- Meet your application needs with a broad offering.

Advanced functionality

Bluetooth® technology

- Increase productivity, reliability, and personnel safety. No hot work permit needed. No climbing tanks or building scaffolding.
- Quickly configure, service, and troubleshoot with access to all devices near the technician at speeds up to 10 times faster than traditional HART® connections.



Diagnostics

- The Loop Integrity diagnostic continuously monitors the electrical loop to detect issues that affect the communication signal and will alert you to corrosion, water in the housing, or an unstable power supply.
- The Plugged Impulse Line diagnostic continuously monitors for plugged impulse lines and alerts you to abnormal conditions so you can take proactive measures before it affects the quality of the process.
- Diagnostic events are tracked in the built-in diagnostic log which allows you to see the device status at all times.
- These capabilities are safety certified for your most critical applications.



Enhanced software

- Application specific configuration allows you to transform your pressure transmitter into a flow meter with a totalizer or a level transmitter with volume calculations.
- Process alerts can be configured for any dynamic variable. They can be given a custom name, assigned target thresholds, and can notify via HART alert or analog output alarm.

Quick service buttons

- Straightforward menus and built-in configuration buttons allow you to quickly commission the device.
- Configure in hazardous-area locations without removing the transmitter cover using external buttons.



Industry leading capabilities extended to IEC 62591 (*WirelessHART*[®])



- Cost effectively implement wireless on the industry's most proven platform.
- Optimize safety with the industry's only intrinsically safe power module.
- Eliminate wiring design and construction complexities to lower costs by 40 to 60 percent.
- Quickly deploy new pressure, level, and flow measurements in 70 percent less time.

Innovative integrated DP flow meters



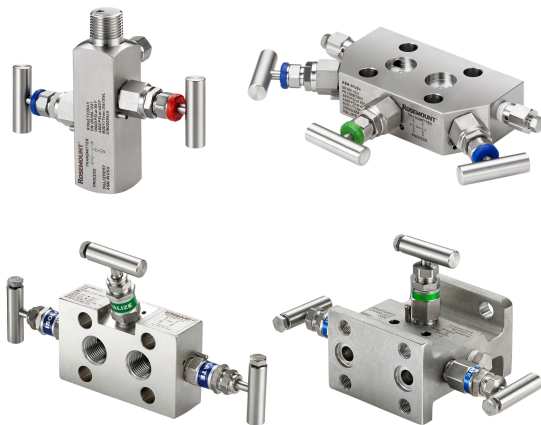
- Fully assembled and leak tested for out-of-the-box installation.
- Easy commissioning with factory configuration of flow rate and totalized flow.
- Reduce straight pipe requirements, lower permanent pressure loss, and achieve accurate measurement in small line sizes.
- Up to 1.65 percent volumetric flow accuracy at 8:1 turndown.

Proven, reliable, and innovative DP Level technologies



- Connect to virtually any process with a comprehensive offering of process connections, fill fluids, direct mount, or capillary connections and materials.
- Configuration wizard guides you through complex level applications and enables volume measurement.
- Quantify and optimize total system performance with QZ option.
- Operate at higher temperature and in vacuum applications.
- Optimize level measurement with cost efficient Rosemount Tuned-System™ assemblies.

Instrument manifolds – high quality, convenient, and easy



- Designed and engineered for optimal performance with Rosemount transmitters.
- Save installation time and money with factory assembly.
- Offers a variety of styles, materials, and configurations.

Access information when you need it with asset tags

Newly shipped devices include a unique QR code asset tag that enables you to access serialized information directly from the device. With this capability, you can:

- Access device drawings, diagrams, technical documentation, and troubleshooting information in your MyEmerson account
- Improve mean time to repair and maintain efficiency
- Ensure confidence that you have located the correct device
- Eliminate the time-consuming process of locating and transcribing nameplates to view asset information

Rosemount 3051C Coplanar Pressure Transmitter ordering information



Rosemount 3051C Coplanar Pressure Transmitters are the industry standard for differential, gage, and absolute pressure measurement. The coplanar platform enables seamless integration with manifolds, flow, and level solutions.

- Loop Integrity and Plugged Impulse Line Diagnostics detect issues that might compromise the integrity of the output signal (code DA1).
- Bluetooth® Connectivity enables efficient, reliable, and safe configuration and maintenance (code BLE).
- Back-lit Graphical Display with Local Language Capability (code M6).
- Safety certification and proof testing (code QT and T9).

CONFIGURE >

VIEW PRODUCT >

Online product configurator

Many products are configurable online using our Product Configurator. Select the **Configure** button or visit our [website](#) to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

See the Specifications and options section for more details on each configuration. Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See the Material selection section for more information.

Model codes

Model codes contain the details related to each product. Exact model codes will vary; an example of a typical model code is shown in [Figure 1](#).

Figure 1: Model Code Example

3051CD3A22A1A WR5M6BLEDA1

1

2

1. Required model components (choices available on most)
2. Additional options (variety of features and functions that may be added to products)

Optimizing lead time

The starred offerings (★) represent the most common options and should be selected for the fastest delivery times. The non-starred offerings are subject to additional delivery lead time.

Required model components

Model

Code	Description	
3051C	Coplanar pressure transmitter	★

Measurement type

Code	Description	
D	Differential	★
G	Gage	★
A ⁽¹⁾	Absolute	

(1) If ordered with Wireless output (code X), only available with 316L stainless steel (SST) diaphragm material (code 2), and silicone fill fluid (code 1).

Pressure range

Code	Differential (Rosemount 3051CD)	Gage (Rosemount 3051CG)	Absolute (Rosemount 3051CA)	
0 ⁽¹⁾	-3 to 3 inH ₂ O (-7.46 to 7.46 mbar)	N/A	N/A	
1	-25 to 25 inH ₂ O (-62.16 to 62.16 mbar)	-25 to 25 inH ₂ O (-62.16 to 62.16 mbar)	0 to 30 psia (0 to 2.06 bar)	★
2	-250 to 250 inH ₂ O (-621.60 to 621.60 mbar)	-250 to 250 inH ₂ O (-621.60 to 621.60 mbar)	0 to 150 psia (0 to 10.34 bar)	★
3	-1000 to 1000 inH ₂ O (-2.48 to 2.48 bar)	-393 to 1000 inH ₂ O (-0.97 to 2.48 bar)	0 to 800 psia (0 to 55.15 bar)	★
4	-300 to 300 psi (-20.68 to 20.68 bar)	-14.2 to 300 psi (-0.97 to 20.68 bar)	0 to 4000 psia (0 to 275.79 bar)	★
5	-2000 to 2000 psi (-137.89 to 137.89 bar)	-14.2 to 2000 psi (-0.97 to 137.89 bar)	N/A	★

(1) Rosemount 3051CD0 is only available with 4-20 mA HART or wireless HART outputs (code A and code X). For 4-20 mA HART output (code A), only transmitter flange code 0 (Alternate flange H2, H7, HJ, or HK), isolating diaphragm code 2, O-ring code A, and bolting option L4 are available. For wireless output (code X), only transmitter flange code 0 (Alternate flange H2), isolating diaphragm code 2, O-ring code A, and bolting option L4 are available.

Transmitter output

Code	Description	
A	4-20 mA with digital signal based on HART® Protocol	★
F	FOUNDATION™ Fieldbus Protocol	★

W ⁽¹⁾	PROFIBUS® PA Protocol	★
X ⁽²⁾	Wireless (requires wireless options and engineered polymer housing)	★
M ⁽³⁾	Low-power, 1–5 Vdc with digital signal based on HART Protocol	

- (1) For local addressing and configuration, M4 (LOI) is required. Not available with product certification codes E4, EM, EP, I6, IM, KD, KL, KM, KP, KS, and N3.
- (2) This option is only available with intrinsically safe approvals.
- (3) Only available with C6, E2, E5, I5, K5, KB, EM, IM, KM, EP, and E8 product certifications.

Materials of construction

Code	Transmitter flange type	Flange material	Drain/vent	
2	Coplanar	SST	SST	★
3 ⁽¹⁾	Coplanar	Cast C-276	Alloy C-276	★
4	Coplanar	Alloy 400	Alloy 400/K-500	★
5	Coplanar	Plated CS	SST	★
7 ⁽¹⁾	Coplanar	SST	Alloy C-276	★
8 ⁽¹⁾	Coplanar	Plated CS	Alloy C-276	★
0	Alternate process connection			★

- (1) Materials of construction comply with recommendations per NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

Isolating diaphragm

Code	Description	
2 ⁽¹⁾	316L SST	★
3 ⁽¹⁾	Alloy C-276	★
4 ⁽²⁾	Alloy 400	
5 ⁽²⁾	Tantalum (available on Rosemount 3051CD and CG, ranges 2–5 only; not available on Rosemount 3051CA)	
6 ⁽²⁾	Gold-plated alloy 400 (use in combination with O-ring option code B)	
7 ⁽²⁾	Gold-plated 316 SST	

- (1) Materials of construction comply with recommendations per NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.
- (2) Not available with wireless output (code X).

O-ring

Code	Description	
A	Glass-filled PTFE	★
B	Graphite-filled PTFE	★

Sensor fill fluid

Code	Description	
1	Silicone	★

2 ⁽¹⁾	Inert (differential and gage only)	★
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(1) Not available with wireless output (code X).

Housing material

Code	Description	Conduit entry size	
A	Aluminum	½-14 NPT	★
B	Aluminum	M20 x 1.5	★
J	SST	½-14 NPT	★
K	SST	M20 x 1.5	★
P ⁽¹⁾	Engineered polymer	No conduit entries	★
D ⁽²⁾	Aluminum	G½	
M ⁽²⁾	SST	G½	

(1) Only available with wireless output (code X).

(2) Transmitter conduit entry will be ½ NPT and a ½ NPT to G½ thread adapter will be provided. These options are only available with product certifications options I1, I2, I3, I7, IA, IB, IM, KA, N1, N3, N7. Product certifications options E4 and IG are available with aluminum only (option D).

Wireless options

Requires wireless output (code X) and engineered polymer housing (code P).

Wireless transmit rate, operating frequency, and protocol

Code	Description	
WA3	User configurable transmit rate, 2.4 GHz WirelessHART®	★

Antenna and SmartPower™

Code	Description	
WP5	Internal antenna, compatible with Green Power Module (I.S. Power Module sold separately)	★

Additional options

Local wireless device access

Code	Description	
BLE ⁽¹⁾	Bluetooth® configuration and maintenance	★

(1) Requires the Graphical LCD Display (code M6).

Extended product warranty

Code	Description	
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★

Plantweb™ control functionality

Code	Description	
A01	FOUNDATION™ Fieldbus control function block suite	★

Plantweb™ diagnostic functionality

Code	Description	
DA0 ⁽¹⁾	Loop Integrity Diagnostic	★
DA1 ⁽¹⁾	Loop Integrity and Plugged Impulse Line Diagnostics	★
D01	FOUNDATION™ Fieldbus Diagnostics Suite	★

(1) Only available with 4-20 mA HART protocol (code A).

Alternate flange

The alternate flange option code requires the 0 code in materials of construction for alternate process connection.

Code	Description	
H2	Traditional flange, 316 SST, SST drain/vent	★
H3 ⁽¹⁾	Traditional flange, alloy C, alloy C-276 drain/vent	★
H4	Traditional flange, cast alloy 400, alloy 400/K-500 drain/vent	★
H7 ⁽¹⁾	Traditional flange, 316 SST, alloy C-276 drain/vent	★
HJ	DIN-compliant traditional flange, SST, 7/16-in. (10 mm) adapter/manifold bolting	★
FA	Level flange, SST, 2-in. (51 mm), ANSI Class 150, vertical mount 316 SST drain/vent	★
FB	Level flange, SST, 2-in. (51 mm), ANSI Class 300, vertical mount 316 SST drain/vent	★
FC	Level flange, SST, 3-in. (76 mm), ANSI Class 150, vertical mount 316 SST drain/vent	★
FD	Level flange, SST, 3-in. (76 mm), ANSI Class 300, vertical mount 316 SST drain/vent	★
FP	DIN level flange, SST, DN 50, PN 40, vertical mount 316 SST drain/vent	★
FQ	DIN level flange, SST, DN 80, PN 40, vertical mount 316 SST drain/vent	★
HK ⁽²⁾	DIN compliant traditional flange, SST, 0.40-in. (10 mm) adapter/manifold bolting 316 SST	