Product Data Sheet
00813-0100-4101, Rev RG
March 2026

Rosemount™ 2051 Pressure Transmitter

- Rosemount™ Coplanar™ platform enables integration of primary elements, manifolds, and remote seal solutions.
- Best-in-class performance with up to 0.05 percent high–accuracy option
- IEC 62591 (*Wireless*HART®) enables cost effective installations.
- Local Operator Interface (LOI) offers easy to use configuration capabilities at the transmitter.
- Protocols available include 4–20 mA HART®, FOUNDATION™ Fieldbus, and PROFIBUS® PA
- Selectable HART Revision prepares your plant for the latest HART capabilities while ensuring seamless integration with today's systems.
- SIL2/3 safety certification to IEC 61508 is available with the full 4–20 mA HART offering to simplify compliance.

Contents

Rosemount 2051 Pressure Transmitter product offering

Foundation of reliable measurement

- Differential, gage, and absolute pressure measurement
- Select from an extensive offering of
  - DP flow meters
  - Liquid level
  - Manifolds
  - Flanges
- Available with variety of protocols and materials

Best-in-class capabilities extended to IEC 62591 (*Wireless*HART Protocol)

- 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
- Reduce straight pipe requirements, lower permanent pressure loss, and achieve accurate measurement in small line sizes
- Up to two percent volumetric flow accuracy at 5:1 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.
- Quantify and optimize total system performance with QZ option.
- Optimize level measurement with cost efficient Tuned-System™ Assemblies

Instrument manifolds — 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 2051C Coplanar Pressure Transmitter ordering information

Rosemount 2051C coplanar pressure transmitter

- Performance up to 0.05% of span accuracy
- Patented coplanar technology allows direct mounting to pressure, flow or level solutions for installation flexibility
- Delivered fully assembled to manifolds, diaphragm seals or primary flow elements for straightforward installation
- Local Operator Interface offers easy-to-use menus and built-in configuration buttons for streamline commissioning
- SIL 2/3 certified to IEC 61508 (via 3rd party) and prior-use certificate of FMEDA data for safety installations

CONFIGURE > VIEW PRODUCT >

Online product configurator

Many products are configurable online using our product configurator.

Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
- Options
- Components

Sizing and selection

Use the Differential Pressure (DP) Level Sizing & Selection Tool to size Rosemount DP Level meters to meet your application-specific requirements.

The Sizing & Selection tool:

1. Verifies if a selected product meets your application requirements.
2. Provide a comparison between different system types.

3. Generates a detailed accuracy comparison graph.

Once a sizing is completed, the configuration tool will help create a complete and valid model code to match your requirements and include any additional options or approvals.

Optimizing lead time

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

Required model components

Model

Code	Description	
2051C	Coplanar Pressure Transmitter	★

Measurement type

Code	Description	
D	Differential	★
G	Gage	★

Pressure range

Code	Differential (Rosemount 2051CD)	Gage (Rosemount 2051CG)	
1	–25 to 25 inH_2O (–62.2 to 62.2 mbar)	–25 to 25 inH_2O (–62.2 to 62.2 mbar)	★
2	–250 to 250 inH_2O (–623 to 623 mbar)	–250 to 250 inH_2O (–623 to 623 mbar)	★
3	–1000 to 1000 inH_2O (–2.5 to 2.5 bar)	–393 to 1000 inH_2O (–0.98 to 2.5 bar)	★
4	–300 to 300 psi (–20.7 to 20.7 bar)	–14.2 to 300 psi (–0.98 to 20.7 bar)	★
5	–2000 to 2000 psi (–137.9 to 137.9 bar)	–14.2 to 2000 psi (–0.98 to 137.9 bar)	★

Transmitter output

Code	Description	
A(1)	4–20 mA with digital signal based on HART® Protocol	★
F	FOUNDATION™ Fieldbus Protocol	★
W(2)	Profibus® PA Protocol	★
X(3)	Wireless	★

(1) *HART Revision 5 is the default HART output. The Rosemount 2051 with Selectable HART can be factory or field configured to HART Revision 7. To order HART Revision 7 factory configured, add option code HR7.*

(2) *For local addressing and configuration, M4 Local Operator Interface (LOI) is required. Not available with product certification codes EM, IM, KL, KM, KS.*

(3) *Only available with intrinsically safe approvals.*

Transmitter flange type, material, drain/vent

Code	Description	Flange material	Drain/vent	
2	Coplanar	SST	SST	★
3(1)		Cast C-276	Alloy C-276	
5		Plated CS	SST	★
7(1)		SST	Alloy C-276	★
8(1)		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. Order with Q15 or Q25 to receive a NACE certificate.*

Isolating diaphragm

Code	Description	
2(1)	316L SST	★
3(1)	Alloy C-276	★
5(2)(3)	Tantalum	
7(3)	Gold-plated 316L 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. Order with Q15 or Q25 to recieve a NACE certificate.*
(2) *Available in ranges 2–5 only.*
(3) *Not available with 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)	★

(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	★
E	Aluminum, ultra low copper	½–14 NPT	★
F	Aluminum, ultra low copper	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 output code X.*
(2) *Transmitter conduit entry will be ½ NPT and a ½ NPT to G½ thread adapter will be provided. This option is only available with product certifications option I1. Housing code D is also available with E4 and IG.*

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 *Wireless*HART®	★

Antenna and SmartPower™

Code	Description	
WP5	Internal antenna, compatible with Green Power Module[1]	★

(1) *Intrinsically Safe (IS) Power Module sold separately.*

Additional options

Extended product warranty

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

Plantweb™ control functionality

Code	Description	
A01	FOUNDATION™ Fieldbus advance control function block suite	★

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	★
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	★
FB	Level flange, SST, 2 in. (51 mm), ANSI Class 300, vertical mount	★
FC	Level flange, SST, 3 in. (76 mm), ANSI Class 150, vertical mount	★
FD	Level flange, SST, 3 in. (76 mm), ANSI Class 300, vertical mount	★

FP	DIN level flange, SST, DN 50, PN 40, vertical mount	★
FQ	DIN level flange, SST, DN 80, PN 40, vertical mount	★
HK(2)	DIN compliant traditional flange, SST, 10 mm adapter/manifold bolting	
HL	DIN compliant traditional flange, SST, 12 mm adapter/manifold bolting	

(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. Order with Q15 or Q25 to receive a NACE certificate.*
(2) *Not valid with optional code P9 for 4500 psi static pressure.*

Manifold assembly

"Assemble-to" items are specified separately and require a completed model number.

Code	Description	
S5	Assemble to Rosemount 305 Integral Manifold	★
S6	Assemble to Rosemount 304 Manifold or Connection System	★
SJ	Assemble to AFM Manifold	
SK	Assemble to AIM Integral Manifold	

Integral mount primary element

Not valid with option code P9 for 4500 static pressure. "Assemble-to" items are specified separately and require a completed model number.

Code	Description	
S3	Assemble to Rosemount 405 Compact Orifice Plate	★
S4(1)	Assemble to Rosemount Annubar™ or Rosemount 1195 Integral Orifice	★

(1) *Transmitter flange limited to coplanar (option codes 2, 3, 5, 7, or 8) or traditional (option codes H2, H3, or H7).*

Seal assemblies

"Assemble-to" items are specified separately and require a completed model number.

Code	Description	
S1(1)	Assemble to one Rosemount 1199 seal	★
S2(2)	Assemble to two Rosemount 1199 seals	★

(1) *Not valid with option code D9 for RC1/2 adapters.*
(2) *Not valid for option codes DF and D9 for adapters.*

Mounting brackets

Code	Description	
B1	Traditional flange bracket for 2 in. pipe mounting, CS bolts	★
B2	Traditional flange bracket for panel mounting, CS bolts	★
B3	Traditional flange flat bracket for 2 in. pipe mounting, CS bolts	★
B4	Coplanar flange bracket for 2 in. pipe or panel mounting, all SST	★
B7	B1 bracket with Series 300 SST bolts	★
B8	B2 bracket with Series 300 SST bolts	★
B9	B3 bracket with Series 300 SST bolts	★
BA	SST B1 bracket with Series 300 SST bolts	★

Code	Description	
BC	SST B3 bracket with Series 300 SST bolts	★

Product certifications

Code	Description	
E8	ATEX Flameproof	★
I1[1]	ATEX Intrinsic Safety	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION™ Fieldbus or PROFIBUS® PA Protocol only	★
N1	ATEX Type n Certification	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E8, I1, and N1)	★
E4[2]	Japan Flameproof	★
E5	USA Explosion-proof, Dust Ignition-proof	★
I5[3]	USA Intrinsically Safe, Non-incendive	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
E6	Canada Explosion-proof, Dust Ignition-proof, Division 2	★
I6	Canada Intrinsic Safety	★
C6	Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
K6	Canada Explosion-proof, Intrinsically Safe, and Division 2 (combination of E6 and I6)	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★
N7	IECEx Type n Certification	★
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, and Type n (combination of I7, N7, and E7)	★
IG	IECEx FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
E2	Brazil Flameproof	★
I2	Brazil Intrinsic Safety	★
IB	Brazil FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K2	Brazil Flameproof, Intrinsic Safety	★
E3	China Flameproof	★
I3	China Intrinsic Safety	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flameproof and Intrinsic Safety	★
KB	USA and Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2 (combination of K5 and C6)	★
KD	USA, Canada, and ATEX Explosion-proof, Intrinsically Safe (combination of K5, C6, I1, and E8)	★
KL[4]	USA, Canada, IECEx, ATEX Intrinsic Safety Combination	★
KS	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Dust, Non-incendive, Type N, Division 2	★
EP	Republic of Korea Flameproof	★
IP	Republic of Korea Intrinsic Safety	★
KP	Republic of Korea Flameproof, Intrinsic Safety	★

Code	Description	
EW	India Flameproof Approval	★
IW	India Intrinsic Safety	★
IZ	India FISCO Intrinsic Safety	★

(1) *Dust approval not applicable to wireless (output code X). For wireless approvals, see the Certifications section of the Quick Start Guide.*
(2) *Only available with 4–20 mA HART®(output code A), FOUNDATION Fieldbus (output code F), or PROFIBUS PA (output code W). Only available with aluminum housing and ½ NPT conduit entry size (housing material code A).*
(3) *Non-incendive certification not provided with wireless (output code X).*
(4) *Only available with wireless (output code X).*

Drinking water approval

This approval is not available with Alloy C-276 isolator (code 3), tantalum isolator (code 5), all cast C-276 flanges, all plated carbon steel (CS) flanges, all DIN flanges, all level flanges, assemble-to manifolds (codes S5 and S6), assemble-to seals (codes S1 and S2), assemble-to primary elements (codes S3 and S4), surface finish certification (code Q16), and remote seal system report (code QZ).

Code	Description	
DW	NSF drinking water approval	★

Shipboard approvals

Shipboard approvals are not available with wireless output (code X).

Code	Description	
SBS	American Bureau of Shipping	★
SBV	Bureau Veritas (BV)	★
SDN	Det Norske Veritas	★
SLL	Lloyds Register (LR)	★

SST tagging

Code	Description	
Y2	316SST Nameplate, top tag, wire-on tag, and fasteners	

Bolting material

Code	Description	
L4	Austenitic 316 SST bolts	★
L5	ASTM A 193, grade B7M bolts	★
L6	Alloy K-500 bolts	★
L8	ASTM A 193 Class 2, Grade B8M bolts	★

Display and interface options

Code	Description	
M4(1)	LCD display with Local Operator Interface (LOI)	★

M5	LCD display	★

(1) *Not available with FOUNDATION™ Fieldbus (output code F) or wireless (output code X).*

Hardware adjustments

Code	Description	
D4[1]	Zero and span configuration buttons	★
DZ[2]	Digital zero trim	★

(1) *Only available with 4-20 mA HART® (output code A).*
(2) *Only available with 4-20 mA HART (output code A) and wireless (output code X).*

Flange adapters

This option is not valid with alternate process connection options S3, S4, S5, or S6.

Code	Description	
DF	½–14 NPT flange adapters	★

Conduit plug

Not available with output code X. Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard CS conduit plug.

Code	Description	
DO	316 SST conduit plug	★

RC¼ RC½ process connection

This option is not available with alternate process connection, DIN flanges, and level flanges.

Code	Description	
D9	RC¼ flange with RC½ flange adapter - SST	

Ground screw

The ground screw option is not available with wireless output (code X). The V5 option is not needed with the T1 option; external ground screw assembly is included with the T1 option.

Code	Description	
V5	External ground screw assembly	★

Performance

Available with 4–20 mA HART® (output code A), wireless (output code X), FOUNDATION Fieldbus (output code F), Rosemount 2051C Ranges 2–5 or Rosemount 2051T Ranges 1–4, SST and, alloy C-276 diaphragms and silicone fill fluid. High performance option includes 0.05 percent reference accuracy, and ten year stability. See Performance specifications for details.

Code	Description	
P8	High performance option	★

Transient protection

The transient protection option is not available with wireless output (code X). The T1 option is not needed with FISCO Product Certifications; transient protection is included in the FISCO product certification codes IA, IB, and IE.

Code	Description	
T1	Transient protection terminal block	★

Software configuration

The software configuration option is only available with HART® 4–20 mA output (output code A) and wireless output (output code X).

Code	Description	
C1	Custom software configuration (completed Rosemount 2051 Configuration Data Sheet or Rosemount 2051 Wireless Configuration Data Sheet.)	★

Alarm limit

The option is not available with FOUNDATION™ Fieldbus (output code F) or wireless (output code X).

Code	Description	
C4	NAMUR alarm and saturation levels, high alarm	★
CN	NAMUR alarm and saturation levels, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet)	★
CT	Low alarm (standard Rosemount alarm and saturation levels)	★

Pressure testing

Code	Description	
P1(1)	Hydrostatic testing with certificate	★

(1) *Not available with pressure range 0.*

Cleaning process area

This option is not valid with alternate process connection S5.

Code	Description	
P2	Cleaning for special service	
P3	Cleaning for < 1 ppm chlorine/fluorine	

Maximum static line pressure

Code	Description	
P9	4500 psig (310 bar) static pressure limit (Rosemount 2051CD Ranges 2–5 only)	★

Calibration certificate

Code	Description	
Q4	Calibration Certificate	★

QG[1]	Calibration Certificate and GOST Verification Certificate	★
QP	Calibration certification and tamper evident seal	★

(1) *Contact an Emerson representative for availability.*

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

Quality certification for safety

Code	Description	
QT	Safety-certified to IEC 61508 with certificate of failure modes, effects, and diagnostic analysis (FMEDA)[1]	★

(1) *The quality certification for safety is only available with HART® 4–20 mA output (code A).*

Surface finish

Code	Description	
Q16	Surface finish certification for sanitary remote seals	★

Toolkit total system performance reports

Code	Description	
QZ	Remote seal system performance calculation report	★

Conduit electrical connector

The conduit electrical connector option is not available with wireless output (code X).

Code	Description	
GE	M12, 4-pin, male connector (eurofast®)	★
GM	A size mini, 4-pin, male connector (minifast®)	★

NACE® Certificate

Note that NACE-compliant wetted materials are required. Materials of construction must comply with recommendations per NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult the latest standard for details. All selected materials must also conform to NACE MR0103 for sour refining environments.

Code	Description	
Q15	Certificate of Compliance to NACE MR0175/ISO 15156 for wetted materials	★
Q25	Certificate of Compliance to NACE MR0103 for wetted materials	★

HART® revision configuration

Only available with 4–20 mA HART (output code A).

Code	Description	
HR5[1]	Configured for HART Revision 5	★
HR7[2]	Configured for HART Revision 7	★

(1) *Configures the HART output to HART Revision 5. The device can be field configured to HART Revision 7 if needed.*
(2) *Configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 if needed.*

Wireless power accessory

This option is only available with output code X.

Code	Description	
HS	Hot swap power adapter for power module replacement	

Rosemount 2051T In-line Pressure Transmitter ordering information

Rosemount 2051T In-line Pressure Transmitter ordering information

- Intuitive Local Operator Interface streamlines commissioning for simple and cost-effective installation
- SIL 2/3 certified to IEC 61508 (via 3rd party) and prior-use certificate of FMEDA data for safety installations

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Online product configurator

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Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
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- Components

Sizing and selection

Use the Differential Pressure (DP) Level Sizing & Selection Tool to size Rosemount DP Level meters to meet your application-specific requirements.

The Sizing & Selection tool:

1. Verifies if a selected product meets your application requirements.
2. Provide a comparison between different system types.
3. Generates a detailed accuracy comparison graph.

Once a sizing is completed, the configuration tool will help create a complete and valid model code to match your requirements and include any additional options or approvals.

Optimizing lead time

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

Required model components

Model

Code	Description	
2051T	In-Line Pressure Transmitter	★

Pressure type

Code	Description	
G	Gage	★
A(1)	Absolute	★

(1) *Wireless (output code X) only available in absolute measurement type in range 1–5 with ½–14 NPT process connection (code 2B), and housing (code P).*

Pressure range

Code	Gage (Rosemount 2051TG)	Absolute (Rosemount 2051TA)	
0	–5 to +5 psi (–345 mbar to +345 mbar)	N/A	★
1	–14.7 to +30 psi (–1.0 to +2.1 bar)	0 to 30 psia (0 to 2.1 bar)	★
2	–14.7 to +150 psi (–1.0 to +10.3 bar)	0 to 150 psi (0 to 10.3 bar)	★
3	–14.7 to +800 psi (–1.0 to +55 bar)	0 to 800 psi (0 to 55 bar	★
4	–14.7 to +4000 psi (–1.0 to +276 bar)	0 to 4000 psi (0 to 276 bar)	★
5	–14.7 to +10000 psi (–1.0 to +689 bar)	0 to 10000 psi (0 to 689 bar)	★

Transmitter output

Code	Description	
A(1)	4–20 mA with digital signal based on HART® Protocol	★
F	FOUNDATION™ Fieldbus Protocol	★
W(2)	PROFIBUS® PA Protocol	★
X (3)	Wireless	★

(1) *HART Revision 5 is the default HART output. The Rosemount 2051 with Selectable HART can be factory or field configured to HART Revision 7. To order HART Revision 7 factory configured, add option code HR7.*
(2) *For local addressing and configuration, M4 (LOI) is required. Not available with product certification codes EM, IM, KL, KM, KS.*
(3) *Only available with intrinsically safe approvals.*

Process connection style

Code	Description	
2B	½–14 NPT female	★
2C(1)	G½ A DIN 16288 male	★

Code	Description	
2F[2]	Coned and threaded, compatible with autoclave type F-250-C (range 5 only)	

(1) *Wireless (output code X) only available in G½ A DIN 16288 Male process connection (code 2C) with range 1–4, 316 SST isolating diaphragm (code 2), silicone fill fluid (code 1), and housing (code P).*
(2) *Not available with output code X.*

Isolating diaphragm

Code	Isolating diaphragm	Process connection wetted parts material	
2	316L SST	316L SST	★
3	Alloy C-276	Alloy C-276	★
7	Gold-plated 316L stainless steel	316L stainless steel	

Sensor fill fluid

Code	Description	
1	Silicone	★
2[1]	Inert	★

(1) *Not available with output code X.*

Housing material

Code	Description	Conduit entry size	
A	Aluminum	½–14 NPT	★
B	Aluminum	M20 x 1.5	★
E	Aluminum, ultra low copper	½–14 NPT	★
F	Aluminum, ultra low copper	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 output code X.*
(2) *Transmitter conduit entry will be ½ NPT and a ½ NPT to G½ thread adapter will be provided. This option is only available with product certifications option I1. Housing code D is also available with E4, and IG.*

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 *Wireless*HART®	★

Antenna and SmartPower™

Code	Description	
WP5	Internal antenna, compatible with Green Power Module(1)	★

(1) *Intrinsically Safe (IS) Power Module sold separately.*

Additional options

Extended product warranty

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

Plantweb™ control functionality

Code	Description	
A01	FOUNDATION™ Fieldbus advanced control function block suite	★

Manifold assemblies

"Assemble-to" items are specified separately and require a completed model number.

Code	Description	
S5	Assemble to Rosemount 306 Integral Manifold	★
SJ	Assemble to AFM Manifold	

Seal assemblies

"Assemble-to" items are specified separately and require a completed model number.

Code	Description	
S1	Assemble to one Rosemount diaphragm seal	★

Mounting bracket

Code	Description	
B4	Bracket for 2-inch pipe or panel mounting, all SST	★

Product certifications

Code	Description	
E8	ATEX Flameproof	★
I1(1)	ATEX Intrinsic Safety	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION™ Fieldbus or PROFIBUS® PA Protocol only	★
N1	ATEX Type n Certification	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E8, I1, and N1)	★
E4(2)	Japan Flameproof	★

Code	Description	
E5	USA Explosion-proof, Dust Ignition-proof	★
I5[3]	USA Intrinsically Safe, Non-incendive	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
E6	Canada Explosion-proof, Dust Ignition-proof, Division 2	★
I6	Canada Intrinsic Safety	★
C6	Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
K6	Canada Explosion-proof, Intrinsically Safe, and Division 2 (combination of E6 and I6)	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★
N7	IECEx Type n Certification	★
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, and Type n (combination of I7, N7, and E7)	★
IG	IECEx FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
E2	Brazil Flameproof	★
I2	Brazil Intrinsic Safety	★
IB	Brazil FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K2	Brazil Flameproof, Intrinsic Safety	★
E3	China Flameproof	★
I3	China Intrinsic Safety	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flameproof and Intrinsic Safety	★
KB	USA and Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2 (combination of K5 and C6)	★
KD	USA, Canada, and ATEX Explosion-proof, Intrinsically Safe (combination of K5, C6, I1, and E8)	★
KL[4]	USA, Canada, IECEx, ATEX Intrinsic Safety Combination	★
KS	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Dust, Non-incendive, Type N, Division 2	★
EP	Republic of Korea Flameproof	★
IP	Republic of Korea Intrinsic Safety	★
KP	Republic of Korea Flameproof, Intrinsic Safety	★
EW	India Flameproof Approval	★
IW	India Intrinsic Safety	★
IZ	India FISCO Intrinsic Safety	★

(1) *Dust approval not applicable to wireless (output code X). For wireless approvals, see the Certifications section of the Quick Start Guide.*

(2) *Only available with 4–20 mA HART®(output code A), FOUNDATION Fieldbus (output code F), or PROFIBUS PA (output code W). Only available with aluminum housing and ½ NPT conduit entry size (housing material code A).*

(3) *Non-incendive certification not provided with wireless (output code X).*

(4) *Only available with wireless (output code X).*

Drinking water approval

This option is not available with coned and threaded connection (2F code), assemble-to manifold (S5 code), assemble-to seal (S1 code), surface finish certification (Q16 code), remote seal system report (QZ code).

Code	Description	
DW	NSF drinking water approval	★

Shipboard approvals

Shipboard approvals are not available with wireless output (code X).

Code	Description	
SBS	American Bureau of Shipping	★
SBV	Bureau Veritas (BV)	★
SDN	Det Norske Veritas	★
SLL	Lloyds Register (LR)	★

SST tagging

Code	Description	
Y2	316SST Nameplate, top tag, wire-on tag, and fasteners	

Display and interface options

Code	Description	
M4(1)	LCD display with Local Operator Interface (LOI)	★
M5	LCD display	★

(1) *Not available with FOUNDATION™ Fieldbus (output code F) or wireless (output code X).*

Hardware adjustments

Code	Description	
D4(1)	Zero and span configuration buttons	★
DZ(2)	Digital zero trim	★

(1) *Only available with 4-20 mA HART® (output code A).*
(2) *Only available with 4-20 mA HART (output code A) and wireless (output code X).*

Wireless SST sensor module

This option is only available with output code X.

Code	Description	
WSM	Wireless SST sensor module	★

Conduit plug

Not available with output code X. Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard CS conduit plug.

Code	Description	
DO	316 SST conduit plug	★

Ground screw

This option is not available with output code X. The V5 option is not needed with the T1 option; external ground screw assembly is included with the T1 option.

Code	Description	
V5	External ground screw assembly	★

Performance

Available with 4–20 mA HART® (output code A), wireless (output code X), FOUNDATION Fieldbus (output code F), Rosemount 2051C Ranges 2–5 or Rosemount 2051T Ranges 1–4, SST and, alloy C-276 diaphragms and silicone fill fluid. High performance option includes 0.05 percent reference accuracy, and ten year stability. See Performance specifications for details.

Code	Description	
P8	High performance option	★

Terminal blocks

This option is not available with output code X. The T1 option is not needed with FISCO Product Certifications; transient protection is included in the FISCO product certification codes IA and IE.

Code	Description	
T1	Transient protection terminal block	★

Software configuration

The software configuration option is only available with HART® 4–20 mA output (output code A) and wireless output (output code X).

Code	Description	
C1	Custom software configuration (completed Rosemount 2051 Configuration Data Sheet or Rosemount 2051 Wireless Configuration Data Sheet.)	★

Alarm limit

The option is not available with FOUNDATION Fieldbus (output code F) or wireless (output code X).

Code	Description	
C4	NAMUR alarm and saturation levels, high alarm	★
CN(1)	NAMUR alarm and saturation levels, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet)	★
CT	Low alarm (standard Rosemount alarm and saturation levels)	★

(1) *Only available with 4–20 mA HART® (output code A).*

Pressure testing

Code	Description	
P1(1)	Hydrostatic testing with certificate	★

(1) *Not available with pressure range 0.*

Cleaning process area

This option is not valid with alternate process connection S5.

Code	Description	
P2	Cleaning for special service	
P3	Cleaning for < 1 ppm chlorine/fluorine	

Calibration certification

Code	Description	
Q4	Calibration certificate	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

Quality certification for safety

This option is only available with 4–20 mA HART® (output code A).

Code	Description	
QT	Safety certified to IEC 61508 with certificate of FMEDA	★

Surface finish

Code	Description	
Q16	Surface finish certification for sanitary remote seals	★

Total system performance reports

Code	Description	
QZ	Remote seal system performance calculation report	★

Conduit electrical connector

This option is not available with output code X.

Code	Description	
GE	M12, 4-pin, male connector (eurofast®)	★
GM	A size mini, 4-pin, male connector (minifast®)	★

NACE® certificate

NACE Compliant wetted materials are identified by materials of construction that 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.

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO 15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

HART® revision configuration

Available with 4–20 mA HART (output code A), wireless (output code X), FOUNDATION™ Fieldbus (output code F), Rosemount 2051C Ranges 2–5 or Rosemount 2051T Ranges 1–4, SST and Alloy C 276 diaphragms and silicone fill fluid. High performance option includes 0.05 percent reference accuracy, and five year stability.

Code	Description	
HR5(1)	Configured for HART Revision 5	★
HR7(2)	Configured for HART Revision 7	★

(1) *Configures the HART output to HART Revision 5. The device can be field configured to HART Revision 7 if needed.*
(2) *Configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 if needed.*

Wireless power accessory

This option is only available with output code X.

Code	Description	
HS	Hot swap power adapter for power module replacement	

Rosemount 2051G In-line Pressure Transmitter ordering information

Rosemount 2051G In-line Pressure Transmitter ordering information

- Patented coplanar technology allows direct mounting to pressure, flow or level solutions for installation flexibility
- Delivered fully assembled to manifolds, diaphragm seals or primary flow elements for straightforward installation
- Local Operator Interface offers easy-to-use menus and built-in configuration buttons for streamline commissioning

CONFIGURE > VIEW PRODUCT >

Online product configurator

Many products are configurable online using our product configurator.

Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
- Options
- Components

Sizing and selection

Use the Differential Pressure (DP) Level Sizing & Selection Tool to size Rosemount DP Level meters to meet your application-specific requirements.

The Sizing & Selection tool:

1. Verifies if a selected product meets your application requirements.
2. Provide a comparison between different system types.
3. Generates a detailed accuracy comparison graph.

Once a sizing is completed, the configuration tool will help create a complete and valid model code to match your requirements and include any additional options or approvals.

Optimizing lead time

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

Required model components

Model

Code	Description	
2051G	In-line pressure transmitter	★

Pressure type

Code	Description		
P	Gage		★
A	Absolute		★
	Rosemount 2051GP	Rosemount 2051GA	★
1	–14.7 to +30 psi (–1.0 to +2.1 bar)	0 to +30 psi (0 to +2.1 bar)	★
2	–14.7 to +150 psi (–1.0 to +10.3 bar)	0 to +150 psi (0 to +10.3 bar)	★
3	–14.7 to +800 psi (–1.0 to +55 bar)	0 to +800 psi (0 to +55 bar)	★
4	–14.7 to +4000 psi (–1.0 to +276 bar)	0 to +4000 psi (0 to +276 bar)	★

Transmitter output

Code	Description	
A	4–20 mA with digital signal based on HART® Protocol	★

Process connection style

Code	Description	
2B	½–14 NPT female	★
2C	G½ A DIN 16288 male	★

Isolating diaphragm and process connection wetted parts material

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.

Code	Description	
2	316L SST	★
3	Alloy C-276	★

Sensor fill fluid

Code	Description	
1	Silicone	★
2	Inert	★

Housing material

Code	Material	Conduit entry size	
A	Aluminum	½–14 NPT	★
B	Aluminum	M20 x 1.5	★
D	Aluminum	G½	★

Additional options

Extended product warranty

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

Integral manifold assembly

“Assemble-to” items are specified separately and require a completed model number.

Code	Description	
S5	Assemble to Rosemount 306 Integral Manifold	★

Seal assemblies

“Assemble-to” items are specified separately and require a completed model number.

Code	Description	
S1	Assemble to one Rosemount 1199 Diaphragm Seal	★

Mounting bracket

Panel mounting bolts are not supplied.

Code	Description	
B4	Bracket for 2-inch pipe or panel mounting, all SST	★
BE	316 SST B4 bracket with 316 SST bolts	★

Product certifications

Consult an Emerson representative for availability of product certifications.

Code	Description	
E1	ATEX Flameproof	
I1	ATEX Intrinsic Safety	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust	★
N1	ATEX Type n	★
ND	ATEX Dust	★
E2	Brazil Flameproof	★
I2	Brazil Intrinsically Safe	★

Code	Description	
K2	Brazil Flameproof, Intrinsic Safety	★
E3	China Flameproof	★
I3	China Intrinsic Safety	★
E5	USA Explosion-proof, Dust Ignition-proof	★
I5	USA Intrinsically Safe, Division 2	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsic Safety, Division 2	★
KB	USA and Canada Explosion-proof, Dust Ignition-proof, Intrinsic Safety, and Division 2 (combo of K5 and K6)	★
KD	USA, Canada and ATEX Explosion proof, Intrinsically Safety (combination of K5, K6 I1, and E1)	★
KL	USA, Canada, IECEx, ATEX Intrinsic Safety Combination	★
KS	USA, Canada, IECEx, ATEX Explosion Proof, Intrinsically Safe, Dust, Non-Incendive, Type-N, Div. 2	★
E6	Canada Explosion-proof, Dust Ignition-proof, Division 2	★
I6	Canada intrinsically Safe	★
K6	Canada Explosion-proof, Dust Ignition-proof, Intrinsic Safety, Division 2	★
KA	Canada and ATEX Explosion proof, Dust Ignition-proof, Intrinsic Safety, division (combo of E1, I1,and K6)	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★
K7	IECEx Flameproof, Intrinsic Safety, Type n and Dust	★
N7	IECEx Type n	★
NK	IECEx Dust	
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flame-proof, Intrinsic Safety	★
EP	Republic of Korea Flameproof	★
IP	Republic of Korea Intrinsic Safety	★
KP	Republic of Korea Flame-proof, Intrinsic Safety	★
EW	India Flameproof Approval	★
IW	India Intrinsic Safety	★
KW	India Flameproof and Intrinsically Safe	★

Drinking water approval

This option is not available with coned and threaded connection (2F code), assemble-to manifold (S5 code), assemble-to seal (S1 code), surface finish certification (Q16 code), remote seal system report (QZ code).

Code	Description	
DW	NSF drinking water approval	★

Pressure testing

Code	Description	
P1[(1)]	Hydrostatic testing with certificate	★

(1) *Not available with pressure range 0.*

Cleaning process area

This option is not valid with alternate process connection S5.

Code	Description	
P2	Cleaning for special service	★
P3	Cleaning for < 1 ppm chlorine/fluorine	★

Calibration certification

Code	Description	
Q4	Calibration certificate	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

Quality certification for safety

This option is only available with 4–20 mA HART® (output code A).

Code	Description	
QT	Safety certified to IEC 61508 with certificate of FMEDA	★

Configuration buttons

Code	Description	
D4	Analog zero and span	★
DZ	Digital zero trim	★

Conduit plug

Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard CS conduit plug.

Code	Description	
DO	316 SST conduit plug	★

Ground screw

This option is not available with output code X. The V5 option is not needed with the T1 option; external ground screw assembly is included with the T1 option.

Code	Description	
V5	External ground screw assembly	★

Performance

High performance option includes 0.05 percent reference accuracy, and ten year stability. See Performance specifications for details.

Code	Description	
P8	High performance option	★

Display and interface options

Select configuration buttons (option code D4 or DZ) if local configuration buttons are required.

Code	Description	
M4	LCD display with LOI	★
M5	LCD display	★

Transient terminal block

Code	Description	
T1	Transient protection terminal block	★

Software configuration

Code	Description	
C1	Custom software configuration (requires Rosemount 2051 Configuration Data Sheet)	★

Alarm levels

Code	Description	
C4	Analog output levels compliant with NAMUR recommendation NE 43, high alarm	★
CN	Analog output levels compliant with NAMUR recommendation NE 43, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet)	★
CT	Low alarm (standard Rosemount alarm and saturation levels)	★

HART® revision configuration

Only available with 4–20 mA HART (output code A).

Code	Description	
HR5(1)	Configured for HART Revision 5	★
HR7(2)	Configured for HART Revision 7	★

(1) *Configures the HART output to HART Revision 5. The device can be field configured to HART Revision 7 if needed.*
(2) *Configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 if needed.*

Surface finish

Code	Description	
Q16	Surface finish certification for sanitary remote seals	★

Total system performance reports

Code	Description	
QZ	Remote seal system performance calculation report	★

Conduit electrical connection

Code	Description	
GE	M12, 4-pin, male connector (eurofast®)	★
GM	A size mini, 4-pin, male connector (minifast®)	★

NACE® certificate

NACE Compliant wetted materials are identified by materials of construction that 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.

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO 15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

SST tagging

Code	Description	
Y2	316 SST nameplates, labels, tags, and fasteners	

Rosemount™ 2051CF Flow Meters

Rosemount 2051CF Flow Meters combine the proven Rosemount 2051 Pressure Transmitter and the latest primary element technologies. All flow meters are fully assembled, calibrated, configured, and leak tested for out-of-the-box installation and are available with wired or wireless capabilities to meet all of your application needs.

Rosemount 2051CFA Annubar Flow Meter

Rosemount Annubar technology minimizes permanent pressure loss while delivering best in class accuracy.

- Lowest material costs for large line sizes.
- Flo-tap enables installation without process shutdown.
- Realize up to 96 percent less permanent pressure loss compared to traditional orifice plate installations.

Rosemount 2051CFC Compact Conditioning Flow Meter

Rosemount Compact Conditioning technologies provide unprecedented performance with minimal straight-run requirements. Solutions include conditioning orifice plate or Rosemount Annubar primary elements.

- Conditioning orifice requires only two pipe diameters upstream and downstream.
- Eliminate swirl and regular profiles resulting in more stable and accurate flow measurement.
- Savings up to 55 percent when compared to a traditional orifice plate installation can be realized.

Rosemount 2051CFP Integral Orifice Flow Meter

Rosemount Integral Orifice Flow Meters deliver highly accurate small-bore flow measurement capability with minimal installation and maintenance requirements.

- Best performance for small line sizes ½- to 1½-in. (15 to 40 mm).
- Precision honed pipe section and tight machining tolerances deliver higher installed performance.
- Reduces uncertainty by up to five percent compared to traditional orifice plate installation.

Rosemount 2051 CFA Annubar™ ordering information

- Patented T-shape Annubar creates a fixed separation point for DP signal improvement over a wider flow rate
- Complete flow assemblies are leak-tested and calibrated to reduce leak points up to 70 percent and simplify installation
- T-shape design of averaging pitot tube ensures very low permanent pressure loss
- Local operator interface offers easy-to-use menus and built-in configuration buttons for streamlined commissioning
- Sensor stagnation zone positioned to reduce noise, measurement inaccuracies and keeps particulates from clogging
- SIL 2/3 certified to IEC 61508 (via 3rd party) and prior-use certificate of FMEDA data for safety installations

CONFIGURE > VIEW PRODUCT >

Online product configurator

Many products are configurable online using our product configurator.

Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
- Options
- Components

Required model components

Model

Code	Description	
2051CFA	Annubar Flow Meter	★

Measurement type

Code	Description	
D	Differential pressure	★

Fluid type

Code	Description	
L	Liquid	★
G	Gas	★
S	Steam	★

Line size

Actual units are built to customer supplied pipe ID and wall dimensions. Line size codes in model are used as a nominal size and auto-selected by the sizing program.

Code	Description	
020	2 in. (50 mm)	★
025	2½ in. (63.5 mm)	★
030	3 in. (80 mm)	★
035	3½ in. (89 mm)	★
040	4 in. (100 mm)	★
050	5 in. (125 mm)	★
060	6 in. (150 mm)	★

070	7 in. (175 mm)	★
080	8 in. (200 mm)	★
100	10 in. (250 mm)	★
120	12 in. (300 mm)	★
140	14 in. (350 mm)	
160	16 in. (400 mm)	
180	18 in. (450 mm)	
200	20 in. (500 mm)	
240	24 in. (600 mm)	
300	30 in. (750 mm)	
360	36 in. (900 mm)	
420	42 in. (1,066 mm)	
480	48 in. (1,210 mm)	
600	60 in. (1,520 mm)	
720	72 in. (1,820 mm)	
780	78 in. (1,950 mm)	
840	84 in. (2,100 mm)	
900	90 in. (2,250 mm)	
960	96 in. (2,400 mm)	

Pipe ID range

For pipe ID table, see the Rosemount DP Flow Meters and Primary Elements Product Data Sheet.

Code	Description	
Z	Custom manufactured for customer-supplied pipe ID	★

Pipe material/Mounting assembly material

Code	Description	
C	CS (A105)	★
S	316 SST	★
0[(1)]	No mounting [(2)]	★
G	Chrome-moly grade F-11	
N	Chrome-moly grade F-22	
J	Chrome-moly grade F-91	

(1) *For customer-supplied mounting, provide relevant dimension at time of sizing and order.*
(2) *Customer-supplied.*

Pipe orientation

Code	Description	
H	Horizontal piping	★

D	Vertical piping with downward flow	★
U	Vertical piping with upward flow	★

Rosemount Annubar™ type

Code	Description	
P	Pak-lok	★
F	Flanged with opposite side support	★

Sensor material

Code	Description	
S	316 SST	★

Sensor size

Code	Description	
1	Sensor size 1 — Line sizes 2 - 8 in. (50 - 200 mm)	★
2	Sensor size 2 — Line sizes 6 - 96 in. (150 - 2,400 mm)	★
3	Sensor size 3 — Line sizes greater than 12 in. (300 mm)	★

Mounting type

Code	Description	
T1	Compression or threaded connection	★
A1	Class 150 RF ASME B16.5	★
A3	Class 300 RF ASME B16.5	★
A6	Class 600 RF ASME B16.5	★
D1	PN16 EN-1092-1 RF	★
D3	PN40 EN-1092-1 RF	★
D6	PN100 EN-1092-1 RF	★
R1	Class 150 RTJ ASME B16.5	
R3	Class 300 RTJ ASME B16.5	
R6	Class 600 RTJ ASME B16.5	

Opposite side support or packing gland

Code	Description	
0	No opposite side support or packing gland (1)	★
Opposite side support (2)		
C	NPT threaded opposite support assembly	★
D	Welded opposite support assembly	★

(1) *Required for pak-lok models.*
(2) *Required for flanged models.*

Isolation valve

Code	Description	
0	Not applicable or customer supplied	★

Temperature measurement

Code	Description	
T	Integral RTD (1)	★
0	No temperature sensor	★
R	Remote thermowell and RTD	

(1) *Not available with flanged model greater than Class 600.*

Transmitter connection platform

Code	Description	
3	Direct mount, Integral 3-valve manifold (1)	★
5	Direct mount, 5-valve manifold (2)	★
7	Remote mount NPT connections (½ inch FNPT)	★
8	Remote mount SW connections (½ inch)	

(1) *Not available with flanged model greater than Class 600.*
(2) *Not available with flanged model greater than Class 600.*

Differential pressure range

Code	Description	
1	0 - 25 inH_2O (0 - 62.16 mbar)	★
2	0 - 250 inH_2O (0 - 621.6 mbar)	★
3	0 - 1,000 inH_2O (0 - 2.49 bar)	★

Transmitter output

Code	Description	
A(1)	4–20 mA with digital signal based on HART® Protocol	★
F	FOUNDATION™ Fieldbus Protocol	★
W(2)	PROFIBUS® PA Protocol	★
X(3)	Wireless	★

(1) *HART Revision 5 is the default HART output. The Rosemount 2051 with Selectable HART can be factory or field configured to HART Revision 7. To order HART Revision 7 factory configured, add option code HR7.*
(2) *For local addressing and configuration, M4 Local Operator Interface (LOI) is required. Not available with product certification codes EM, IM, KL, KM, and KS.*
(3) *Only available with intrinsically safe approvals.*

Transmitter housing material

Code	Description	Conduit entry size	
A	Aluminum	½–14 NPT	★

Code	Description	Conduit entry size	
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 output code X.*
(2) *Transmitter conduit entry will be ½ NPT and a ½ NPT to G½ thread adapter will be provided. This option is only available with product certifications option I1. Housing code D is also available with E4 and IG.*

Transmitter performance class

Code	Description	
1	2.0% flow rate accuracy, 5:1 flow turndown, 2-year stability	★

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 *Wireless*HART®	★

Antenna and SmartPower™

Code	Description	
WP5	Internal antenna, compatible with Green Power Module[1]	★

(1) *Intrinsically Safe (IS) Power Module sold separately.*

Additional options

Extended product warranty

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

Alternate transmitter diaphragm material

Code	Description	
ID2	316L SST	
ID3	Alloy C-276	

Code	Description	
ID5[1][2]	Tantalum	

(1) *Available in ranges 2 to 5 only.*
(2) *Not available with output code X.*

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate	★
PX	Extended hydrostatic testing	

Special cleaning

Code	Description	
P2	Cleaning for special processes	

Material testing

Code	Description	
V1	Dye penetrant exam	

Material examination

Code	Description	
V2	Radiographic examination	

Special inspection

Code	Description	
QC1	Visual and dimensional inspection with certificate	★
QC7	Inspection and performance certificate	★

Surface finish

This surface finish option is auto-selected by the sizing tool as necessary.

Code	Description	
RL	Surface finish for low pipe Reynolds number in gas and steam	★
RH	Surface finish for high pipe Reynolds number in liquid	★

Material traceability certification

Instrument connections for remote mount options are not included in the Material traceability certification.

Code	Description	
Q8	Material traceability certification per EN 10474: 2004 3.1	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

Code conformance

Code	Description	
J2	ANSI/ASME B31.1	
J3	ANSI/ASME B31.3	

Materials conformance

Materials of Construction comply with metallurgical requirements within NACE MR0175/ISO 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.

Selecting J5 option will provide Alloy C-276 transmitter diaphragms.

Code	Description	
J5	Certificate of Compliance to NACE MR0175/ISO 15156 for wetted materials	

Country certification

Code	Description	
J6	European Pressure Directive (PED)	★
J1	Canadian Registration	
J8	Chinese Certificate of Special Equipment Type Test	

Instrument connections for remote mount options

Code	Description	
G2	Needle valves, SST	★
G6	OS&Y gate valves, SST	★
G1	Needle valves, CS	
G3	Needle valves, alloy C-276	
G5	OS&Y gate valves, CS	
G7	OS&Y gate valves, alloy C-276	

Special shipment

Code	Description	
Y1	Mounting hardware shipped separately(1)	★

(1) *Requires 486 model to be ordered.*

Product certifications

Code	Description	
E8	ATEX Flameproof	★
I1[1]	ATEX Intrinsic Safety	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION™ Fieldbus or PROFIBUS® PA Protocol only	★
N1	ATEX Type n Certification	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E8, I1, and N1)	★
E4[2]	Japan Flameproof	★
E5	USA Explosion-proof, Dust Ignition-proof	★
I5[3]	USA Intrinsically Safe, Non-incendive	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
E6	Canada Explosion-proof, Dust Ignition-proof, Division 2	★
I6	Canada Intrinsic Safety	★
C6	Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
K6	Canada Explosion-proof, Intrinsically Safe, and Division 2 (combination of E6 and I6)	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★
N7	IECEx Type n Certification	★
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, and Type n (combination of I7, N7, and E7)	★
IG	IECEx FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
E2	Brazil Flameproof	★
I2	Brazil Intrinsic Safety	★
IB	Brazil FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K2	Brazil Flameproof, Intrinsic Safety	★
E3	China Flameproof	★
I3	China Intrinsic Safety	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flameproof and Intrinsic Safety	★
KB	USA and Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2 (combination of K5 and C6)	★
KD	USA, Canada, and ATEX Explosion-proof, Intrinsically Safe (combination of K5, C6, I1, and E8)	★
KL[4]	USA, Canada, IECEx, ATEX Intrinsic Safety Combination	★
KS	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Dust, Non-incendive, Type N, Division 2	★
EP	Republic of Korea Flameproof	★
IP	Republic of Korea Intrinsic Safety	★
KP	Republic of Korea Flameproof, Intrinsic Safety	★
EW	India Flameproof Approval	★
IW	India Intrinsic Safety	★
IZ	India FISCO Intrinsic Safety	★

(1) *Dust approval not applicable to wireless (output code X). For wireless approvals, see the Certifications section of the Quick Start Guide.*
(2) *Only available with 4–20 mA HART®(output code A), FOUNDATION Fieldbus (output code F), or PROFIBUS PA (output code W). Only available with aluminum housing and ½ NPT conduit entry size (housing material code A).*
(3) *Non-incendive certification not provided with wireless (output code X).*
(4) *Only available with wireless (output code X).*

Shipboard approval

Code	Description	
SBS	American Bureau of Shipping[1]	★

(1) *Not available with wireless (output code X).*

Sensor fill fluid and O-ring options

Code	Description	
L1[1]	Inert sensor fill fluid	★
L2	Graphite-filled (PTFE) O-ring	★
LA[1]	Inert sensor fill fluid and graphite-filled (PTFE) O-ring	★

(1) *Not available with output code X.*

Display and interface options

Code	Description	
M4[1]	LCD display with Local Operator Interface (LOI)	★
M5	LCD display	★

(1) *Not available with FOUNDATION™ Fieldbus (output code F) or wireless (output code X).*

Transmitter calibration certification

Code	Description	
Q4	Calibration certificate for transmitter	★

Quality certification for safety

Code	Description	
QT	Safety-certified to IEC 61508 with certificate of failure modes, effects, and diagnostic analysis (FMEDA)[1]	★

(1) *The quality certification for safety is only available with HART® 4–20 mA output (code A).*

Transient protection

Code	Description	
T1	Transient terminal block[1][2]	★

(1) *This option is not available with output code X.*
(2) *This option is not available with housing code 00, 5A, or 7J. The T1 option is not needed with FISCO Product Certifications; transient protection is included with the FISCO Product Certification code IA.*

Manifold for remote mount option

Code	Description	
F2	3-valve manifold, SST	★
F6	5-valve manifold, SST	★

Configuration buttons

Code	Description	
D4[1]	Zero and span hardware adjustments	★
DZ[2]	Digital zero trim	★

(1) *Only available with 4–20 mA HART®(output code A).*
(2) *Only available with 4–20 mA HART (output code A) and wireless output (code X).*

Alarm limit

This option is only available with 4–20 mA HART® (output code A).

Code	Description	
C4	NAMUR alarm and saturation levels, high alarm	★
CN	NAMUR alarm and saturation levels, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet)	★
CT	Low alarm (standard Rosemount alarm and saturation levels)	★

Ground screw

This option is not available with output code X. The V5 option is not needed with the T1 option; external ground screw assembly is included with the T1 option.

Code	Description	
V5	External ground screw assembly	★

HART® revision configuration

This option is only available with 4–20 mA HART (output code A).

Code	Description	
HR5[1]	Configured for HART Revision 5	★
HR7[2]	Configured for HART Revision 7	★

(1) *Configures the HART output to HART Revision 5. The device can be field configured to HART Revision 7 if needed.*
(2) *Configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 if needed.*

Rosemount 2051CFC Compact Flow Meter ordering information

- Complete flow assemblies are leak-tested and calibrated to reduce leak points up to 70% and simplify installation
- Primary element design delivers reliable and accurate flow measurement for gas, liquid, and steam service
- Orifice plate available in ½ - 12 in. (15-300 mm) line sizes for application flexibility
- Local operator interface offers easy-to-use menus and built-in configuration buttons for streamlined commissioning
- SIL 2/3 certified to IEC 61508 (via 3rd party) and prior-use certificate of FMEDA data for safety installations

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Online product configurator

Many products are configurable online using our product configurator.

Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
- Options
- Components

Required model components

Model

Code	Description	
2051CFC	Compact flow meter	★

Measurement type

Code	Description	
D	Differential pressure	★

Primary element technology

Code	Description	
C	Conditioning orifice plate	★
P	Orifice plate	★

Material type

Code	Description	
S	316 SST	★

Line size

Code	Description	
005(1)	½ in. (15 mm)	★
010(1)	1 in. (25 mm)	★
015(1)	1½ in. (40 mm)	★
020	2 in. (50 mm)	★
030	3 in. (80 mm)	★
040	4 in. (100 mm)	★
060	6 in. (150 mm)	★
080	8 in. (200 mm)	★
100(2)	10 in. (250 mm)	★
120(2)	12 in. (300 mm)	★

(1) *Only available with primary element technology P.*
(2) *For the codes 100 and 120, the alignment ring must be ordered (installation accessories).*

Primary element type

Code	Description	
N040	0.40 Beta ratio (β)	★
N050	0.50 Beta ratio (β)	★
N065(1)	0.65 Beta ratio (β)	★

(1) *For 2 in. (50 mm) line sizes, the primary element type is 0.60 for primary element technology code C.*

Temperature measurement

Code	Description	
0	No temperature sensor	★
R	Remote thermowell and Resistance Temperature Detector (RTD)	

Transmitter connection platform

Code	Description	
3	Direct-mount, integral 3-valve manifold	★
7	Remote-mount, NPT connections	★

Differential pressure range

Code	Description	
1	0 - 25 inH_2O (0 - 62.16 mbar)	★

2	0 - 250 inH_2O (0 - 621.6 mbar)	★
3	0 - 1,000 inH_2O (0 - 2.49 bar)	★

Transmitter output

Code	Description	
A(1)	4–20 mA with digital signal based on HART® Protocol	★
F	FOUNDATION™ Fieldbus Protocol	★
W(2)	PROFIBUS® PA Protocol	★
X(3)	Wireless	★

(1) *HART Revision 5 is the default HART output. The Rosemount 2051 with Selectable HART can be factory or field configured to HART Revision 7. To order HART Revision 7 factory configured, add option code HR7.*
(2) *For local addressing and configuration, M4 Local Operator Interface (LOI) is required. Not available with product certification codes EM, IM, KL, KM, and KS.*
(3) *Only available with intrinsically safe approvals.*

Transmitter 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 output code X.*
(2) *Transmitter conduit entry will be ½ NPT and a ½ NPT to G½ thread adapter will be provided. This option is only available with product certifications option I1. Housing code D is also available with E4 and IG.*

Transmitter performance class

Code	Description	
1	Up to ±2.25% flow rate accuracy, 5:1 flow turndown, 2-year stability	★

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 *Wireless*HART®	★

Antenna and SmartPower™

Code	Description	
WP5	Internal antenna, compatible with Green Power Module[1]	★

(1) *Intrinsically Safe (IS) Power Module sold separately.*

Additional options

Extended product warranty

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

Alternate transmitter diaphragm material

Code	Description	
ID2	316L SST	
ID3	Alloy C-276	
ID5[1][2]	Tantalum	

(1) *Available in ranges 2 to 5 only.*
(2) *Not available with output code X.*

Installation accessories

Code	Description	
AB[1]	ANSI alignment ring (Class 150)	★
AC[1]	ANSI alignment ring (Class 300)	★
AD[1]	ANSI alignment ring (Class 600)	★
DG	DIN alignment ring (PN 16)	★
DH	DIN alignment ring (PN 40)	★
DJ	DIN alignment ring (PN 100)	★
JB	JIS alignment ring (10K)[2]	
JR	JIS alignment ring (20K)	
JS	JIS alignment ring (40K)	

(1) *Only required for 10 in. (250 mm) and 12 in. (300 mm) line sizes.*
(2) *Not available on 12 in. (300 mm) line size.*

Remote adapters

Code	Description	
FE	Flange adapters 316 SST (½-inch NPT)	★

High temperature application

Code	Description	
HT	Graphite valve packing (T_{max} = 850 °F [454 °C])	

Flow calibration

Consult factory for pipe schedules other than schedule 40.

This option is not available with primary element technology P.

Code	Description	
WC	Flow calibration, 3-point, conditioning orifice option C	
WD	Flow calibration, 10-point, conditioning option C	

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate	

Special cleaning

Available with primary element technology C or P only.

Code	Description	
P2	Cleaning for special processes	

Special inspection

Code	Description	
QC1	Visual and dimensional inspection with certificate	★
QC7	Inspection and performance certificate	★

Transmitter calibration certification

Code	Description	
Q4	Calibration certificate for transmitter	★

Quality certification for safety

Code	Description	
QT	Safety-certified to IEC 61508 with certificate of failure modes, effects, and diagnostic analysis (FMEDA)(1)	★

(1) *The quality certification for safety is only available with HART® 4–20 mA output (code A).*

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204:2004 3.1	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

Code conformance

Code	Description	
J2	ANSI/ASME B31.1	
J3	ANSI/ASME B31.3	

Materials conformance

Materials of Construction comply with metallurgical requirements within NACE MR0175/ISO 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.

Selecting J5 option will provide Alloy C-276 transmitter diaphragms.

Code	Description	
J5	Certificate of Compliance to NACE MR0175/ISO 15156 for wetted materials	

Country certification

Code	Description	
J1	Canadian Registration	
J8	Chinese Certificate of Special Equipment Type Test	

Product certifications

Code	Description	
E8	ATEX Flameproof	★
I1[(1)]	ATEX Intrinsic Safety	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION™ Fieldbus or PROFIBUS® PA Protocol only	★
N1	ATEX Type n Certification	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E8, I1, and N1)	★
E4[(2)]	Japan Flameproof	★
E5	USA Explosion-proof, Dust Ignition-proof	★
I5[(3)]	USA Intrinsically Safe, Non-incendive	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
E6	Canada Explosion-proof, Dust Ignition-proof, Division 2	★
I6	Canada Intrinsic Safety	★
C6	Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
K6	Canada Explosion-proof, Intrinsically Safe, and Division 2 (combination of E6 and I6)	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★
N7	IECEx Type n Certification	★

Code	Description	
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, and Type n (combination of I7, N7, and E7)	★
IG	IECEx FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
E2	Brazil Flameproof	★
I2	Brazil Intrinsic Safety	★
IB	Brazil FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K2	Brazil Flameproof, Intrinsic Safety	★
E3	China Flameproof	★
I3	China Intrinsic Safety	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flameproof and Intrinsic Safety	★
KB	USA and Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2 (combination of K5 and C6)	★
KD	USA, Canada, and ATEX Explosion-proof, Intrinsically Safe (combination of K5, C6, I1, and E8)	★
KL(4)	USA, Canada, IECEx, ATEX Intrinsic Safety Combination	★
KS	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Dust, Non-incendive, Type N, Division 2	★
EP	Republic of Korea Flameproof	★
IP	Republic of Korea Intrinsic Safety	★
KP	Republic of Korea Flameproof, Intrinsic Safety	★
EW	India Flameproof Approval	★
IW	India Intrinsic Safety	★
IZ	India FISCO Intrinsic Safety	★

(1) *Dust approval not applicable to wireless (output code X). For wireless approvals, see the Certifications section of the Quick Start Guide.*
(2) *Only available with 4–20 mA HART®(output code A), FOUNDATION Fieldbus (output code F), or PROFIBUS PA (output code W). Only available with aluminum housing and ½ NPT conduit entry size (housing material code A).*
(3) *Non-incendive certification not provided with wireless (output code X).*
(4) *Only available with wireless (output code X).*

Shipboard approval

Code	Description	
SBS	American Bureau of Shipping(1)	★

(1) *Not available with wireless (output code X).*

Sensor fill fluid and O-ring options

Code	Description	
L1(1)	Inert sensor fill fluid	★
L2	Graphite-filled (PTFE) O-ring	★
LA(1)	Inert sensor fill fluid and graphite-filled (PTFE) O-ring	★

(1) *Not available with output code X.*

Display and interface options

Code	Description	
M4[1]	LCD display with Local Operator Interface (LOI)	★
M5	LCD display	★

(1) *Not available with FOUNDATION™ Fieldbus (output code F) or wireless (output code X).*

Transient protection

Code	Description	
T1	Transient terminal block[1][2]	★

(1) *This option is not available with output code X.*
(2) *This option is not available with housing code 00, 5A, or 7J. The T1 option is not needed with FISCO Product Certifications; transient protection is included with the FISCO Product Certification code IA.*

Manifold for remote mount option

Code	Description	
F2	3-valve manifold, SST	★
F6	5-valve manifold, SST	★

Alarm limit

This option is only available with 4–20 mA HART® (output code A).

Code	Description	
C4	NAMUR alarm and saturation levels, high alarm	★
CN	NAMUR alarm and saturation levels, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet)	★
CT	Low alarm (standard Rosemount alarm and saturation levels)	★

Plantweb™ control functionality

Code	Description	
A01	FOUNDATION™ Fieldbus advanced control function block suite[1]	★

(1) *This option is only valid with FOUNDATION Fieldbus (output code F).*

Configuration buttons

Code	Description	
D4[1]	Zero and span hardware adjustments	★
DZ[2]	Digital zero trim	★

(1) *Only available with 4–20 mA HART®(output code A).*
(2) *Only available with 4–20 mA HART (output code A) and wireless output (code X).*

Ground screw

This option is not available with output code X. The V5 option is not needed with the T1 option; external ground screw assembly is included with the T1 option.

Code	Description	
V5	External ground screw assembly	★

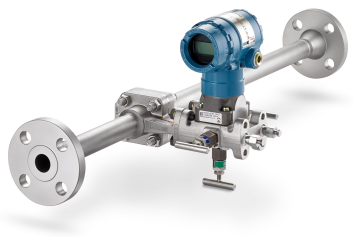
HART® revision configuration

This option is only available with 4–20 mA HART (output code A).

Code	Description	
HR5[1]	Configured for HART Revision 5	★
HR7[2]	Configured for HART Revision 7	★

(1) *Configures the HART output to HART Revision 5. The device can be field configured to HART Revision 7 if needed.*
(2) *Configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 if needed.*

Rosemount 2051CFP Integral Orifice Flow Meter ordering information



- Complete flow assemblies are leak-tested and calibrated to reduce leak points up to 70 percent and simplify installation
- Primary element integrated in a meter run for ease of installation
- Orifice plate suitable for small line sizes 0.5 - 1.5 in. (15 - 40 mm) for flow measurement accuracy and repeatability
- Local operator interface offers easy-to-use menus and built-in configuration buttons for streamlined commissioning
- SIL 2/3 certified to IEC 61508 (via 3rd party) and prior-use certificate of FMEDA data for safety installations

CONFIGURE > VIEW PRODUCT >

Online product configurator

Many products are configurable online using our product configurator.

Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
- Options
- Components

Required model components

Model

Code	Description	
2051CFP	Integral orifice flow meter	★

Measurement type

Code	Description	
D	Differential pressure	★

Material type and body

Code	Description	
F	316 SST, enhanced support body	★

Line size

Code	Description	
005	½ in. (15 mm)	★

010	1 in. (25 mm)	★
015	1½ in. (40 mm)	★

Process connections

Code	Description	
T1	NPT female body (not available with thermowell and RTD)	★
S1(1)	Socket weld body (not available with thermowell and RTD)	★
P1	Pipe ends: NPT threaded	★
P2	Pipe ends: beveled	★
D1	Pipe ends: flanged, PN16 EN-1092-1 RF, slip-on	★
D2	Pipe ends: flanged, PN40 EN-1092-1 RF, slip-on	★
D3	Pipe ends: flanged, PN100 EN-1092-1 RF, slip-on	★
W1	Pipe ends: flanged, Class 150 RF ASME B16.5, weld-neck	★
W3	Pipe ends: flanged, Class 300 RF ASME B16.5, weld-neck	★
W6	Pipe ends: flanged, Class 600 RF ASME B16.5, weld-neck	★
W9	Pipe ends: flanged, Class 900 RF ASME B16.5, weld-neck	
A1	Pipe ends: flanged, Class 150 RF ASME B16.5, slip-on	
A3	Pipe ends: flanged, Class 300 RF ASME B16.5, slip-on	
A6	Pipe ends: flanged, Class 600 RF ASME B16.5, slip-on	
R1	Pipe ends: flanged, Class 150 RTJ ASME B16.5, slip-on	
R3	Pipe ends: flanged, Class 300 RTJ ASME B16.5, slip-on	
R6	Pipe ends: flanged, Class 600 RTJ ASME B16.5, slip-on	
R9	Pipe ends: flanged, 900# RTJ ASME B16.5, weld-neck	

(1) *To improve pipe perpendicularity for gasket sealing, socket diameter is smaller than standard pipe O.D.*

Orifice plate material

Code	Description	
S	316/316L SST	★

Bore size

Code	Description	
0066	0.066 inch (1.68 mm) for ½-inch pipe	★
0109	0.109 inch (2.77 mm) for ½-inch pipe	★
0160	0.160 inch (4.06 mm) for ½-inch pipe	★
0196	0.196 inch (4.98 mm) for ½-inch pipe	★
0260	0.260 inch (6.60 mm) for ½-inch pipe	★
0340	0.340 inch (8.64 mm) for ½-inch pipe	★
0150	0.150 inch (3.81 mm) for 1-inch pipe	★
0250	0.250 inch (6.35 mm) for 1-inch pipe	★
0345	0.345 inch (8.76 mm) for 1-inch pipe	★

Code	Description	
0500	0.500 inch (12.70 mm) for 1-inch pipe	★
0630	0.630 inch (16.00 mm) for 1-inch pipe	★
0800	0.800 inch (20.32 mm) for 1-inch pipe	★
0295	0.295 inch (7.49 mm) for 1½-inch pipe	★
0376	0.376 inch (9.55 mm) for 1½-inch pipe	★
0512	0.512 inch (13.00 mm) for 1½-inch pipe	★
0748	0.748 inch (19.00 mm) for 1½-inch pipe	★
1022	1.022 inch (25.96 mm) for 1½-inch pipe	★
1184	1.184 inch (30.07 mm) for 1½-inch pipe	★
0010	0.010 inch (0.25 mm) for ½-inch pipe	
0014	0.014 inch (0.36 mm) for ½-inch pipe	
0020	0.020 inch (0.51 mm) for ½-inch pipe	
0034	0.034 inch (0.86 mm) for ½-inch pipe	
XXXX	Special bore size (X.XXX inch)	

Transmitter connection platform

Code	Description	
D3	Direct mount, 3-valve manifold, SST	★
D5	Direct mount, 5-valve manifold, SST	★
R3	Remote mount, 3-valve manifold, SST	★
R5	Remote mount, 5-valve manifold, SST	★

Differential pressure range

Code	Description	
1	0 - 25 inH_2O (0 - 62.16 mbar)	★
2	0 - 250 inH_2O (0 - 621.6 mbar)	★
3	0 - 1,000 inH_2O (0 - 2.49 bar)	★

Transmitter output

Code	Description	
A(1)	4–20 mA with digital signal based on HART® Protocol	★
F	FOUNDATION™ Fieldbus Protocol	★
W(2)	PROFIBUS® PA Protocol	★
X(3)	Wireless	★

(1) *HART Revision 5 is the default HART output. The Rosemount 2051 with Selectable HART can be factory or field configured to HART Revision 7. To order HART Revision 7 factory configured, add option code HR7.*

(2) *For local addressing and configuration, M4 Local Operator Interface (LOI) is required. Not available with product certification codes EM, IM, KL, KM, and KS.*

(3) *Only available with intrinsically safe approvals.*

Transmitter 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 output code X.*
(2) *Transmitter conduit entry will be ½ NPT and a ½ NPT to G½ thread adapter will be provided. This option is only available with product certifications option I1. Housing code D is also available with E4 and IG.*

Transmitter performance class

Code	Description	
1	Up to ±2.25% flow rate accuracy, 5:1 flow turndown, 2-year stability	★

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 *Wireless*HART®	★

Antenna and SmartPower™

Code	Description	
WP5	Internal antenna, compatible with Green Power Module(1)	★

(1) *Intrinsically Safe (IS) Power Module sold separately.*

Additional options

Extended product warranty

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

Alternate transmitter diaphragm material

Code	Description	
ID2	316L SST	
ID3	Alloy C-276	
ID5(1)(2)	Tantalum	

(1) *Available in ranges 2 to 5 only.*

(2) *Not available with output code X.*

Temperature sensor

Thermowell material is the same as the body material.

Code	Description	
RT	Thermowell and RTD	

Optional connection

Code	Description	
G1	DIN 19213 transmitter connection	★

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate (1)	

(1) *This option does not apply to process connection codes T1 and S1. Option P1 may not be ordered in combination with P2.*

Special cleaning

Code	Description	
P2	Cleaning for special processes	

Material testing

Code	Description	
V1	Dye penetrant exam	

Material examination

Code	Description	
V2	Radiographic examination	

Flow calibration

Code	Description	
WD	Discharge coefficient verification (1)	

(1) *This option is not available for bore sizes 0010, 0014, 0020, 0034, 0066, or 0109. This option does not apply to process connection codes T1 and S1.*

Special inspection

Code	Description	
QC1	Visual and dimensional inspection with certificate	★
QC7	Inspection and performance certificate	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204:2004 3.1	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

Code conformance

This option is not available with DIN process connection codes D1, D2, or D3.

Code	Description	
J2[1]	ANSI/ASME B31.1	
J3[1]	ANSI/ASME B31.3	

(1) *Changes the transmitter orientation of the assembly. Please refer to the J2 and J3 options for B31 compliant assembly in the product drawing.*

Materials conformance

Materials of Construction comply with metallurgical requirements within NACE MR0175/ISO 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.

Selecting J5 option will provide Alloy C-276 transmitter diaphragms.

Code	Description	
J5	Certificate of Compliance to NACE MR0175/ISO 15156 for wetted materials	

Country certification

Code	Description	
J6	European Pressure Directive (PED)	★
J1	Canadian Registration	

Transmitter calibration certification

Code	Description	
Q4	Calibration certificate for transmitter	★

Quality certification for safety

Code	Description	
QT	Safety-certified to IEC 61508 with certificate of failure modes, effects, and diagnostic analysis (FMEDA)[1]	★

(1) *The quality certification for safety is only available with HART® 4–20 mA output (code A).*

Product certifications

Code	Description	
E8	ATEX Flameproof	★

Code	Description	
I1[1]	ATEX Intrinsic Safety	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION™ Fieldbus or PROFIBUS® PA Protocol only	★
N1	ATEX Type n Certification	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E8, I1, and N1)	★
E4[2]	Japan Flameproof	★
E5	USA Explosion-proof, Dust Ignition-proof	★
I5[3]	USA Intrinsically Safe, Non-incendive	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
E6	Canada Explosion-proof, Dust Ignition-proof, Division 2	★
I6	Canada Intrinsic Safety	★
C6	Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
K6	Canada Explosion-proof, Intrinsically Safe, and Division 2 (combination of E6 and I6)	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★
N7	IECEx Type n Certification	★
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, and Type n (combination of I7, N7, and E7)	★
IG	IECEx FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
E2	Brazil Flameproof	★
I2	Brazil Intrinsic Safety	★
IB	Brazil FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K2	Brazil Flameproof, Intrinsic Safety	★
E3	China Flameproof	★
I3	China Intrinsic Safety	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flameproof and Intrinsic Safety	★
KB	USA and Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2 (combination of K5 and C6)	★
KD	USA, Canada, and ATEX Explosion-proof, Intrinsically Safe (combination of K5, C6, I1, and E8)	★
KL[4]	USA, Canada, IECEx, ATEX Intrinsic Safety Combination	★
KS	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Dust, Non-incendive, Type N, Division 2	★
EP	Republic of Korea Flameproof	★
IP	Republic of Korea Intrinsic Safety	★
KP	Republic of Korea Flameproof, Intrinsic Safety	★
EW	India Flameproof Approval	★
IW	India Intrinsic Safety	★
IZ	India FISCO Intrinsic Safety	★

(1) *Dust approval not applicable to wireless (output code X). For wireless approvals, see the Certifications section of the Quick Start Guide.*

(2) *Only available with 4–20 mA HART®(output code A), FOUNDATION Fieldbus (output code F), or PROFIBUS PA (output code W). Only available with aluminum housing and ½ NPT conduit entry size (housing material code A).*

(3) *Non-incendive certification not provided with wireless (output code X).*
(4) *Only available with wireless (output code X).*

Shipboard approval

Code	Description	
SBS	American Bureau of Shipping[1]	★

(1) *Not available with wireless (output code X).*

Sensor fill fluid and O-ring options

Code	Description	
L1[1]	Inert sensor fill fluid	★
L2	Graphite-filled (PTFE) O-ring	★
LA[1]	Inert sensor fill fluid and graphite-filled (PTFE) O-ring	★

(1) *Not available with output code X.*

Display and interface options

Code	Description	
M4[1]	LCD display with Local Operator Interface (LOI)	★
M5	LCD display	★

(1) *Not available with FOUNDATION™ Fieldbus (output code F) or wireless (output code X).*

Transient protection

Code	Description	
T1	Transient terminal block[1][2]	★

(1) *This option is not available with output code X.*
(2) *This option is not available with housing code 00, 5A, or 7J. The T1 option is not needed with FISCO Product Certifications; transient protection is included with the FISCO Product Certification code IA.*

Alarm limit

This option is only available with 4–20 mA HART® (output code A).

Code	Description	
C4	NAMUR alarm and saturation levels, high alarm	★
CN	NAMUR alarm and saturation levels, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet)	★
CT	Low alarm (standard Rosemount alarm and saturation levels)	★

Plantweb diagnostic functionality

Code	Description	
D01	FOUNDATION™ Fieldbus Diagnostics Suite	★

Configuration buttons

Code	Description	
D4[1]	Zero and span hardware adjustments	★
DZ[2]	Digital zero trim	★

(1) *Only available with 4–20 mA HART®(output code A).*
(2) *Only available with 4–20 mA HART (output code A) and wireless output (code X).*

Ground screw

This option is not available with output code X. The V5 option is not needed with the T1 option; external ground screw assembly is included with the T1 option.

Code	Description	
V5	External ground screw assembly	★

HART® revision configuration

This option is only available with 4–20 mA HART (output code A).

Code	Description	
HR5[1]	Configured for HART Revision 5	★
HR7[2]	Configured for HART Revision 7	★

(1) *Configures the HART output to HART Revision 5. The device can be field configured to HART Revision 7 if needed.*
(2) *Configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 if needed.*

Rosemount 2051L Liquid Level Transmitter

- Designed with a variety of process connections, materials and output protocols to meet diverse application requirements
- Tuned-System Level assembly and direct mounting produce optimal performance for level applications
- SIL 2/3 certified to IEC 61508 (via 3rd party) and prior-use certificate of FMEDA data for safety installations
- Local Operator Interface (LOI) for simple, local commissioning on-site without the use of extra tools or training
- Optimized seal system construction ensures a quality measurement in harsh process conditions

CONFIGURE > VIEW PRODUCT >

Online product configurator

Many products are configurable online using our product configurator.

Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
- Options
- Components

Sizing and selection

Use the Differential Pressure (DP) Level Sizing & Selection Tool to size Rosemount DP Level meters to meet your application-specific requirements.

The Sizing & Selection tool:

1. Verifies if a selected product meets your application requirements.
2. Provide a comparison between different system types.
3. Generates a detailed accuracy comparison graph.

Once a sizing is completed, the configuration tool will help create a complete and valid model code to match your requirements and include any additional options or approvals.

Optimizing lead time

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

Required model components

Model

Code	Description	
2051L	Liquid level transmitter	★

Pressure range

Code	Description	
2	–250 to +250 inH_2O –622 to +622 mbar	★
3	–1,000 to +1,000 inH_2O (–2.5 to +2.5 bar)	★
4	–300 to +300 psi (–20.7 to +20.7 bar)	★

Transmitter output

Code	Description	
A(1)	4–20 mA with digital signal based on HART® Protocol	★
F	FOUNDATION™ Fieldbus Protocol	★
W(2)	Profibus® PA Protocol	★
X(3)	Wireless	★

(1) *HART Revision 5 is the default HART output. The Rosemount 2051 with Selectable HART can be factory or field configured to HART Revision 7. To order HART Revision 7 factory configured, add option code HR7.*
(2) *For local addressing and configuration, M4 Local Operator Interface (LOI) is required. Not available with product certification codes EM, IM, KL, KM, KS.*
(3) *Only available with intrinsically safe approvals.*

Process connection size

Code	Description	Diaphragm	
G(1)	2-inch/DN 50	316L SST	★
H(1)	2-inch/DN 50	Alloy C-276	★
J	2-inch/DN 50	Tantalum	★
A(1)	3-inch/DN 80	316L SST	★
B(1)	4-inch/DN 100	316L SST	★
C(1)	3-inch/DN 80	Alloy C-276	★
D(1)	4-inch/DN 100	Alloy C-276	★
E	3-inch/DN 80	Tantalum	★

Code	Description	Diaphragm	
F	4-inch/DN 100	Tantalum	★

(1) *Materials of construction comply with metallurgical requirements highlighted within 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. Order with Q15 or Q25 to receive a NACE certificate.*

Extension length

Code	Description	
0	None, flush mount	★
2	2 inch (50 mm)	★
4	4 inch (100 mm)	
6	6 inch/150 mm	

Mounting flange size rating, material (high size)

Code	Description	Rating	Material	
M	2-inch	ASME B16.5 Class 150	CS	★
A	3-inch		CS	★
B	4-inch		CS	★
N	2-inch	ASME B16.5 Class 300	CS	★
C	3-inch		CS	★
D	4-inch		CS	★
X(1)	2-inch	ASME B16.5 Class 150	SST	★
F(1)	3-inch		SST	★
G(1)	4-inch		SST	★
Y(1)	2-inch	ASME B16.5 Class 300	SST	★
H(1)	3-inch		SST	★
J(1)	4-inch		SST	★
Q	DN 50	PN 10-40 per EN 1092-1	CS	★
R	DN 80	PN 40 per EN 1092-1	CS	★
K	DN 50	PN 10-40 per EN 1092-1	SST	★
T	DN 80	PN 40 per EN 1092-1	SST	★

(1) *Materials of construction comply with metallurgical requirements highlighted within 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. Order with Q15 or Q25 to receive a NACE certificate.*

Seal fill fluid (high side)

Code	Seal fill fluid (high side)	Specific gravity at +77 °F (+25 °C)	Temperature limits (ambient temperature of +70 °F [21 °C])	
A	SYLTHERM™ XLT	0.085	–157 to +293 °F (–105 to +145 °C)	★
C	Silicone 704	1.07	+32 to +401 °F (0 to +205 °C)	★

Code	Seal fill fluid (high side)	Specific gravity at +77 °F (+25 °C)	Temperature limits (ambient temperature of +70 °F [21 °C])	
D	Silicone 200	0.93	–49 to +401 °F (–45 to +205 °C)	★
F	Silicone 200 for vacuum applications limits: For use in vacuum applications below 14.7 psia (1 bar-a), refer to vapor pressure curves in Rosemount DP Level Fill Fluid Specification Technical Note.			
H	Inert (halocarbon)	1.85	+5 to +401 °F (–15 to +205 °C)	★
G	Glycerin and water	1.13	–49 to +320 °F (–45 to +160 °C)	★
L	Silicone 200 for vacuum applications limits: For use in vacuum applications below 14.7 psia (1 bar-a), refer to vapor pressure curves in Rosemount DP Level Fill Fluid Specification Technical Note.			
N	Neobee® M-20	0.92	+5 to +401 °F (–15 to +205 °C)	★
P	Propylene glycol and water	1.02	+5 to +203 °F (–15 to +95 °C)	★

Sensor module configuration, flange adapter (low side)

Code	Configuration	Flange adapter	
1	Gauge	SST	★
2	Differential	SST	★
3(1)	Tuned-System™ with remote seal	None	★

(1) *Requires option code S1.*

Sensor module diaphragm, sensor fill fluid (low side)

Code	Diaphragm material	Sensor fill fluid	
1	316L SST	Silicone	★
2	Alloy C-276 (SST valve seat)		★
7	Alloy C-276 (alloy C-276 valve seat)		★
A(1)	316L SST	Inert (halocarbon)	★
B(1)(2)	Alloy C-276 (SST valve seat)		★
G(1)	Alloy C-276 (alloy C-276 valve seat)		★

(1) *Not available with output code X.*
(2) *Materials of construction comply with metallurgical requirements highlighted within 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. Order with Q15 or Q25 to receive a NACE certificate.*

O-ring

Code	Description	
A	Glass-filled PTFE	★

Housing material

Code	Description	Conduit entry size	
A	Aluminum	½–14 NPT	★
B	Aluminum	M20 x 1.5	★

E	Aluminum, ultra low copper	½–14 NPT	★
F	Aluminum, ultra low copper	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 output code X.*
(2) *Transmitter conduit entry will be ½ NPT and a ½ NPT to G½ thread adapter will be provided. This option is only available with product certifications option I1. Housing code D is also available with E4 and IG.*

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 *Wireless*HART® Protocol	★

Antenna and SmartPower™

Code	Description	
WP5	Internal antenna, compatible with Green Power Module [1]	★

(1) *ID power module sold separately.*

Additional options

Extended product warranty

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

Plantweb™ control functionality

This option is only valid with FOUNDATION™ Fieldbus output code F.

Code	Description	
A01	FOUNDATION Fieldbus advanced control function block suite	★

Seal assemblies

“Assemble-to” items are specified separately and require a completed model number.

Code	Description	
S1	Assemble to one Rosemount diaphragm seal	★

Remote seal diaphragm coating

Code	Description	
SZ	0.0002 in. (5 µm) gold-plated diaphragm	
FP(1)	CorrosionShield™ PFA coated diaphragm	

(1) *Not compatible with spiral wound gasket.*

Product certifications

Code	Description	
E8	ATEX Flameproof	★
I1(1)	ATEX Intrinsic Safety	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION™ Fieldbus or PROFIBUS® PA Protocol only	★
N1	ATEX Type n Certification	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E8, I1, and N1)	★
E4(2)	Japan Flameproof	★
E5	USA Explosion-proof, Dust Ignition-proof	★
I5(3)	USA Intrinsically Safe, Non-incendive	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
E6	Canada Explosion-proof, Dust Ignition-proof, Division 2	★
I6	Canada Intrinsic Safety	★
K6	Canada Explosion-proof, Intrinsically Safe, and Division 2 (combination of E6 and I6)	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★
N7	IECEx Type n Certification	★
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, and Type n (combination of I7, N7, and E7)	★
IG	IECEx FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
E2	Brazil Flameproof	★
I2	Brazil Intrinsic Safety	★
IB	Brazil FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K2	Brazil Flameproof, Intrinsic Safety	★
E3	China Flameproof	★
I3	China Intrinsic Safety	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flameproof and Intrinsic Safety	★

Code	Description	
KB	USA and Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2 (combination of K5 and C6)	★
KD	USA, Canada, and ATEX Explosion-proof, Intrinsically Safe (combination of K5, C6, I1, and E8)	★
KL[4]	USA, Canada, IECEx, ATEX Intrinsic Safety Combination	★
KS	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Dust, Non-incendive, Type N, Division 2	★
EP	Republic of Korea Flameproof	★
IP	Republic of Korea Intrinsic Safety	★
KP	Republic of Korea Flameproof, Intrinsic Safety	★
IW	India Intrinsic Safety	★

(1) *Dust approval not applicable to wireless (output code X). For wireless approvals, see the Certifications section of the Quick Start Guide.*
(2) *Only available with 4–20 mA HART®(output code A), FOUNDATION Fieldbus (output code F), or PROFIBUS PA (output code W). Only available with aluminum housing and ½ NPT conduit entry size (housing material code A).*
(3) *Non-incendive certification not provided with wireless (output code X).*
(4) *Only available with wireless (output code X).*

Shipboard approvals

Shipboard approvals are not available with wireless output (code X).

Code	Description	
SBS	American Bureau of Shipping	★
SBV	Bureau Veritas (BV)	★
SDN	Det Norske Veritas	★
SLL	Lloyds Register (LR)	★

Display and interface options

Code	Description	
M4[1]	LCD display with Local Operator Interface (LOI)	★
M5	LCD display	★

(1) *Not available with FOUNDATION™ Fieldbus (output code F) or wireless (output code X).*

Flange adapters

This option is not valid with alternate process connection options S3, S4, S5, or S6.

Code	Description	
DF	½–14 NPT flange adapters	★

Conduit plug

Not available with output code X. Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard CS conduit plug.

Code	Description	
DO	316 SST conduit plug	★

Ground screw

This option is not available with output code X. The V5 option is not needed with the T1 option; external ground screw assembly is included with the T1 option.

Code	Description	
V5	External ground screw assembly	★

Transient protection

Not valid with FOUNDATION™ Fieldbus output code F or wireless output code X. The T1 option is not needed with FISCO Product Certifications; transient protection is included in the FISCO product certification codes IA, E, IF, and IG.

Code	Description	
T1	Transient terminal block	★

Software configuration

Only available with 4–20 mA HART® output (codes A) and wireless output (code X).

Code	Description	
C1	Custom software configuration (requires completed Configuration Data Sheet)	★

Alarm limit

Only available with 4–20 mA HART® (output codes A).

Code	Description	
C4	NAMUR alarm and saturation levels, high alarm	★
CN	NAMUR alarm and saturation levels, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet)	★
CT	Low alarm (standard Rosemount alarm and saturation levels)	★

Calibration certification

Code	Description	
Q4	Calibration certificate	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1	★

Quality certification for safety

The option is only available with 4–20 mA HART® output (code A).

Code	Description	
QS	Prior-use certificate of FMEDA data	★

Code	Description	
QT	Safety certified to IEC 61508 with certificate of FMEDA	★

Total system performance reports

Code	Description	
QZ	Remote seal system performance calculation report	★

Conduit electrical connector

This option is not available with output code X.

Code	Description	
GE	M12, 4-pin, male connector (eurofast®)	★
GM	A size mini, 4-pin, male connector (minifast®)	★

NACE® certificate

NACE Compliant wetted materials are identified by materials of construction that 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.

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO 15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

Lower housing alignment clamp

Code	Description	
SA	Lower housing alignment clamp	★

Lower housing flushing connection

Code	Ring material	Number	Size (NPT)	
F1	316 SST	1	¼–18 NPT	★
F2	316 SST	2	¼–18 NPT	★
F3(1)	Alloy C-276	1	¼–18 NPT	★
F4(1)	Alloy C-276	2	¼–18 NPT	★
F7	316 SST	1	½–14 NPT	★
F8	316 SST	2	½–14 NPT	★
F9	Alloy C-276	1	½–14 NPT	★
F10	Alloy C-276	2	½–14 NPT	★
FV	Assemble to Rosemount 319 Flushing Ring			★

(1) *Not available with option codes A0, B0, and G0.*

Lower housing intermediate gasket material

Code	Description	
S0	No gasket for lower housing	★
SY[1]	Klingersil C-4401 gasket	★

(1) *Gasket provided when lower housing is ordered.*

HART® revision configuration

Only available with 4–20 mA HART (output code A).

Code	Description	
HR5[1]	Configured for HART Revision 5	★
HR7[2]	Configured for HART Revision 7	★

(1) *Configures the HART output to HART Revision 5. The device can be field configured to HART Revision 7 if needed.*
(2) *Configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 if needed.*

Wireless power accessory

This option is only available with output code X.

Code	Description	
HS	Hot swap power adapter for power module replacement	

Specifications

Performance specifications

This product data sheet covers HART®, Wireless, FOUNDATION™ Fieldbus, and PROFIBUS® PA Protocols unless specified.

Conformance to specification (±3σ [sigma])

Technology leadership, advanced manufacturing techniques, and statistical process control ensure specification conformance to at least ±3σ.

Reference accuracy

Stated reference accuracy equations include terminal based linearity, hysteresis, and repeatability. For Wireless, FOUNDATION™ Fieldbus, and PROFIBUS® PA devices, use calibrated range in place of span.

Models	Standard	High performance option, P8	
Rosemount 2051C3			
Range 1	±0.10 percent of span For spans less than 15:1, accuracy = $\pm\left(0.025 + 0.005\left[\frac{URL}{Span}\right]\right)$ % of span	N/A	N/A
Ranges 2–4	±0.065 percent of span For spans less than 10:1, accuracy = $\pm\left(0.025 + 0.005\left[\frac{URL}{Span}\right]\right)$ % of span	Ranges 2–4	High accuracy option, P8 ±0.05 percent of span For spans less than 10:1[1], accuracy = $\pm\left(0.015 + 0.005\left[\frac{URL}{Span}\right]\right)$ % of span
Range 5	±0.075 percent of span For spans less than 10:1, accuracy= $\pm\left(0.025 + 0.005\left[\frac{URL}{Span}\right]\right)$ % of span	Range 5	High performance option, P8 ±0.065 percent of span For spans less than 10:1, accuracy= $\pm\left(0.015 + 0.005\left[\frac{URL}{Span}\right]\right)$ % of span
Rosemount 2051T, 2051G[2]			
Ranges 0	±0.065 percent of span For spans from 5:1 to 20:1, accuracy = $\pm\left(0.06 + 0.012\left[\frac{URL}{Span}\right]\right)$ % of span	N/A	N/A
Ranges 1–4	±0.065 percent of span For spans less than 10:1, accuracy = $\pm\left(0.0075\left[\frac{URL}{Span}\right]\right)$ % of span	Ranges 1–4	High accuracy option, P8 ±0.05 percent of span For spans less than 10:1[1], accuracy = $\pm\left(0.0075\left[\frac{URL}{Span}\right]\right)$ % of span
Range 5[3]	±0.075 percent of span	N/A	N/A

Models	Standard	High performance option, P8	
Rosemount 2051L			
Ranges 2–4	±0.075 percent of span For spans less than 10:1, accuracy = $\pm\left(0.025 + 0.005\left[\frac{URL}{Span}\right]\right)$ % of span	N/A	N/A

(1) *For protocol code F, accuracy specification is for spans less than 7:1. Not available with output code W.*
(2) *For Rosemount 2051C, 2051T, and 2051G with 1199 assemble to code S1, use 3051L specification.*
(3) *Rosemount 2051G is not available with range 5.*

Flow performance

Performance assumptions include: measured pipe ID, transmitter is trimmed for optimum flow accuracy, and performance is dependent on application parameters.

Flow reference accuracy

Range 1 flow meters may experience an additional uncertainty up to 0.9%. Consult your Emerson Representative for exact specifications.

Rosemount 2051CFA Annubar™ Flow Meter		
Ranges 2–3		±2.00 percent of flow rate at 5:1 flow turndown
Rosemount 2051CFC_A Compact Annubar Flow Meter — Annubar option A		
Ranges 2–3	Standard	±2.60 percent of flow rate at 5:1 flow turndown
	Calibrated	±2.30 percent of flow rate at 5:1 flow turndown
Rosemount 2051CFC Compact Orifice Flow Meter — conditioning option C		
Ranges 2–3	β = 0.4	±2.25 percent of flow rate at 5:1 flow turndown
	β = 0.65	±2.45 percent of flow rate at 5:1 flow turndown
Rosemount 2051CFC Compact Orifice Flow Meter — Orifice Type Option P(1)		
Ranges 2–3		±2.50 percent of flow rate at 5:1 flow turndown
Rosemount 2051CFP Integral Orifice Flow Meter		
Ranges 2–3	Bore < 0.160	±3.10 percent of flow rate at 5:1 flow turndown
	0.160 ≤ bore < 0.500	±2.75 percent of flow rate at 5:1 flow turndown
	0.500 ≤ bore ≤ 0.1000	±2.25 percent of flow rate at 5:1 flow turndown
	0.1000 < bore	±3.00 percent of flow rate at 5:1 flow turndown

(1) *See the Rosemount DP Flow Meters and Primary Elements Product Data Sheet.*

Long-term stability

Models	Standard	High performance option, P8
Rosemount 2051C		
Range 1 (CD)	±0.2 percent of URL for 1 year	±0.1 percent of URL for 10 years
Ranges 2–5	±0.125 percent of URL for 5 years	
Rosemount 2051T		
Ranges 1–3	±0.125 percent of URL for 5 years	±0.1 percent of URL for 10 years
Ranges 4–5	±0.125 percent of URL for 5 years	±0.15 percent of URL for 10 years

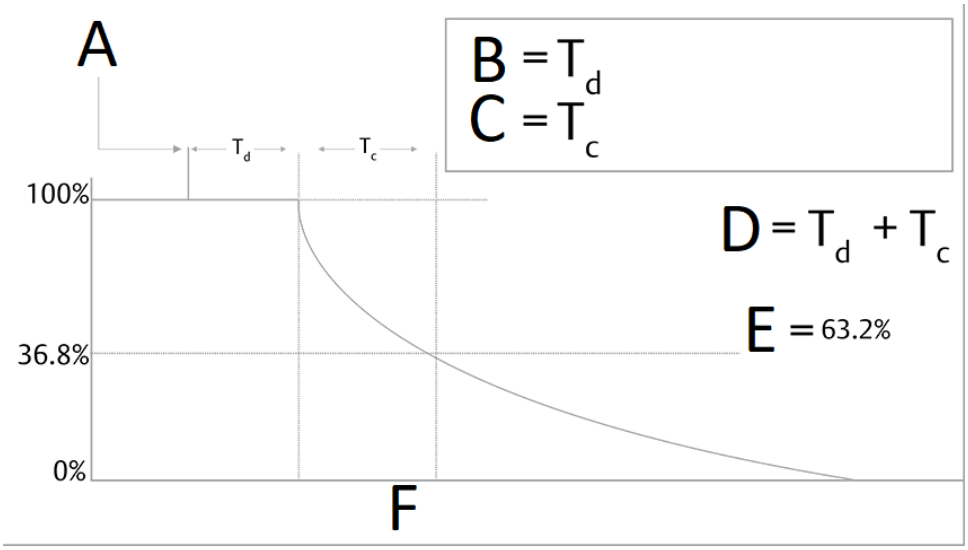
Models	Standard	High performance option, P8
Rosemount 2051G		
Ranges 1-4	±0.2% URL for 5 years	±0.2 URL for 10 years

Dynamic performance

	4–20 mA HART®(1)	FOUNDATION™ Fieldbus and PROFIBUS® PA Protocols(2)
Total response time ($T_d + T_c$):		
Rosemount 2051C		
Range 3–5	115 ms	152 ms
Range 1	270 ms	307 ms
Range 2	130 ms	152 ms
2051T and 2051G	100 ms	152 ms
2051L	See DP Level Sizing and Selection Tool.	
Dead time (T_d)	60 ms (nominal(3))	97 ms
Update rate(4)	22 times per second	

(1) *Dead time and update rate apply to all models and ranges; analog output only.*
(2) *Transducer block response time, analog input block execution time not included.*
(3) *Nominal total response time at 75 °F (24 °C) reference conditions.*
(4) *Does not apply to wireless (output code X). See Wireless (output code X) for wireless update rate.*

Figure 1: Typical HART transmitter response time



A. Pressure releaseed
B. Dead time
C. Time constant
D. Response time
E. Percent of total step change
F. Time

Line pressure effect per 1000 psi (6,9 MPa)

For line pressures above 2000 psi (13,7 MPa) and Ranges 4–5, see the following:

- Rosemount 2051 Pressure Transmitter with HART Revision 5 and 7 Selectable Protocol Reference Manual for HART®
- Rosemount 2051 Pressure Transmitter and Rosemount 2051 CF DP Flow Meter with *Wireless*HART® Protocol Reference Manual
- Rosemount 2051 Pressure Transmitter with FOUNDATION™ Fieldbus Protocol Reference Manual
- Rosemount 2051 Pressure Transmitter with PROFIBUS® PA Protocol Reference Manual for PROFIBUS® PA.

Models	Line pressure effect	
Rosemount 2051CD, 2051CF	**Zero error (1)**	**Span error**
Range 1	±0.25 percent of URL/1000 psi (68.9 bar)	±0.4 percent of reading/1,000 psi (68.9 bar)
Ranges 2–3	±0.05 percent of URL/1000 psi (68.9 bar) for line pressures from 0 - 2000 psi (0 - 13.7 MPa)	±0.1 percent of reading/1,000 psi (68.9 bar)

(1) *Can be calibrated out at line pressure.*

Ambient temperature effect per +50 °F (+28 °C)

Models	Ambient temperature effect
Rosemount 2051C, 2051CF	
Ranges 2–5	±(0.025% URL + 0.125% span) from 1:1 to 5:1 ±(0.05% URL + 0.25% span) from 5:1 to 100:1
Range 1	±(0.1% URL + 0.25% span) from 1:1 to 30:1
Rosemount 2051T, 2051G	
Range 0	± (0.3% URL + 0.15% span) from 1:1 to 20:1
Range 2–4	±(0.05% URL + 0.25% span) from 1:1 to 30:1 ±(0.07% URL + 0.25% span) from 30:1 to 100:1
Range 1	±(0.05% URL + 0.25% span) from 1:1 to 10:1 ±(0.10% URL + 0.25% span) from 10:1 to 100:1
Range 5(1)	±(0.1% URL + 0.15% span) from 1:1 to 5:1
Rosemount 2051L	**See** DP Level Sizing and Selection Tool**.**

(1) *Rosemount 2051G is not available with Range 5.*

Mounting position effects

Models	Mounting position effects
Rosemount 2051C	Zero shifts up to ±1.25 inH_2O (3.1 mbar), which can be calibrated out. No span effect.
Rosemount 2051T and 2051G	Zero shifts up to ±2.5 inH_2O (6.2 mbar), which can be calibrated out. No span effect.
Rosemount 2051L	With liquid level diaphragm in vertical plane, zero shift of up to 1 inH_2O (2.49 mbar). With diaphragm in horizontal plane, zero shift of up to 5 inH_2O (12.43 mbar) plus extension length on extended units. Zero shifts can be calibrated out. No span effect.

Vibration effect

Less than ±0.1 percent of URL when tested per the requirements of IEC60770-1 field or pipeline with high vibration level (10–60 Hz 0.21 mm displacement peak amplitude/60–2000 Hz 3g).

Power supply effect

Less than ±0.005 percent of calibrated span per volt.

Electromagnetic compatibility

Meets all industrial environment requirements of EN61326 and NAMUR NE-21. Maximum deviation <1 % span during EMC disturbance.

Note
NAMUR NE-21 does not apply to Wireless (transmitter output code X).

Note
During surge event, device with 4-20 mA (transmitter output option code A) may exceed maximum EMC deviation limit reset. Within the specified start-up time, device self-recovers and return to normal operation.

Narmurne-21

Note
NAMUR NE-21 does not apply to Wireless (Transmitter output code X).

Surge event

Note
During surge event, device with 4-20 mA (Transmitter output option code A) may exceed maximum EMC deviation limit or reset; however, device will self-recover and return to normal operation within specified start-up time.

Transient protection (option code T1)

Meets IEEE C62.41, category location B

- 6 kV crest (0.5 µs–100 kHz)
- 3 kA crest (8 x 20 microseconds)
- 6 kV crest (1.2 x 50 microseconds)

Functional specifications

Range and sensor limits

Table 1: Rosemount 2051CD, 2051CF, 2051CG, and 2051L

Range	Minimum span	Upper (URL)	Lower (LRL)			
			Rosemount 2051C Differential, 2051CF flow meters	Rosemount 2051C gauge[1]	Rosemount 2051L Differential	Rosemount 2051L gauge[1]
1	0.5 inH_2O (1.2 mbar)	25 inH_2O (62.3 mbar)	–25 inH_2O (–62.1 mbar)	–25 inH_2O (–62.1 mbar)	N/A	N/A
2	2.5 inH_2O (6.2 mbar)	250 inH_2O (0.62 bar)	–250 inH_2O (–0.62 bar)	–250 inH_2O (–0.62 bar)	–250 inH_2O (–0.622 bar)	–250 inH_2O (–0.622 bar)
3	10 inH_2O (24.9 mbar)	1000 inH_2O (2.49 bar)	–1000 inH_2O (–2.49 bar)	–393 inH_2O (–979 mbar)	–1000 inH_2O (–2.49 bar)	–393 inH_2O (–979 mbar)
4	3 psi (0.207 bar)	300 psi (20.7 bar)	–300 psi (–20.7 bar)	–14.2 psig (–979 mbar)	–300 psi (–20.7 bar)	–14.2 psig (–979 mbar)

Table 1: Rosemount 2051CD, 2051CF, 2051CG, and 2051L *(continued)*

Range	Minimum span	Upper (URL)	Lower (LRL)			
			Rosemount 2051C Differential, 2051CF flow meters	Rosemount 2051C gauge[1]	Rosemount 2051L Differential	Rosemount 2051L gauge[1]
5	20 psi (1.38 bar)	2000 psi (137.9 bar)	–2000 psi (–137.9 bar)		N/A	N/A

(1) *Assumes atmospheric pressure of 14.7 psig.*

Table 2: Rosemount 2051T and 2051G

Range	Minimum span	Upper (URL)	Lower (LRL) - Absolute	Lower[1] (LRL) - gauge
0	0.25 psi (17.24 mbar)	5 psi (344.74 mbar)	N/A	–5 psi (–344.74 mbar)
1	0.3 psi (20.7 mbar)	30 psi (2.07 bar)	0 psia (0 bar)	–14.7 psig (–1.01 bar)
2	1.5 psi (0.103 bar)	150 psi (10.3 bar)		
3	8 psi (0.55 bar)	800 psi (55.2 bar)		
4	40 psi (2.76 bar)	4000 psi (275.8 bar)		
5[2]	2000 psi (137.9 bar)	10,000 psi (689.5 bar)		

(1) *Assumes atmospheric pressure of 14.7 psig.*
(2) *Rosemount 2051G is not available with Range 0 or Range 5.*

Service

Liquid, gas, and vapor applications

Protocols

4–20 mA HART® (output code A)

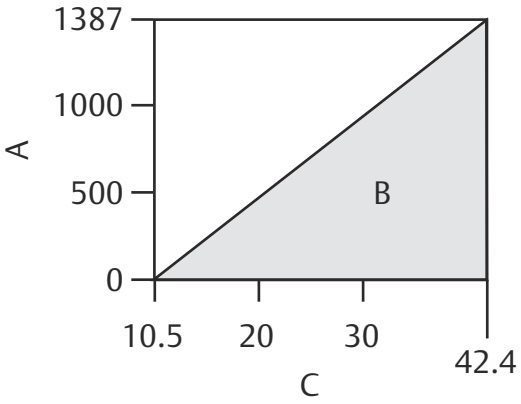
Power supply

External power supply required. Standard transmitter operates on 10.5–42.4 Vdc with no load.

Load limitations

Maximum loop resistance is determined by the voltage level of the external power supply described by:

- Max. loop resistance = 43.5 (power supply voltage - 10.5)
- Communication requires a minimum loop resistance of 250 ohms.



A. Load (Ωs)
B. Operating region
C. Voltage (Vdc)

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

Indication

Optional two-line LOI/LCD display

Zero and span adjustment requirements

Zero and span values can be set anywhere within the range limits stated in Range and sensor limits. Span must be greater than or equal to the minimum span stated.

Output

Two-wire 4–20 mA, user selectable for linear or square root output. Digital process variable superimposed on 4–20 mA signal, available to any host that conforms to HART® Protocol.

Rosemount 2051 with Selectable HART®

The Rosemount 2051 with Selectable HART comes with Selectable HART Revisions. Digital communications based on HART Revision 5 (default) or Revision 7 (option code HR7) Protocol can be selected. The HART revision can be switched in the field using any HART based configuration tool or the optional LOI.

Local Operator Interface (LOI)

The LOI utilizes a two-button menu with internal and external configuration buttons. Internal buttons are always configured for LOI. External buttons can be configured for either

- LOI (option code M4)
- Analog zero and span (option code D4)
- Digital zero trim (option code DZ)

See Rosemount 2051 with Selectable HART Reference Manual for LOI configuration menu.

FOUNDATION™ Fieldbus (output code F)

Power supply

External power supply required; transmitters operate on 9.0–32.0 Vdc transmitter terminal voltage for non-instrinsically-safe (non-IS) applications, 9.0–30 Vdc for entity model IS applications and 9.0–17.5 Vdc for FISCO IS applications.

Current draw

17.5 mA for all configurations (including LCD display option)

Indication

Optional two-line LCD display

FOUNDATION Fieldbus function block execution times

Block	Execution time
Resource	N/A
Transducer	N/A
LCD display block	N/A
Analog input 1, 2	20 milliseconds
PID	25 milliseconds
Arithmetic	20 milliseconds
Input selection	20 milliseconds
Signal characterizer	20 milliseconds
Integrator	20 milliseconds
Output splitter	20 milliseconds
Control selector	20 milliseconds

FOUNDATION Fieldbus parameters

Schedule entries	Links	Virtual communications relationships (VCR)
7 (maximum)	25 (maximum)	20 (maximum)

Standard function blocks

Analog input (AI) block

The AI function block processes the measurements from the sensor and makes them available to other function blocks. The output value from the AI block is in engineering units and contains a status indicating the quality of the measurement. The AI block is widely used for scaling functionality.

Note
The channel, **Set XD_Scale**, **Set L_Type**, and sometimes **Set Out_Scale** are typically configured by instrument personnel. Other AI block parameters, block links, and schedule are typically configured by the control systems configuration engineer.

Backup link active scheduler (LAS)

The transmitter can function as a LAS if the current link master device fails or is removed from the segment.

PROFIBUS® PA (output code W)

Profile version

3.02

Power supply

External power supply required; transmitters operate on 9.0–32.0 Vdc transmitter terminal voltage for non-intrinsically-safe (non-IS) applications, 9.0–30 Vdc for entity model IS applications and 9.0–17.5 Vdc for FISCO IS applications.

Current draw

17.5 mA for all configurations (including LCD display option)

Output update rate

Four times per second

Standard function blocks

Analog input (AI) block

The AI function block processes the measurements from the sensor and makes them available to other function blocks. The output value from the AI block is in engineering units and contains a status indicating the quality of the measurement. The AI block is widely used for scaling functionality.

Note
The channel, **Set XD_Scale**, **Set L_Type**, and sometimes **Set Out_Scale** are typically configured by instrument personnel. Other AI block parameters, block links, and schedule are typically configured by the control systems configuration engineer.

Indication

Optional two-line LCD display

LOI

Optional external configuration buttons

Wireless (output code X)

Output

IEC 62591 (*Wireless*HART®), 2.4 GHz DSSS

Wireless radio (internal antenna, WP5 option)

- Frequency: 2.400–2.485 GHz
- Channels: 15
- Modulation: IEEE 802.15.4 compliant DSSS
- Transmission: Maximum of 10 dBm EIRP

Local display

The optional three-line, seven-digit LCD display can display user-selectable information such as primary variable in engineering units, scaled variable, percent of range, sensor module temperature, and electronics temperature. The display updates based on the wireless update rate.

Digital zero trim

Digital zero trim (option DZ) is an offset adjustment to compensate for mounting position effects, up to 5 percent of Upper Range Limit (URL).

Update rate

User selectable 1 second to 60 minutes

Wireless sensor module for in-line transmitters

The Rosemount 2051 Wireless Transmitter requires the engineered polymer housing to be selected. The standard sensor module will come with aluminum material. If SST is required, the option WSM must be selected.

Power module

NOTICE

Reduced product life

Reference conditions are 70 °F (21 °C), and routing data for three additional network devices. Continuous exposure to ambient temperature limits of –40 to 185 °F (–40 to 85 °C) may reduce specified life by less than 20 percent.

Field replaceable, keyed connection eliminates the risk of incorrect installation, Intrinsically Safe Lithium-thionyl chloride Power Module with PBT/PC enclosure. 10-year life at one minute update rate.

Overpressure limits

Transmitters withstand the following limits without damage:

Rosemount 2051C, 2051CF

- Ranges 2–5: 3,626 psig (250 bar), 4,500 psig (310.3 bar) for option code P9
- Range 1: 2,000 psig (137.9 bar)

Rosemount 2051T, 2051G

- Range 0: 60 psi (4.14 bar)
- Range 1: 750 psi (51.7 bar)
- Range 2: 1,500 psi (103.4 bar)
- Range 3: 1,600 psi (110.3 bar)
- Range 4: 6,000 psi (413.7 bar)
- Range 5: 15,000 psi (1,034.2 bar)(1)

Rosemount 2051L

Limit is flange rating or sensor rating, whichever is lower (See Table 3).

(1) The Rosemount 2051G is not available with Range 5.

Table 3: Rosemount 2051L Flange Rating

Standard	Type	CS rating	SST rating
ANSI/ASME	Class 150	285 psig	275 psig
ANSI/ASME	Class 300	740 psig	720 psig
At +100 °F (+38 °C), the rating decreases with increasing temperature, per ANSI/ASME B16.5.			
DIN	PN 10–40	40 bar	40 bar
DIN	PN 10/16	16 bar	16 bar
At +248 °F (+120 °C), the rating decreases with increasing temperature, per DIN 2401.			

Static pressure limit

Rosemount 2051CD, 2051CF

- Operates within specifications between static line pressures of –14.2 and +3,626 psig (0.034 and 250 bar)
- For option code P9, 4,500 psig (310.3 bar)
- Range 1: 0.5 psia to 2,000 psig (34 mbar and 137.9 bar)

Burst pressure limits

Rosemount 2051C, 2051CF coplanar or traditional transmitter flange

10,000 psig (689.5 bar)

Rosemount 2051T in-line

- Ranges 0–4: 11,000 psi (758.4 bar)
- Range 5: 26,000 psi (1792.6 bar)

Temperature limits

Ambient

–40 to +185 °F (–40 to +85 °C)

with LCD display: –40 to +175 °F (–40 to +80 °C)

Note
Rosemount 2051 LCD display may not be readable and LCD display updates may be slower at temperatures below –22 °F (–30 °C).

Note
Wireless LCD display may not be readable and LCD display updates will be slower at temperatures below –4 °F (–20 °C).

Storage

–50 to +230 °F (–46 to +110 °C)

with LCD display: –40 to +185 °F (–40 to +85 °C)

with Wireless output: –40 to +185 °F (–40 to +85 °C)

Process

At atmospheric pressures and above. See Table 4.

Table 4: Process Temperature Limits

Rosemount 2051C, 2051CF	
Silicone fill sensor(1)	
With coplanar flange	–40 to +250 °F (–40 to +121 °C)(2)
With traditional flange	–40 to +300 °F (–40 to +149 °C)(2)(3)
With level flange	–40 to +300 °F (–40 to +149 °C)(2)
With Rosemount 305 Integral Manifold	–40 to +300 °F (–40 to +149 °C)(2)
Inert fill sensor(1)	–40 to +185 °F (–40 to +85 °C)(3)
Rosemount 2051T (process fill fluid)	
Silicone fill sensor(1)	–40 to +250 °F (–40 to +121 °C)(2)
Inert fill sensor(1)	–22 to +250 °F (–30 to +121 °C)(2)
Rosemount 2051L low side temperature limits	
Silicone fill sensor(1)	–40 to +250 °F (–40 to +121 °C)(2)
Inert fill sensor(1)	–40 to +185 °F (–40 to +85 °C)(2)
Rosemount 2051L high side temperature limits (process fill fluid)	
SYLTHERM™ XLT	–102 to +293 °F (–75 to +145°C)
Silicone 704	+32 to +401 °F (0 to +205 °C)
Silicone 200	–49 to +401 °F (–45 to +205 °C)
Inert	–49 to +320 °F (–45 to +160 °C)
Glycerin and water	+5 to +203 °F (–15 to +95 °C)
Neobee® M-20	+5 to +401 °F (–15 to +205 °C)
Propylene glycol and water	+5 to +203 °F (–15 to +95 °C)

(1) *Process temperatures above +185 °F (+85 °C) require derating the ambient limits by a 1.5:1 ratio.*
(2) *+220 °F (+104 °C) limit in vacuum service; +130 °F (+54 °C) for pressures below 0.5 psia.*
(3) *+160 °F (+71 °C) limit in vacuum service.*

Humidity limits

0–100 percent relative humidity

Volumetric displacement

Less than 0.005 in^3 (0.08 cm^3)

Damping

4–20 mA HART® Protocol

Analog output response to a step input change is user-enterable from 0–60 seconds for one time constant. This software damping is in addition to sensor module response time.

FOUNDATION™ Fieldbus Protocol

Transducer block: User configurable

AI block: User configurable

PROFIBUS® PA Protocol

AI block only: User configurable

Failure mode alarm

4–20 mA HART® Protocol (output code A)

If self-diagnostics detect a sensor or microprocessor failure, the analog signal is driven either high or low to alert the user. High or low failure mode is user-selectable with a jumper on the transmitter. The values to which the transmitter drives its output in failure mode depend on whether it is factory-configured to standard or NAMUR-compliant operation. The values for each are as follows:

Table 5: Standard Operation

Output code	Linear output	Fail high	Fail low
A	3.9 ≤ I ≤ 20.8	I ≥ 21.75 mA	I ≤ 3.75 mA

Table 6: NAMUR-Compliant Operation

Output code	Linear output	Fail high	Fail low
A	3.8 ≤ I ≤ 20.5	I ≥ 22.5 mA	I ≤ 3.6 mA

Output code F and X

If self-diagnostics detect a gross transmitter failure, that information gets passed as a status along with the process variable.

Physical specifications

Material selection

Emerson provides a variety of Rosemount products with various product options and configurations including materials of construction that can be expected to perform well in a wide range of applications. The Rosemount product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser's sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options, and components for the particular application. Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration or materials of construction selected.

Electrical connections

½–14 NPT, G½, and M20 x 1.5 conduit

Process connections

Rosemount 2051C

- ¼–18 NPT on 2⅛ in. centers
- ½–14 NPT and RC½ on 2 in. (50,8 mm), 2⅛ in. (54,0 mm), or 2¼ in. (57,2 mm) centers (process adapters)

Rosemount 2051T, 2051G

- ½–14 NPT female
- G½ A DIN 16288 male (available in SST for range 1–4 transmitters only)
- Autoclave type F-250-C (pressure relieved 9/16–18 gland thread; ¼ O.D. high pressure tube 60° cone; available in SST for range 5 transmitters only)

Rosemount 2051L

- High pressure side: 2-in.(50,8 mm), 3-in. (72 mm), or 4-in. (102 mm), ASME B 16.5 (ANSI) Class 150 or 300 flange; 50, 80, or 100 mm, DIN 2501 PN 40 or 10/16 flange
- Low pressure side: ¼–18 NPT on flange, ½–14 NPT on process adapter

Rosemount 2051CF

- For Rosemount 2051CFA wetted parts, see Rosemount DP Flow Meters and Primary Elements Product Data Sheet in the 485 section.
- For Rosemount 2051CFC wetted parts, see Rosemount DP Flow Meters and Primary Elements Product Data Sheet in the 405 section.
- For Rosemount 2051CFP wetted parts, see PRosemount DP Flow Meters and Primary Elements Product Data Sheet in the 1195 section.

Rosemount 2051C process wetted parts

Drain/vent valves

316 SST or alloy C-276

Transmitter flanges and adapters

Plated CS, SST CF-8M (cast version of 316 SST, material per ASTM-A743), or CW2M (cast version of alloy C)

Wetted O-rings

Glass-filled PTFE or graphite-filled PTFE

Process isolating diaphragms

316L SST, alloy C-276, Gold-plated 316L SST or tantalum

Rosemount 2051T process wetted parts

Process connections

316L SST or alloy C-276

Process Isolating diaphragms

316L SST, Gold-plated 316L SST, or alloy C-276

Rosemount 2051L process wetted parts

Flanged process connection (transmitter high side)

Process diaphragms, including process gasket surface	316L SST, alloy C-276, or Tantalum
Extension	CF-3M (cast version of 316L SST, material per ASTM-A743), or cast C-276. Fits schedule 40 and 80 pipe.
Mounting flange	Zinc-cobalt plated CS or SST

Reference process connection (transmitter low side)

Isolating diaphragms	316L SST or alloy C-276

Reference flange and adapter	CF-8M (cast version of 316 SST, material per ASTM-A743)

Non-wetted parts

Electronics housing

Low-copper aluminum or CF-8M (cast version of 316 SST) Enclosures meet NEMA® Type 4X, IP66, and IP68 when properly installed.

Housing material code P: PBT/PC with NEMA 4X and IP66/67/68

Paint for aluminum housing

Polyurethane

Coplanar™ sensor module housing

CF-3M (cast version of 316L SST)

Bolts

ASTM A449, Type 1 (zinc-cobalt plated CS) ASTM F593G, Condition CW1 (austenitic 316 SST) ASTM A193, Grade B7M (zinc-plated alloy steel) Alloy K-500

Sensor module fill fluid

Silicone or inert halocarbon

In-line series uses Fluorinert® FC-43

Process fill fluid (Rosemount 2051L only)

Syltherm XLT, Silicone 704, Silicone 200, inert, glycerin and water, Neobee® M-20, or propylene glycol and water

Cover O-rings

Buna-N

Silicone (for wireless option code X)

Power module

Field replaceable, keyed connection eliminates the risk of incorrect installation, Intrinsically Safe (IS) Lithium-thionyl chloride power module with PBT enclosure.

Shipping weights

Table 7: Transmitter weights without options

Transmitter weights include the sensor module and housing only (aluminum for standard Rosemount 2051 and polymer for wireless).

Transmitter	Standard in lb. (kg)	Wireless in lb. (kg)
Rosemount 2051C	4.9 (2.2)	3.9 (1.8)
Rosemount 2051L	See Table 8.	See Table 8.
Rosemount 2051T	3.1 (1.4)	1.9 (0.86)
Rosemount 2051G	2.4 (1.1)	N/A

Table 8: Rosemount 2051L weights without options

Flange	Flush in lb. (kg)	2-in. ext. in lb. (kg)	4-in. ext. in lb. (kg)	6-in. ext. in lb. (kg)
2-inch, Class 150	12.5 (5.7)	N/A	N/A	N/A
3-inch, Class 150	17.5 (7.9)	19.5 (8.8)	20.5 (9.3)	21.5 (9.7)
4-inch, Class 150	23.5 (10.7)	26.5 (12.0)	28.5 (12.9)	30.5 (13.8)
2-inch, Class 300	17.5 (7.9)	N/A	N/A	N/A
3-inch, Class 300	22.5 (10.2)	24.5 (11.1)	25.5 (11.6)	26.5 (12.0)
4-inch, Class 300	32.5 (14.7)	35.5 (16.1)	37.5 (17.0)	39.5 (17.9)
DN 50/PN 40	13.8 (6.2)	N/A	N/A	N/A
DN 80/PN 40	19.5 (8.8)	21.5 (9.7)	22.5 (10.2)	23.5 (10.6)
DN 100/PN 10/16	17.8 (8.1)	19.8 (9.0)	20.8 (9.5)	21.8 (9.9)
DN 100/PN 40	23.2 (10.5)	25.2 (11.5)	26.2 (11.9)	27.2 (12.3)

Table 9: Transmitter option weights

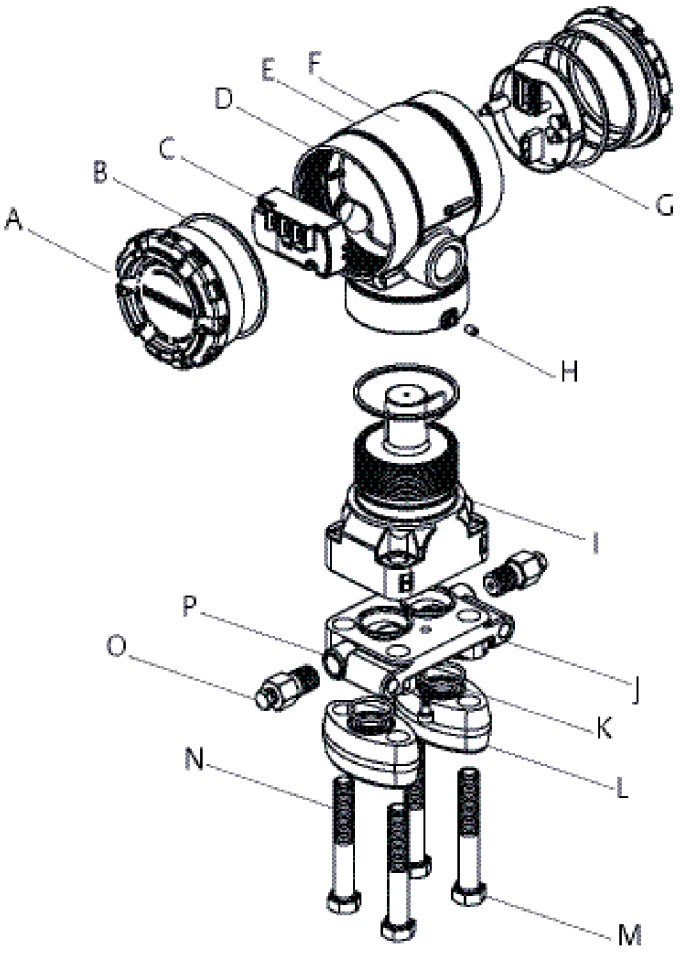
Code	Option	Add lb. (kg)
J, K, L, M	SST housing	3.9 (1.8)
M5	LCD display for aluminum housing	0.5 (0.2)
M5	LCD display for wireless output	0.1 (0.04)
B4	SST mounting bracket for coplanar flange	1.0 (0.5)
B1, B2, B3	Mounting bracket for traditional flange	2.3 (1.0)
B7, B8, B9	Mounting bracket for traditional flange	2.3 (1.0)
BA, BC	SST bracket for traditional flange	2.3 (1.0)
H2	Traditional flange	2.6 (1.2)
H3	Traditional flange	3.0 (1.4)
H4	Traditional flange	3.0 (1.4)
H7	Traditional flange	2.7 (1.2)
FC	Level flange—3-inch, Class 150	12.7 (5.8)
FD	Level flange—3-inch, Class 300	15.9 (7.2)
FA	Level flange—2-inch, Class 150	8.0 (3.6)
FB	Level flange—2-inch, Class 300	8.4 (3.3)
FP	DIN level flange, SST, DN 50, PN 40	7.8 (3.5)
FQ	DIN level flange, SST, DN 80, PN 40	12.7 (5.8)
WSM	SST sensor module	1.0 (0.45)
N/A	Power Module (701PGNKF)	0.4 (0.18)

Product certifications

For Rosemount 2051 Pressure Transmitter product certifications, see the Rosemount 2051 Pressure Transmitter and Rosemount 2051CF Series Flow Meter QSG.

Dimensional drawings

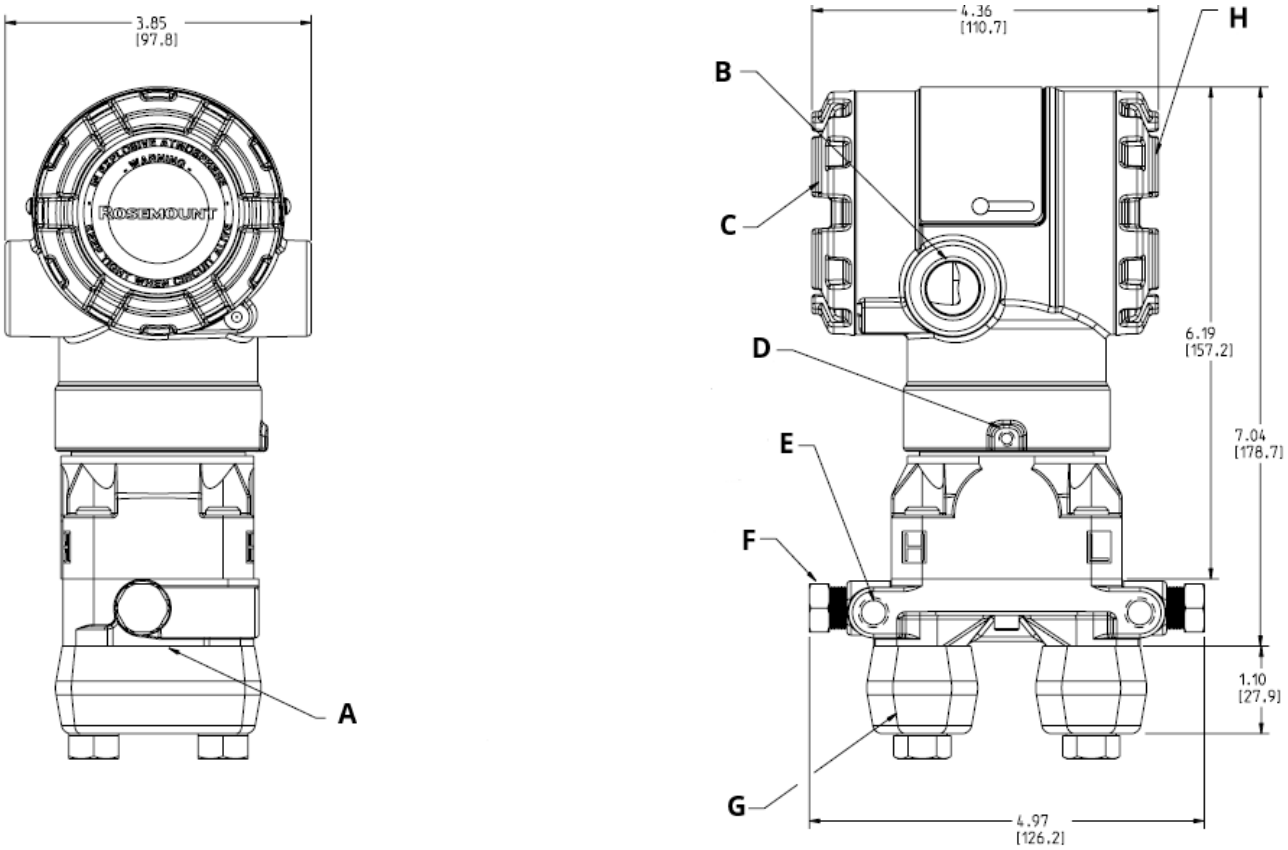
Figure 2: Rosemount 2051C exploded view



A. Cover
B. Cover O-ring
C. Terminal block
D. Electronics housing
E. Local configuration buttons
F. Nameplate
G. Electronics board
H. Housing rotation set screw (180° maximum housing rotation without further disassembly)
I. Sensor module
J. Process O-ring
K. Flange adapter O-ring
L. Flange alignment screw (not pressure retaining)
M. Flange bolts
N. Flange adapters
O. Drain/vent valve
P. Coplanar flange

Note
Local configuration buttons: Span and zero adjustment buttons are optional with 4–20 mA. LOI buttons are optional for PROFIBUS® PA Protocol. Local configuration buttons are not available with FOUNDATION™ Fieldbus Protocol.

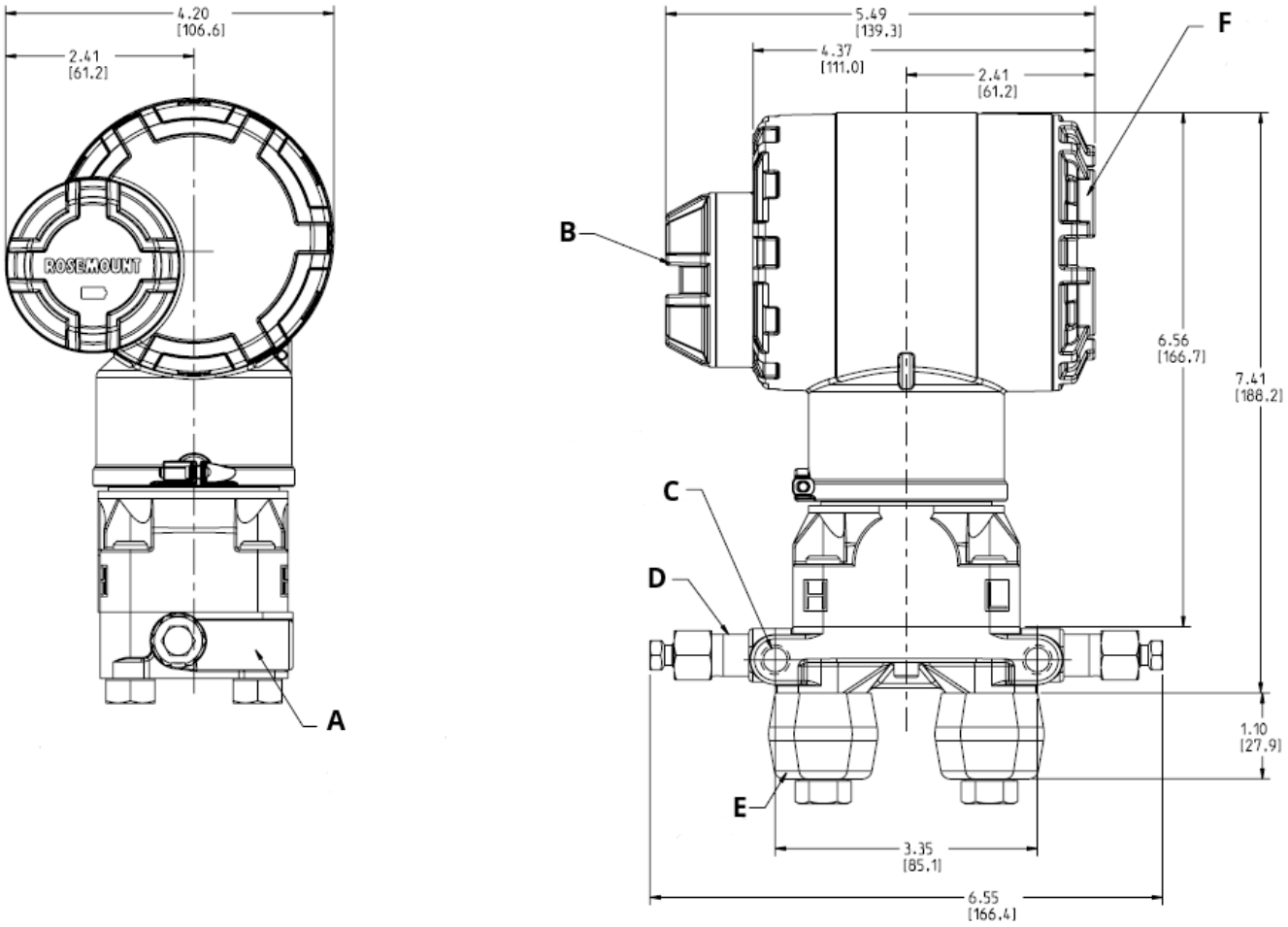
Figure 3: Rosemount 2051C Coplanar Flange



A. Coplanar flange process connection per IEC 61518 2.125 (54) connection centers
B. Conduit connection (2 places)
C. Field terminals (This side)
D. Housing rotation set screw
E. Bracket mounting holes (3/8-16 UNC) (2 places)
F. Pipe plug shown
G. Flange adapter (Optional)
H. Transmitter electronics (This side)

Note
Dimensions are in inches (millimeters).

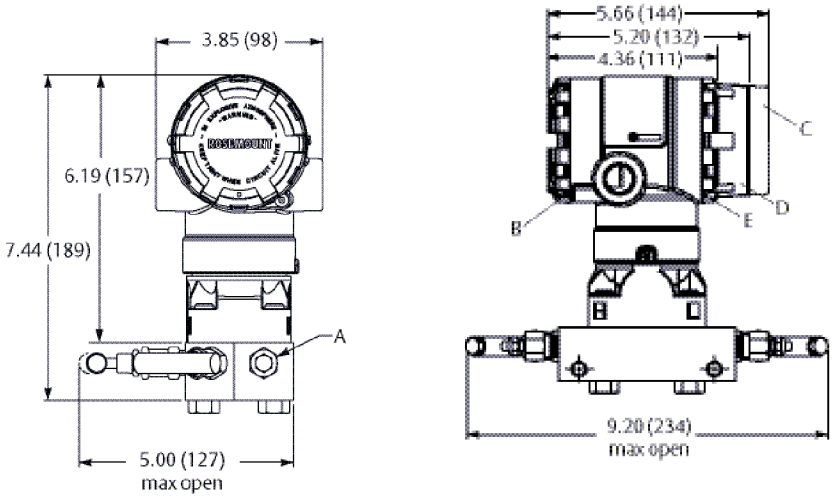
Figure 4: Rosemount 2051 Wireless Housing with Coplanar Platform



A. Coplanar flange process connection per IEC 61518 2.125 (54) connection centers
B. Power Module
C. Bracket mounting holes (3/8-16 UNC) (2 places)
D. Drain/vent valve
E. Flange adapter (Optional)
F. Transmitter electronics (This side)

Note
Dimensions are in inches (millimeters).

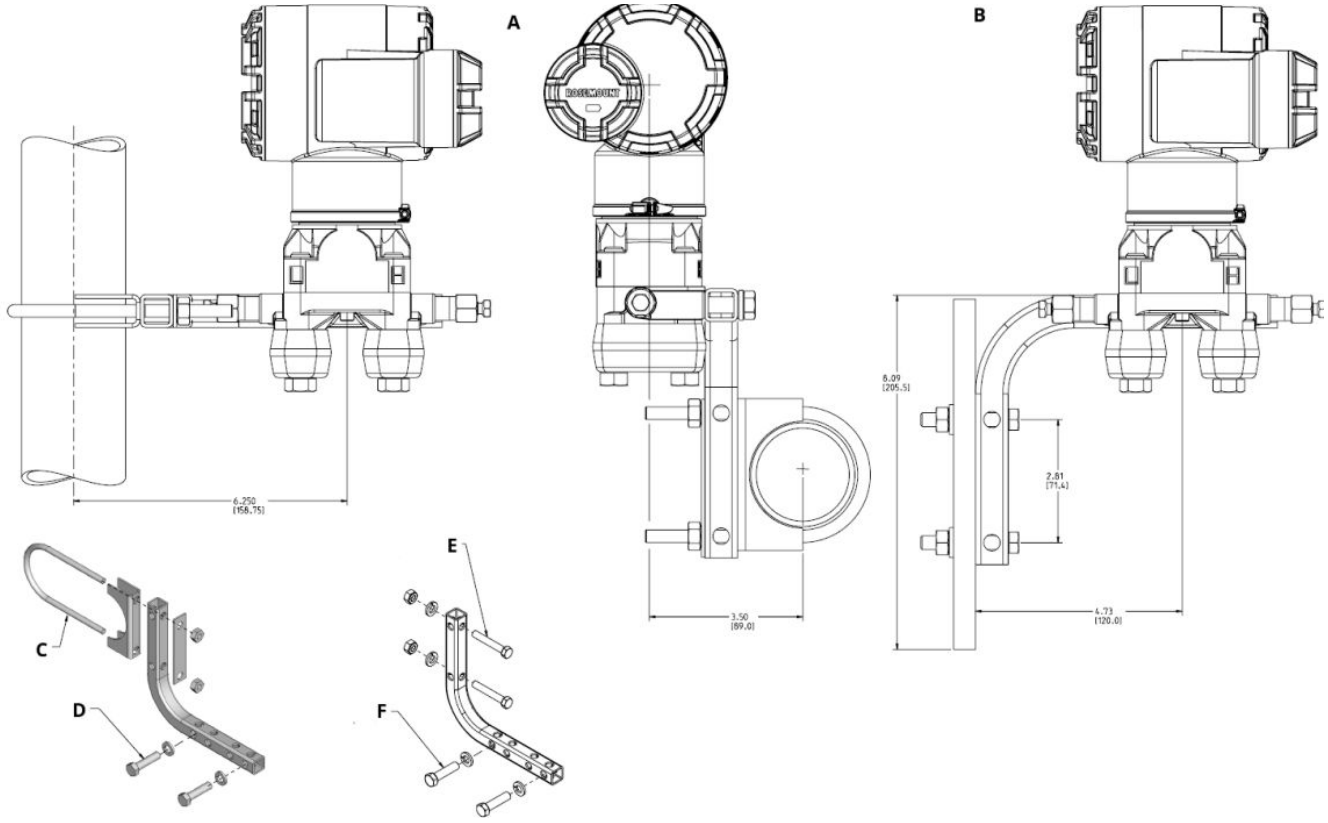
Figure 5: Rosemount 2051C Coplanar with Rosemount 305 Three-Valve Coplanar Integral Manifold



A. Drain/vent valve
B. Terminal connections
C. FOUNDATION™ Fieldbus display cover

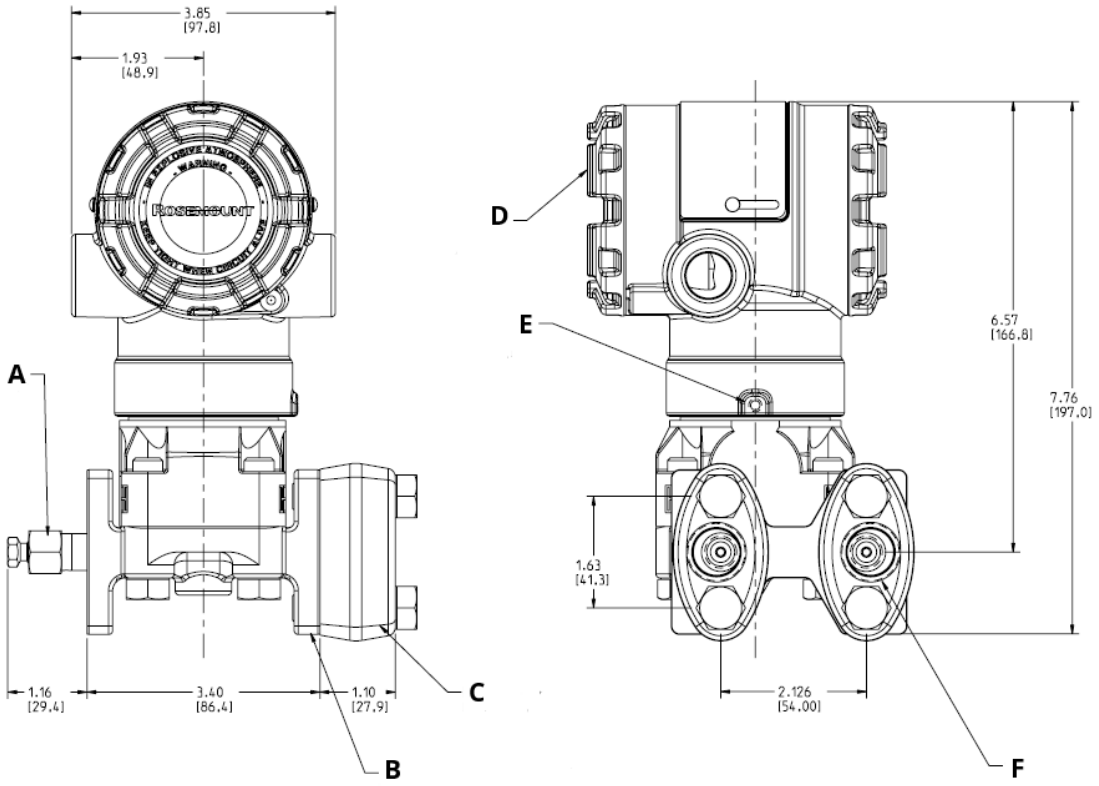
Note
Dimensions are in inches (millimeters).

Figure 6: Coplanar Flange Mounting Configurations with Optional Bracket (B4) for 2-in. Pipe or Panel Mounting



A. Pipe mounting
B. Panel mounting
C. 2-inch U-bolt for pipe mounting
D. 3/8-16 bolts for transmitter mounting
E. 5/16-16 bolts for panel mounting (Not supplied)
F. 3/8-16 bolts for transmitter mounting

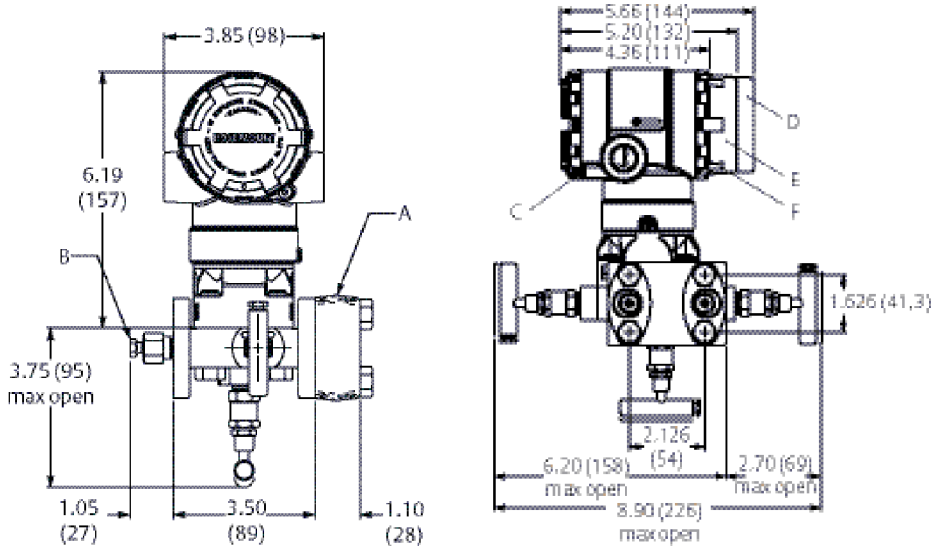
Figure 7: Rosemount 2051C Coplanar with Traditional Flange



A. Drain/vent valve
B. Traditional flange process connection per IEC 61518 2.125 (54) + .012 connection center
C. Flange adapters (Optional)
D. Field terminals (This side)
E. Housing rotation set screw
F. ¼-18 NPT Process connection or ½ -14 NPT with optional flange adapters (Adapters can be rotated to give connection centers of 2.00 (51), 2.125 (54), or 2.25 (57).)

Note
Dimensions are in inches (millimeters).

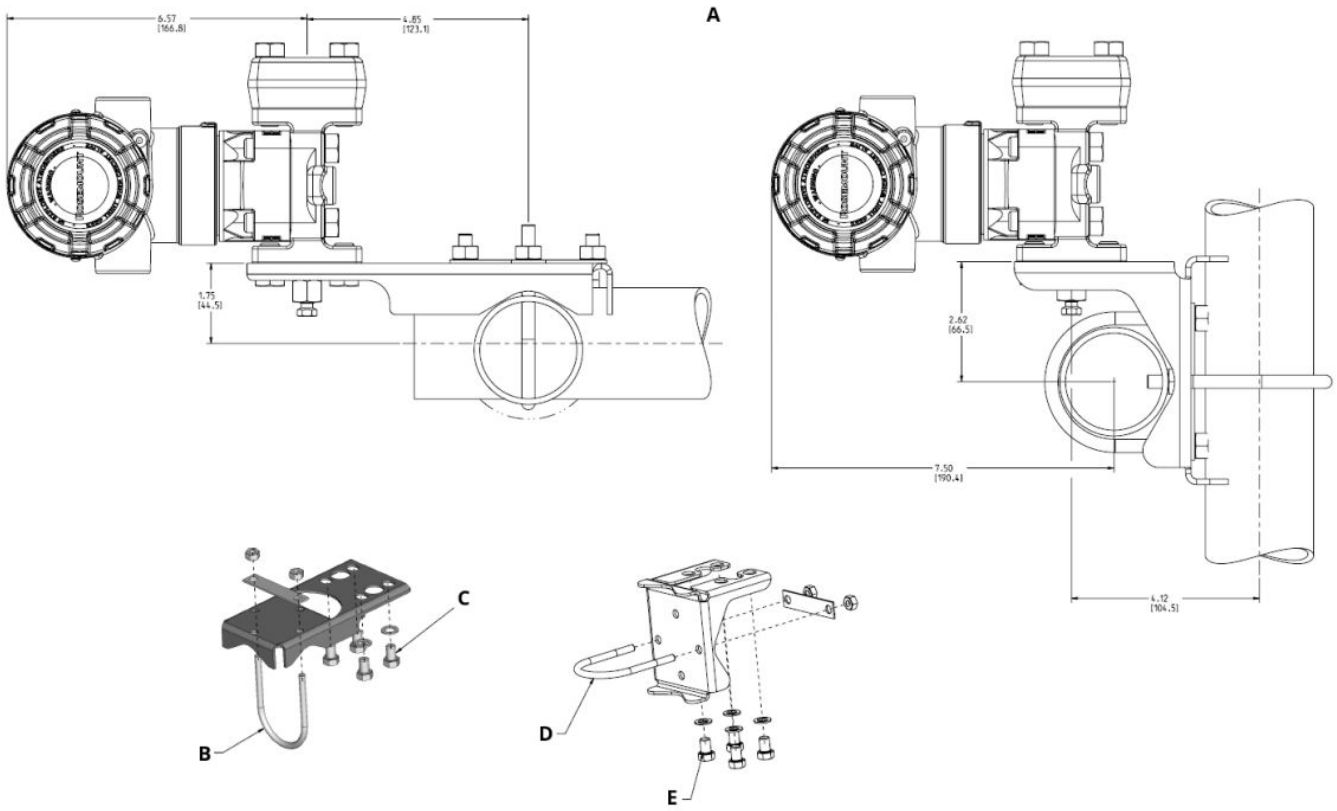
Figure 8: Rosemount 2051C Coplanar with Rosemount 305 Three-Valve Traditional Integral Manifold



A. ½–14 NPT flange adapter (optional)
B. Drain/vent valve
C. Terminal connections
D. FOUNDATION™ Fieldbus display cover
E. HART® display cover
F. Transmitter circuitry

Note
Dimensions are in inches (millimeters).

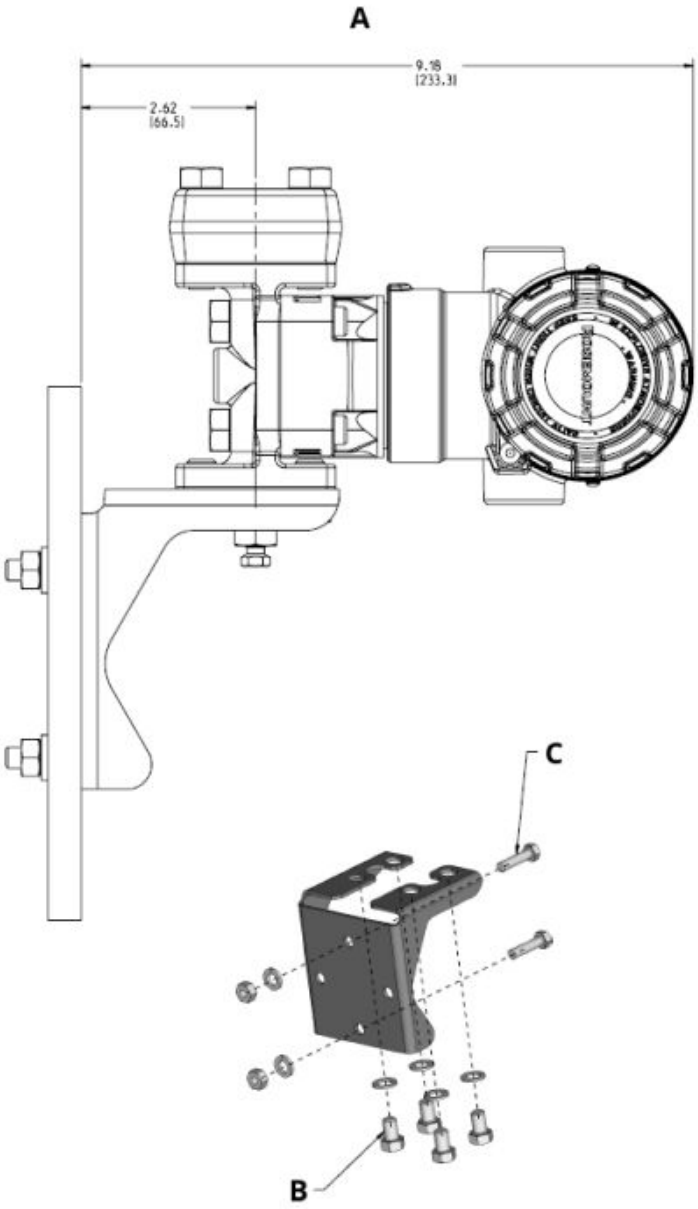
Figure 9: Traditional Flange Mounting Configurations with Optional Brackets for 2-in. Pipe Mounting



A. Pipe mounting
B. 2-inch U-bolt for pipe mounting
C. 7/16-20 x 5/8 bolts for transmitter mounting
D. 2-inch U-bolt for pipe mounting
E. 7/16-20 x 5/8 bolts for transmitter mounting

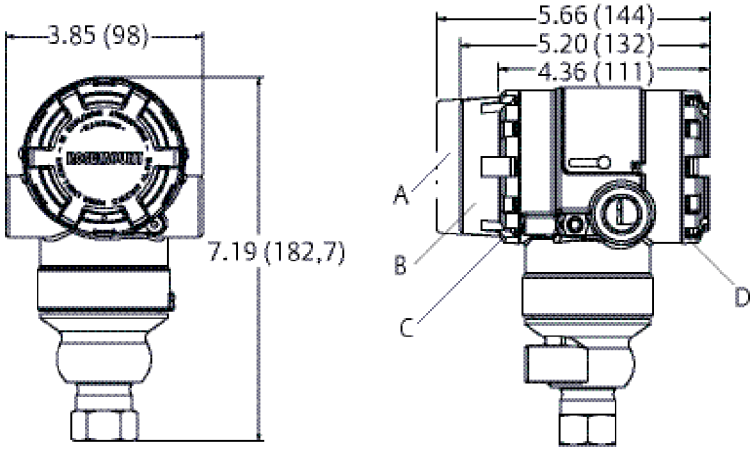
Note
Dimensions are in inches (millimeters).

Figure 10: Traditional Flange Mounting Configurations with Optional Brackets for 2-in. Panel Mounting



A. Panel mounting
B. 7/16-20 x 5/8 bolts for transmitter mounting
C. 5/16-18 bolts for panel mounting (Not supplied)

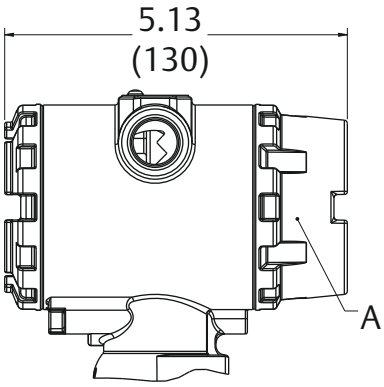
Figure 11: Rosemount 2051T



A. FOUNDATION™ Fieldbus display cover
B. HART® display cover
C. Transmitter circuitry
D. Terminal connections

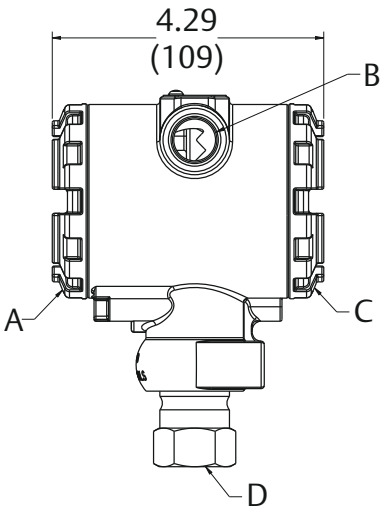
Note
Dimensions are in inches (millimeters).

Figure 12: Rosemount 2051G with Optional Display



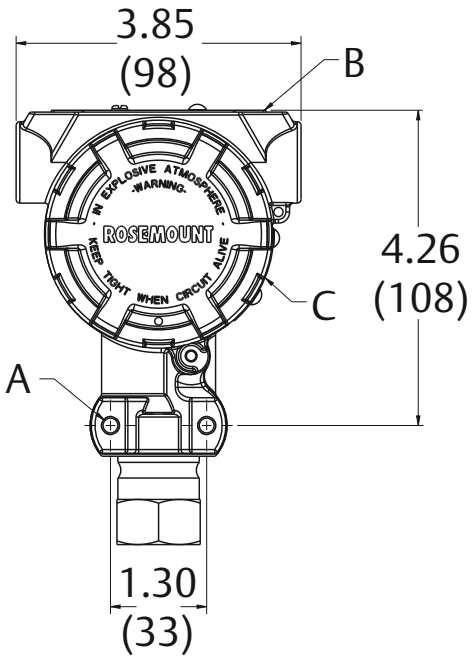
A. Digital display cover

Figure 13: Rosemount 2051G Process Connection



A. Field terminals
B. Conduit connection
C. Transmitter electronics
D. ½–14 NPT female connection(2)

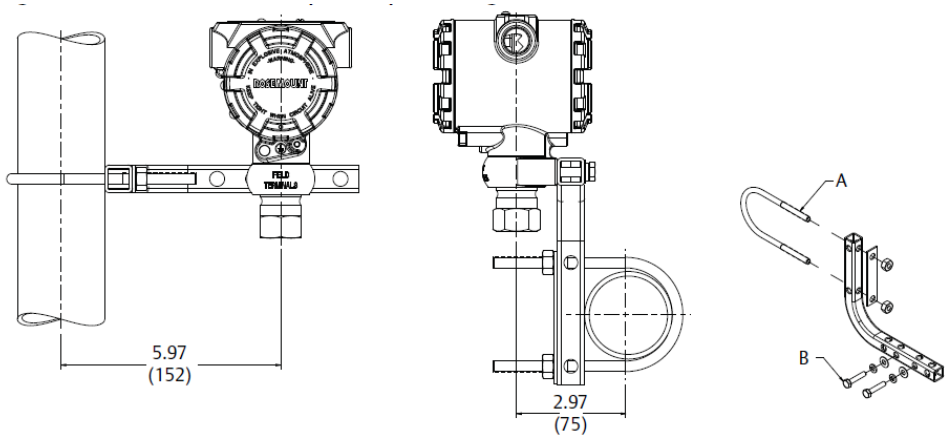
Figure 14: Rosemount 2051G Nameplate and Labels



A. Bracket mounting holes (¼–20 UNC)
B. Nameplate
C. Certification label (located on side)

(2) RC½ female (PT½ female), and M20 female also available as options.

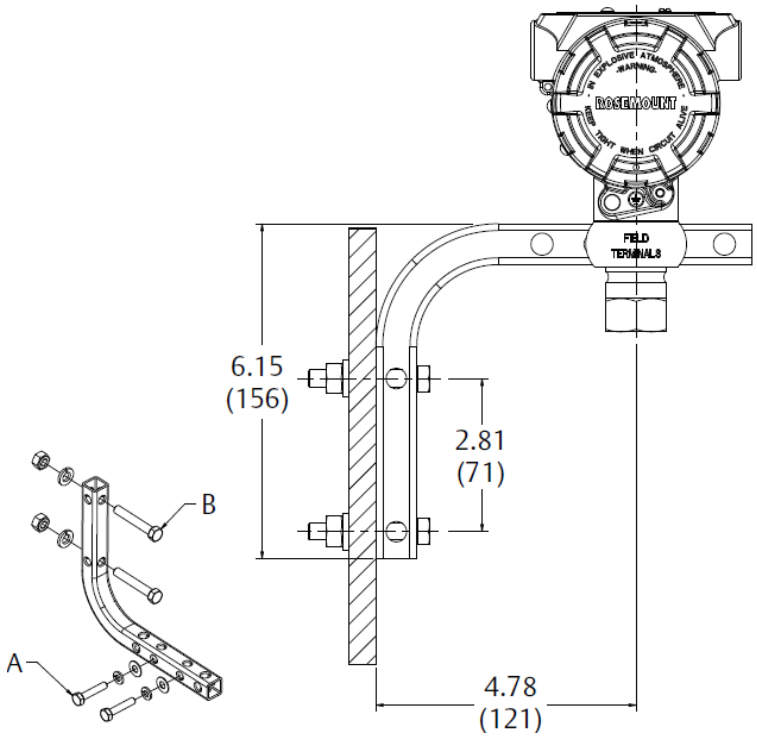
Figure 15: Rosemount 2051G with Optional Pipe Mounting Bracket



A. 2–in. U-bolt for pipe mounting (clamp shown)
B. ¼ x 1¼ bolts for transmitter mounting

Note
Dimensions are in inches (millimeters).

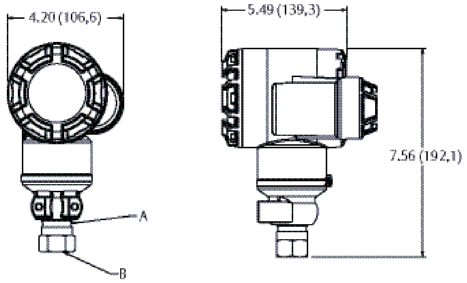
Figure 16: Rosemount 2051G with Optional Mounting Bracket



A. ¼ x 1¼ bolts for transmitter mounting
B. 5/16 x ½ bolts for panel mounting (not supplied)

Note
Dimensions are in inches (millimeters).

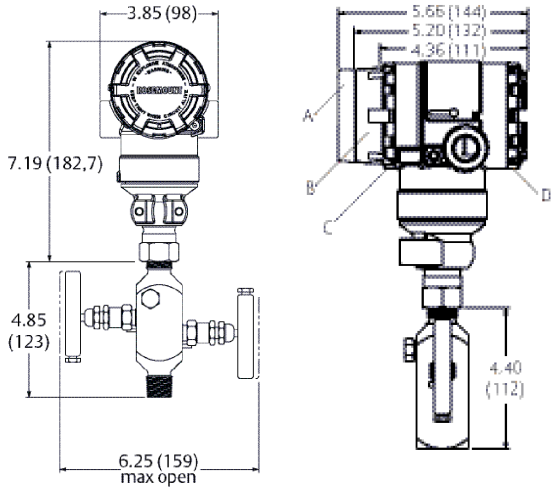
Figure 17: Rosemount 2051 Wireless Housing with In-line Platform



A. U-bolt bracket
B. ½–14 NPT female or G½ A DIN 16288 make process connection

Note
Dimensions are in inches (millimeters).

Figure 18: Rosemount 2051T with Rosemount 306 Two-Valve Integral Manifold

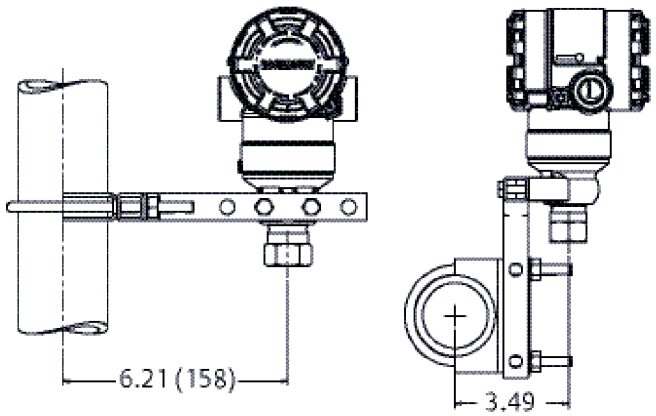


A. FOUNDATION Fieldbus display cover
B. HART display cover
C. Transmitter circuitry
D. Terminal connections

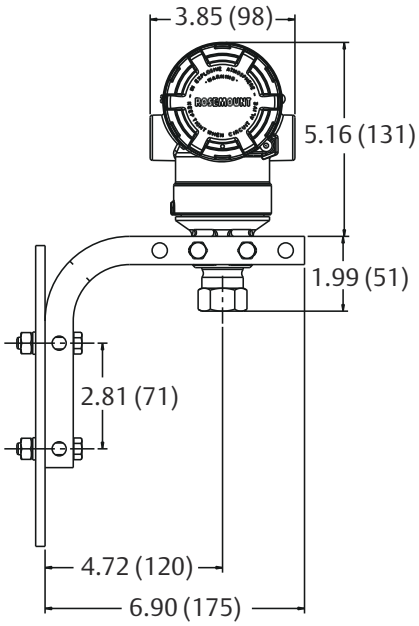
Note
Dimensions are in inches (millimeters).

Figure 19: Rosemount 2051T Typical Mounting Configurations with Optional Mounting Bracket

Pipe mounting



Panel mounting



Note
Dimensions are in inches (millimeters).

Figure 20: Rosemount 2051CFA Annubar Pak-Lok Flow Meter

The Rosemount Annubar Pak-Lok model is available up to Class 600 ANSI (1,440 psig at 100 °F [99 bar at 38°C]).

Front view Side view Top view

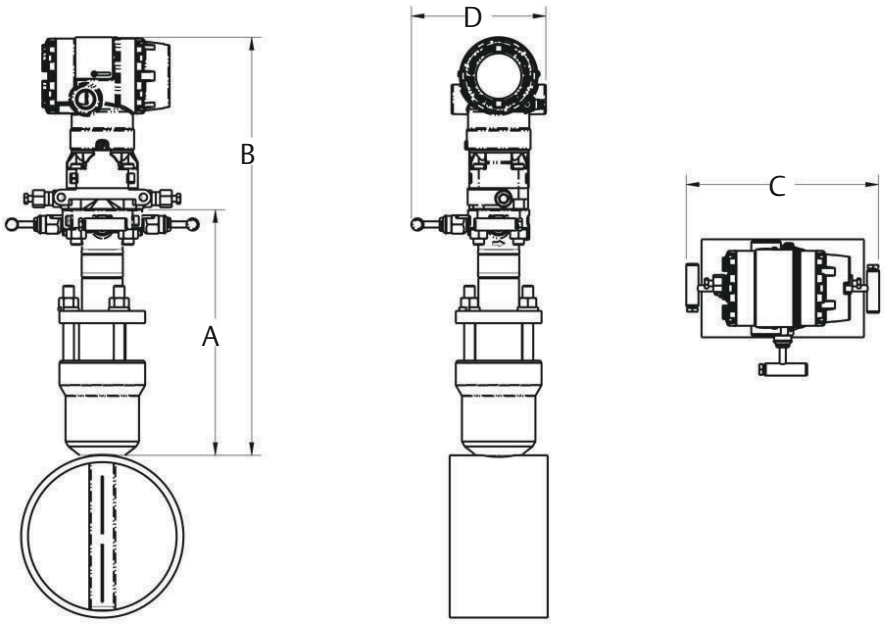


Table 10: Rosemount 2051CFA Annubar Pak-Lok Flow Meter Dimensional Data

Sensor size	A (max)	B (max)	C (max)	D (max)
1	8.50 (215.9)	14.55 (369.6)	9.00 (228.6)	6.00 (152.4)
2	11.00 (279.4)	16.30 (414.0)	9.00 (228.6)	6.00 (152.4)
3	12.00 (304.8)	19.05 (483.9)	9.00 (228.6)	6.00 (152.4)

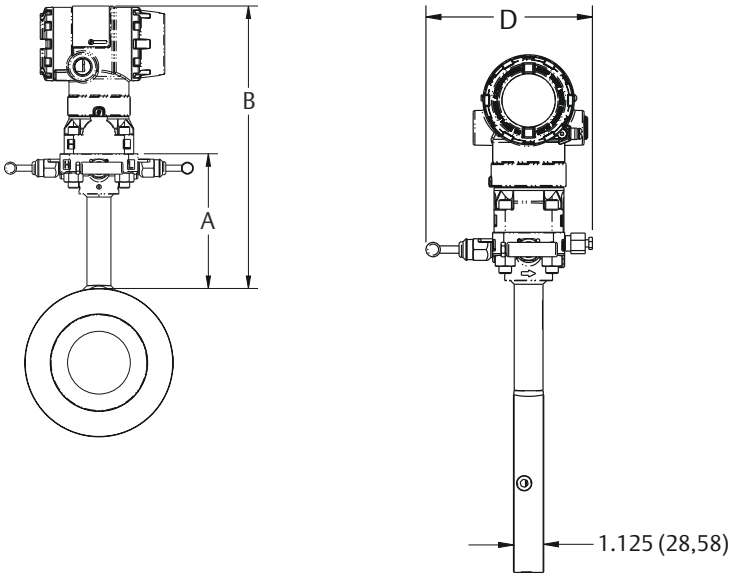
Note

Dimensions are in inches (millimeters).

Figure 21: Rosemount 2051CFC Compact Orifice Flow Meter

Orifice plate side view	Orifice plate front view	Orifice plate top view

Compact orifice plate (primary element type code P)



Compact orifice plate (primary element type code P)

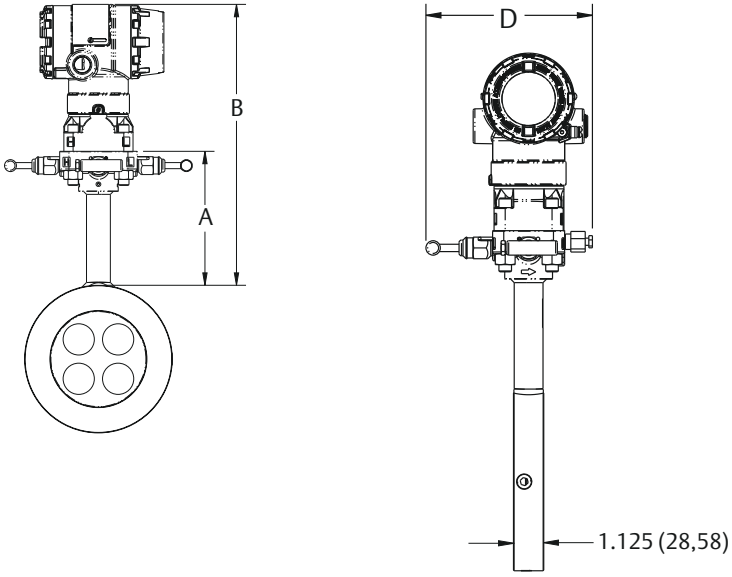
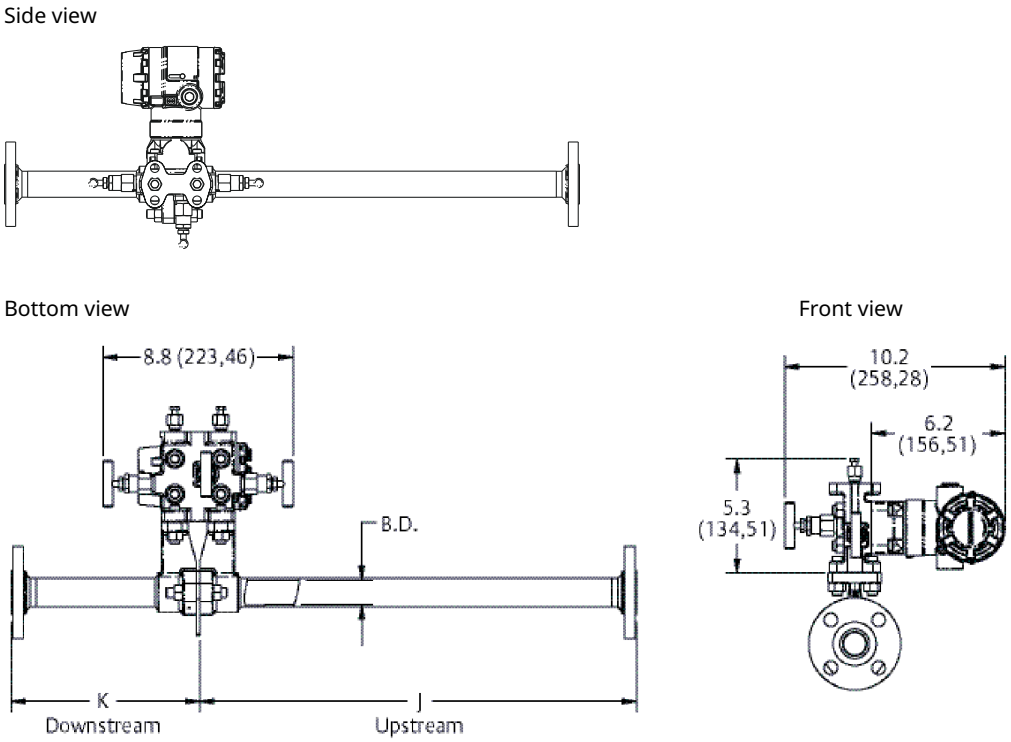


Table 11: Rosemount 2051CFC Dimensional Data

Primary element type	A	B	Transmitter height	C	D
Type P and C	5.62 (143)	Transmitter Height + A	6.27 (159)	7.75 (197) - closed 8.25 (210) - open	6.00 (152) - closed 6.25 (159) - open

Note
Dimensions are in inches (millimeters).

Figure 22: Rosemount 2051CFP Integral Orifice Flow Meter



Note
Dimensions are in inches (millimeters).

Table 12: Rosemount 2051CFP Dimensional Data

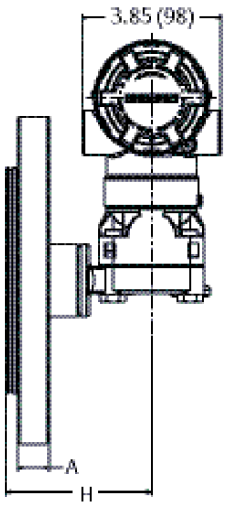
Dimension	Line size		
	½-in. (15 mm)	1-in. (25 mm)	1½-in. (40 mm)
J (beveled/threaded pipe ends)	12.54 (318.4)	20.24 (514.0)	28.44 (722.4)
J (RF slip-on, RTJ slip-on, RF-DIN slip on)	12.62 (320.4)	20.32 (516.0)	28.52 (724.4)
J (RF Class 150, weld neck)	14.37 (364.9)	22.37 (568.1)	30.82 (782.9)
J (RF Class 300, weld neck)	14.56 (369.8)	22.63 (574.7)	31.06 (789.0)
J (RF Class 600, weld neck)	14.81 (376.0)	22.88 (581.0)	31.38 (797.1)
K (beveled/threaded pipe ends)	5.74 (145.7)	8.75 (222.2)	11.91 (302.6)
K (RF slip-on, RTJ slip-on, RF-DIN slip on)(1)	5.82 (147.8)	8.83 (224.2)	11.99 (304.6)
K (RF Class 150, weld neck)	7.57 (192.3)	10.88 (276.3)	14.29 (363.1)
K (RF Class 300, weld neck)	7.76 (197.1)	11.14 (282.9)	14.53 (369.2)
K (RF Class 600, weld neck)	8.01 (203.4)	11.39 (289.2)	14.85 (377.2)
B.D. (bore diameter)	0.664 (16.87)	1.097 (27.86)	1.567 (39.80)

(1) *Downstream length shown here includes plate thickness of 0.162-in. (4.11 mm).*

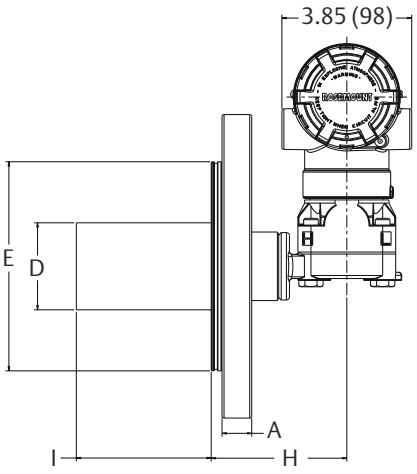
Note
Dimensions are in inches (millimeters).

Figure 23: Rosemount 2051L Liquid Level

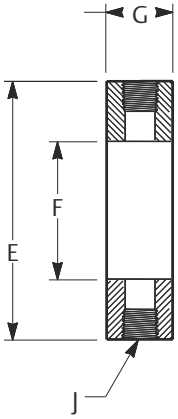
2-inch flange configuration (flush mount only)



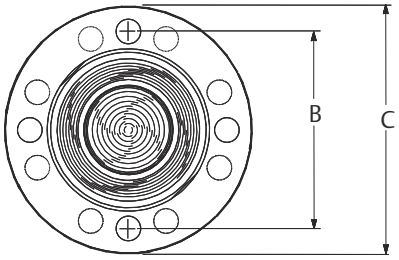
3- and 4-inch flange configuration

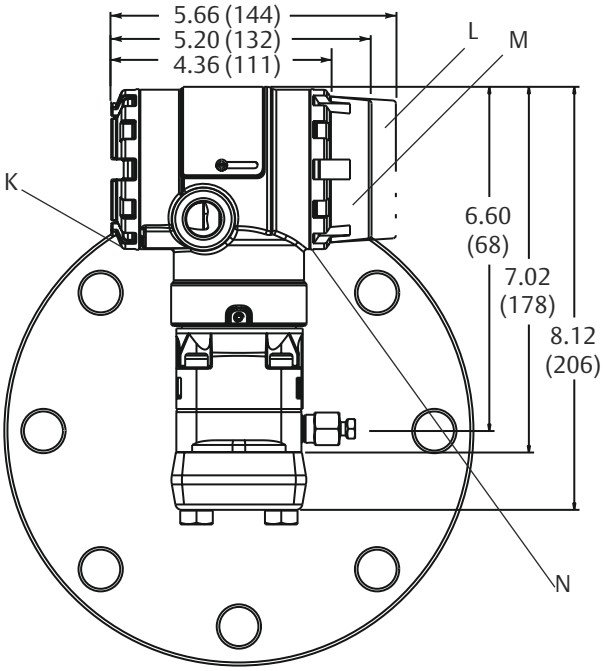


Optional flushing connection ring (lower housing)



Diaphragm assembly and mounting flange





A–H. Refer to Table 13
I. 2-, 4-, or 6-inch extension (50.8, 101.6, 152.4)
J. Flushing connection
K. Terminal connections
L. FOUNDATION™ Fieldbus display cover
M. HART® display cover
N. Transmitter circuitry

Note
Dimensions are in inches (millimeters).

Table 13: 2051L Dimensional Specifications

Class[1]	Pipe size	Flange thickness A	Bolt circle diameter B	Outside diameter C	No. of bolts	Bolt hole diameter	Extension diameter [1] D	O.D. gasket surface E
ASME B16.5 (ANSI) 150	2 (51)	0.69 (18)	4.75 (121)	6.0 (152)	4	0.75 (19)	N/A	3.6 (92)
	3 (76)	0.88 (22)	6.0 (152)	7.5 (191)	4	0.75 (19)	2.58 (66)	5.0 (127)
	4 (102)	0.88 (22)	7.5 (191)	9.0 (229)	8	0.75 (19)	3.5 (89)	6.2 (158)
ASME B16.5 (ANSI) 300	2 (51)	0.82 (21)	5.0 (127)	6.5 (165)	8	0.75 (19)	N/A	3.6 (92)
	3 (76)	1.06 (27)	6.62 (168)	8.25 (210)	8	0.88 (22)	2.58 (66)	5.0 (127)
	4 (102)	1.19 (30)	7.88 (200)	10.0 (254)	8	0.88 (22)	3.5 (89)	6.2 (158)
DIN 2501 PN 10–40	DN 50	20 mm	125 mm	165 mm	4	18 mm	N/A	4.0 (102)
DIN 2501 PN 25/40	DN 80	24 mm	160 mm	200 mm	8	18 mm	66 mm	5.4 (138)
	DN 100	24 mm	190 mm	235 mm	8	22 mm	89 mm	6.2 (158)

Note
Dimensions are in inches (millimeters).

(1) *Tolerances are –0.020 and +0.040 (–0,51 and +1,02).*

Class[1]	Pipe size	Process side F	Lower housing G		H
			¼ NPT	½ NPT	
ASME B16.5 (ANSI) 150	2 (51)	2.12 (54)	0.97 (25)	1.31 (33)	5.65 (143)
	3 (76)	3.6 (91)	0.97 (25)	1.31 (33)	5.65 (143)
	4 (102)	3.6 (91)	0.97 (25)	1.31 (33)	5.65 (143)
ASME B16.5 (ANSI) 300	2 (51)	2.12 (54)	0.97 (25)	1.31 (33)	5.65 (143)
	3 (76)	3.6 (91)	0.97 (25)	1.31 (33)	5.65 (143)
	4 (102)	3.6 (91)	0.97 (25)	1.31 (33)	5.65 (143)
DIN 2501 PN 10–40	DN 50	2.4 (61)	0.97 (25)	1.31 (33)	5.65 (143)
DIN 2501 PN 25/40	DN 80	3.6 (91)	0.97 (25)	1.31 (33)	5.65 (143)
	DN 100	3.6 (91)	0.97 (25)	1.31 (33)	5.65 (143)

(1) *Tolerances are –0.020 and +0.040 (–0,51 and +1,02).*

Note
Dimensions are in inches (millimeters).

Options

Standard configuration

Unless otherwise specified, transmitter is shipped as follows:

Engineering units	inH_2O (ranges 1, 2, and 3)
Differential/gage	psi (ranges 4–5)

Rosemount 2051TA	psi (all ranges)
4 mA (1 Vdc)(1)	0 (engineering units)
20 mA (5 Vdc)(1):	Upper range limit
Output:	Linear
Flange type	Specified model code option
Flange material	Specified model code option
O-ring material	Specified model code option
Drain/vent:	Specified model code option
LCD display	Installed or none
Alarm(1)	High
Software tag	(Blank)

(1) *Not applicable to FOUNDATION Fieldbus, PROFIBUS® PA, or wireless.*

Custom configuration

If option code C1 is ordered, the customer may specify the following data in addition to the standard configuration parameters.

Note
Custom configurations are not applicable to FOUNDATION™ Fieldbus or PROFIBUS® PA Protocols.

- Output information
- Transmitter information
- LCD display configuration
- Hardware selectable information
- Signal selection
- Wireless information
- Scaled variable

Refer to the Rosemount 2051 Configuration Data Sheet and the Rosemount 2051 Wireless Configuration Data Sheet.

Tagging (3 options available)

Standard SST hardware tag is permanently affixed on transmitter. Tag character height is 0.125 in. (3.18 mm), 84 characters maximum.

Tag may be wired to the transmitter nameplate upon request, 85 characters maximum.

Tag may be stored in transmitter memory. Character limit is dependent on protocol.

- HART® Revision 5: 8 characters
- HART Revision 7 and wireless: 32 characters
- FOUNDATION™ Fieldbus: 32 characters
- PROFIBUS® PA: 32 characters

Commissioning tags are temporarily attached to all transmitters. The tag indicates the device ID and allows an area for writing the location.

Note
The commissioning tag applies only to FOUNDATION™ Fieldbus Protocol.

Optional Rosemount 304, 305, or 306 Integral Manifolds

Factory assembled to Rosemount 2051C, 2051T, and 2051G Transmitters. Refer to the Rosemount Manifolds Product Data Sheet for additional information.

Other seals

Refer to the Rosemount DP Level Transmitters and 1199 Seal Systems Product Data Sheet for additional information.

Output information

Output range points must be the same unit of measure. Available units of measure include:

Pressure		
atm	mmH_2O at 4 °C(1)	ftH_2O at 4 °C(1)
mbar	ftH_2O	psi
bar	inH_2O at 60 °F(1)	torr
inH_2O	Psf(1)	cmH_2O at 4 °C(1)
inHg	g/cm^2	cmHg at 0 °C(1)
hPa(1)	kg/cm^2	ftH_2O at 60 °F(1)
mHg at 0 °C(1)	Pa	mH_2O at 4 °C(1)
inH_2O at 4 °C(1)	kPa	mHg at 0 °C(1)
mmH_2O	MPa(1)(2)	hPa(1)
mmHg	kg/m^2(1)	inH2O at 68 °F(2)
Flow(2)(3)		
bbl	kg	cm^3
ft^3	lb	m^3
gal	L	ton
Level(3)		
%	ft	cm
in	mm	-

(1) *Available with enhanced Rosemount 2051 and wireless.*
(2) *Available on PROFIBUS® PA Protocol.*
(3) *All flow units are available per second, minute, hour or day.*

Display and interface options

M4 Digital display with Local Operator Interface (LOI)

- Available for 4–20 mA HART®, 4–20 mA HART, and PROFIBUS® PA Protocols.

M5 Digital display

- 2-line, 5-digit LCD display for 4–20 mA HART Protocol
- 2-line, 8-digit LCD display for FOUNDATION™ Fieldbus and PROFIBUS PA Protocols
- 3-line, 7-digit LCD display for wireless
- Direct reading of digital data for higher accuracy
- Displays user-defined flow, level, volume, or pressure units
- Displays diagnostic messages for local troubleshooting
- 90° rotation capability for easy viewing

Configuration buttons

Rosemount 2051 requires option D4 (analog zero and span), DZ (digital trim), M4 (LOI) for local configuration buttons.

Transient protection

T1 Integral transient protection terminal block

Meets IEEE C62.41, category location B

- 6 kV crest (0.5 µs–100 kHz)
- 3 kA crest (8 x 20 microseconds)
- 6 kV crest (1.2 x 50 microseconds)

Bolts for flanges and adapters

Standard material is plated carbon steel per ASTM A449, type 1

L4 Austenitic 316 SST bolts

L5 ASTM A 193, Grade B7M bolts

L6 Alloy K-500 bolts

L8 ASTM A 193 Class 2, Grade B8M bolts

Conduit plug

DO 316 SST conduit plug

Single 316 SST conduit plug replaces CS plug

Rosemount 2051C coplanar flange and 2051T bracket option

B4 Bracket for 2-inch pipe or panel mounting

- For use with the standard coplanar flange configuration
- Bracket for mounting of transmitter on 2-inch pipe or panel
- SST construction with SST bolts

Rosemount 2051C traditional flange bracket options

B1 Bracket for 2-inch pipe mounting

- For use with the traditional flange option
- Bracket for mounting on 2-inch pipe
- CS construction with CS bolts
- Coated with polyurethane paint

B2 Bracket for panel mounting

- For use with the traditional flange option
- Bracket for mounting transmitter on wall or panel
- CS construction with CS bolts
- Coated with polyurethane paint

B3 Flat bracket for 2-inch pipe mounting

- For use with the traditional flange option
- Bracket for vertical mounting of transmitter on 2-inch pipe
- Carbon steel construction with carbon steel bolts
- Coated with polyurethane paint

B7 B1 bracket with SST bolts

- Same bracket as the B1 option with Series 300 SST bolts

B8 B2 bracket with SST bolts

- Same bracket as the B2 option with Series 300 SST bolts

B9 B3 bracket with SST bolts

- Same bracket as the B3 option with Series 300 SST bolts

BA SST B1 bracket with SST bolts

- B1 bracket in SST with Series 300 SST bolts

BC SST B3 bracket with SST bolts

- B3 bracket in stainless steel with Series 300 SST bolts

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For more information: **Emerson.com/global**

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