

Product overview

Industry leading performance and capabilities

Enabled by superior sensor technology and engineered for optimal flow performance, the Rosemount 4088 delivers unparalleled accuracy over a wide range of operating conditions. Superior performance results in better control of your operations and maximizes profits.

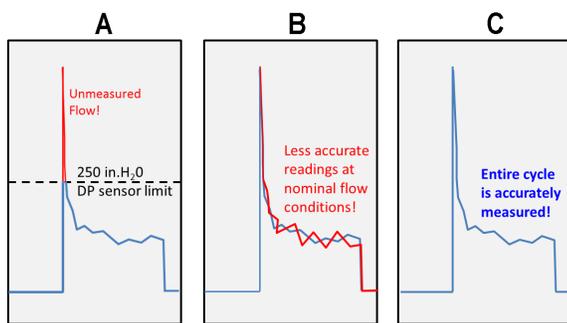
Flexible communications with Modbus® or Bristol™ Standard Asynchronous/Synchronous Protocol (BSAP)/MVS

Designed for easy integration with an existing or new system, the Rosemount 4088 can communicate using either Modbus or BSAP/MVS protocols. Baud rates up to 19200 allow flow computers to communicate with more speed and efficiency.

Writable display

The local LCD display can show both measured data as well as flow computer calculations such as “Instantaneous Flow Rate” or “Last 24 hours of Accumulation Flow”. This simplifies maintenance and provides additional clarity into well operations.

Extended range for plunger lift measurement



- A. 250 in. H₂O MultiVariable Transmitter
- B. 1000 in. H₂O MultiVariable Transmitter
- C. Rosemount 4088 with extended range

Utilizing new sensor technology, the Extended Range option ensures peak flows are captured, without sacrificing performance over the normal operating range. This helps eliminate accounting differences that can result in disputes.

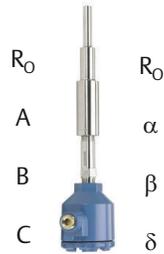
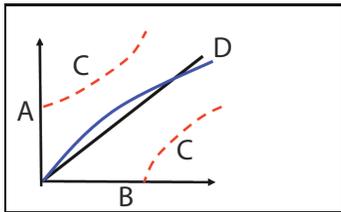
Reduced power consumption

Advanced electronics consume less power, meaning more transmitters can run on a single power supply or solar panel. Reverse wiring protection also ensures the transmitter will not be damaged if the power is incorrectly connected.

Contents

Product overview.....	2
Ordering information.....	4
Specifications.....	24
Product certifications.....	37
Dimensional drawings.....	38

Accurate RTD measurement through sensor matching



- A. Resistance
- B. Temperature
- C. Tolerance bands
- D. Unique sensor curve

The Rosemount 4088 can make use of Callendar-Van Dusen constants to define the unique RTD characteristics, reducing process temperature error and flow error.

Seamless transition from legacy products

To ensure a smooth transition from Emerson legacy products, the Rosemount 4088 will communicate using the same protocols as a drop-in replacement. This will allow users to quickly change out legacy products minimizing downtime and reducing engineering and installation costs.



Rosemount 3808



Rosemount MVS 205



Rosemount 3095FB

Superior warranty and stability

The Rosemount 4088 offers long lasting performance, with up to a five-year stability specification and a 12-year warranty. This helps ensure that investments in Rosemount technology will continue to pay off for years to come.

Ordering information



The Rosemount 4088 MultiVariable Transmitter is an industry-leading pressure transmitter designed to meet challenging processes such as oil and gas production, custody transfer and plunger-lift well systems. Engineered with extended range capabilities to capture pressure spikes, this device also maintains excellent performance within a normal operating range. This Modbus transmitter is adaptable and capable of multivariable measurements of differential pressure, static pressure and process temperature.

[CONFIGURE >](#)[VIEW PRODUCT >](#)

Online product configurator

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

Specifications and options

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

Sizing and Selection Body

All Rosemount flow meters can be sized to meet your application specific requirements in the DP Flow sizing and selection tool. This tool will verify if a selected product meets your application requirements, provide a comparison between different primary elements, and generate 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 times. The non-starred offerings are subject to additional delivery lead time.

Differential pressure sensor configurations

Required model components

Model

Code	Description
4088	Multivariable pressure transmitter

Transmitter register mapping

Code	Description	
A	Modbus protocol	★
B	Remote Automation Solutions ready	★

Performance class

For detailed specifications, see [Performance specifications](#).

Code	Description	
1	Enhanced: 0.075 percent span DP accuracy	★
3 ⁽¹⁾	Enhanced for Flow: 0.05 percent reading DP accuracy	★
2	Standard: 0.1 percent span DP accuracy	★

(1) Performance class 3 is only available with DP Range 2, 3, and 4. DP Range 4 with performance class 3 is only available with measurement type 1 or 2.

Multivariable type

Code	Description	
P	Multivariable measurement with direct process variable output	★

Measurement type

Code	Description	
1	Differential pressure, static pressure, and temperature	★
2	Differential pressure and static pressure	★
3	Differential pressure and temperature	★
4	Differential pressure	★

Differential pressure range

Code	Description	
1	-25 to 25 inH ₂ O (-62.16 to 62.16 mbar)	★
2	-250 to 250 inH ₂ O (-621.60 to 621.60 mbar)	★
A ⁽¹⁾	Extended range capability: 0 to 250 inH ₂ O (0 to 621.60 mbar)	★
3	-1000 to 1000 inH ₂ O (-2.49 to 2.49 bar)	★
4 ⁽²⁾	-150 to 150 psi (-10.34 to 10.34 bar) for measurement types 1 and 2; -300 to 300 psi (-20.68 to 20.68 bar) for measurement types 3 and 4	★

Code	Description	
5 ⁽²⁾	-2000 to 2000 psi (-137.89 to 137.89 bar)	★

- (1) DP Range A is only available with performance class 1 and measurement types 1 and 2.
(2) Only available with static pressure ranges N and 4.

Static pressure type

Code	Description	
N ⁽¹⁾	None	★
A	Absolute	★
G	Gauge	★

- (1) Required for measurement types 3 and 4.

Static pressure range

Code		Absolute (A)	Gauge (G)	
N ⁽¹⁾	None			★
6 ⁽²⁾	Range 6	0.5 to 300 psia (0.03 to 20.68 bar)	-14.2 to 300 psi (-0.98 to 20.68 bar)	★
3 ⁽³⁾	Range 3	0.5 to 800 psia (0.03 to 55.15 bar)	-14.2 to 800 psi (-0.98 to 55.15 bar)	★
7 ⁽²⁾	Range 7	0.5 to 1500 psia (0.03 to 103.42 bar)	-14.2 to 1500 psi (-0.98 to 103.42 bar)	★
4 ⁽⁴⁾	Range 4	0.5 to 3626 psia (0.03 to 250.00 bar)	-14.2 to 3626 psi (-0.98 to 250.00 bar)	★
5 ⁽⁵⁾⁽⁶⁾⁽⁷⁾	Range 5	N/A	-14.2 to 6092 psi (420 bar)	★

- (1) Required for measurement types 3 and 4.
(2) SP Ranges 6 and 7 are only available with measurement types 1 or 2 and DP Range 2, 3, or A.
(3) Available with measurement types 1 and 2, DP Range 1, and performance class 1 or 2 only.
(4) Only available with measurement types 1 and 2. With DP range 1, absolute limits are 0.5 to 2000 psi (0.03 to 137.89 bar) and gauge limits are -14.2 to 2000 psi (-0.98 to 137.89 bar).
(5) Static pressure range 5 is only available with DP ranges 2,3, or 4, bolting type L8 and static pressure type G, and requires isolating diaphragm 2 or 3 as well as process connection A11, F52.
(6) Static pressure range 5 is a sealed gauge sensor.
(7) For temperature range -40 to -20 °F URL is 4500 PSI (310.26 bar), for temperature range -20 to 185 °F URL is 6092 PSI (420 bar).

Temperature input

Code	Description	
N ⁽¹⁾	None	★
R ⁽²⁾	RTD input (type Pt 100, -328 to 1562 °F [-200 to 850 °C])	★

- (1) Required for measurement types 2 and 4.
(2) Required for measurement types 1 and 3. RTD sensor must be ordered separately.

Isolating diaphragm

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.

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

Process connection

Code	Description	Connection size	Material type			
			Flange material	Drain vent	Bolting	
A11 ⁽¹⁾⁽²⁾	Assemble to Rosemount 305 Integral Manifold					★
A12 ⁽¹⁾	Assemble to Rosemount 304 or AMF Manifold with 316 SST traditional flange					★
C11 ⁽¹⁾	Assemble to Rosemount 405C or 405P Primary Element					★
D11 ⁽¹⁾	Assemble to Rosemount 1195 Integral Orifice and 305 Manifold					★
D21 ⁽³⁾	Assemble to Rosemount 9175 Meter Run, 304 5-valve Natural Gas Manifold and Stabilized Connectors					★
EA2 ⁽¹⁾	Assemble to Rosemount 485 or 405A Annubar™ Primary Element with coplanar flange		316 SST	316 SST	N/A	★
E11	Coplanar flange	¼ -18 NPT	Carbon Steel (CS)	316 SST	N/A	★
E12	Coplanar flange	¼ -18 NPT	316 SST	316 SST	N/A	★
E13 ⁽⁴⁾	Coplanar flange	¼ -18 NPT	Cast C-276	Alloy C-276	N/A	★
E15 ⁽⁴⁾	Coplanar flange	¼ -18 NPT	316 SST	Alloy C-276	N/A	★
E16 ⁽⁴⁾	Coplanar flange	¼ -18 NPT	CS	Alloy C-276	N/A	★
F12	Traditional flange	¼ -18 NPT	316 SST	316 SST	N/A	★
F13 ⁽⁴⁾	Traditional flange	¼ -18 NPT	Cast C-276	Alloy C-276	N/A	★
F15 ⁽⁴⁾	Traditional flange	¼ -18 NPT	316 SST	Alloy C-276	N/A	★
F52	DIN-compliant traditional flange	¼ -18 NPT	316 SST	316 SST	7/16-in. bolting	★

- (1) "Assemble to" items are specified separately and require a completed model number.
- (2) For process connection option code A11, the mounting bracket must be ordered as part of the manifold model number.
- (3) Option only available with Measurement type 1.
- (4) 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.

Housing style

Code	Description	Conduit entry size	
1A	Polyurethane-covered aluminum housing	½ -14 NPT	★
1B	Polyurethane-covered aluminum housing	M20 x 1.5 (CM20)	★
1J	SST housing	½ -14 NPT	★
1K	SST housing	M20 x 1.5 (CM20)	★

Additional options

Extended product warranty

Code	Description	
WR3	Three-year limited warranty	★
WR5	Five-year limited warranty	★

RTD cable

RTD sensor must be ordered separately

Code	Description	Cable length	Protection type	
C12	RTD input	12 ft. (3.66 m)	Shielded cable	★
C13	RTD input	24 ft. (7.32 m)	Shielded cable	★
C14	RTD input	75 ft. (22.86 m)	Shielded cable	★
C22	RTD input	12 ft. (3.66 m)	Armored shielded cable	★
C23	RTD input	24 ft. (7.32 m)	Armored shielded cable	★
C24	RTD input	75 ft. (22.86 m)	Armored shielded cable	★
C32	RTD input	12 ft. (3.66 m)	ATEX/IECEx flameproof cable	★
C33	RTD input	24 ft. (7.32 m)	ATEX/IECEx flameproof cable	★
C34	RTD input	75 ft. (22.86 m)	ATEX/IECEx flameproof cable	★

Mounting brackets

For process connection option code A11, the mounting bracket must be ordered as part of the manifold model number.

Code	Description	Bracket material	Pipe/panel	Bolt material	
B4	Coplanar flange bracket	SST	2-in. pipe and panel	SST	★
B1	Traditional flange bracket	CS	2-in. pipe	N/A	★
B2	Traditional flange bracket	CS	Panel	N/A	★
B3	Traditional flange bracket	CS	2-in. pipe	N/A	★
B7	Traditional flange bracket B1	CS	2-in. pipe	SST	★
B8	Traditional flange bracket B2	CS	Panel	SST	★
B9	Traditional flange flat bracket B3	CS	2-in. pipe	SST	★
BA	Traditional flange bracket B1	SST	2-in. pipe	SST	★
BC	Traditional flange flat bracket B3	SST	2-in. pipe	SST	★

Software configuration

This is not available for Rosemount 4088B.

Code	Description	
C1	Custom software configuration (A Configuration Data Sheet must be completed.)	★

Process adapters

Code	Description	
D2	½ -14 NPT process adapters	★

Custody transfer

Code	Description	
D3	Measurement Canada Accuracy Approval	★

External ground screw assembly

This assembly is included with certification options E1, N1, K1, ND, E7, N7, K7, E2, K2, KA, KC, and KD.

Code	Description	
D4	External ground screw assembly	★

Drain/vent valves

This option is not available with process connection code A11.

Code	Description	
D5	Delete transmitter drain/vent valves (install plugs)	★

Conduit plug

Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard CS conduit plug. This option is not available with M20 conduit entry size.

Code	Description	
DO ⁽¹⁾	316 SST conduit plug	★

(1) Not available with M20 conduit entry size.

Product certifications

Product certifications will not drive explosion-proof RTD cable fitting, glands, or adapters.

Code	Description	
E1	ATEX Flameproof	★
I1	ATEX Intrinsic Safety	★
N1	ATEX Type n	★
ND	ATEX Dust	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND)	★
E5	FM Explosion-proof, Dust Ignition-proof, Division 2	★
I5	FM Intrinsically Safe, Division 2	★
E6 ⁽¹⁾	CSA Explosion-proof, Dust Ignition-proof, Division 2	★
I6	CSA Intrinsically Safe	★
K6 ⁽¹⁾	CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)	★
E7	IECEX Flameproof	★
I7	IECEX Intrinsic Safety	★
N7	IECEX Type n	★
K7	IECEX Flameproof, Intrinsic Safety, and Type n (combination of E7, I7, and N7)	★
E2	INMETRO Flameproof	★
I2	INMETRO Intrinsic Safety	★
K2	INMETRO Flameproof, Intrinsic Safety (combination of E2 and I2)	★
KA ⁽¹⁾	ATEX and CSA Explosion-proof, Intrinsically Safe, Division 2 (combination E1, E6, I1, and I6)	★
KB ⁽¹⁾	FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination E5, I5, E6, and I6)	★
KC	FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination E5, I5, E1, and I1)	★

Code	Description	
KD ⁽¹⁾	FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination E5, E6, E1, I5, I6, and I1)	★

(1) Not available with M20 conduit entry size.

Sensor fill fluid

This option is not available with static pressure range 5.

Code	Description	
L1 ⁽¹⁾	Inert sensor fill fluid	★

(1) Not available with an absolute static pressure type.

O-ring

Code	Description	
L2	Graphite-filled PTFE O-ring	★

Bolting material

Code	Description	
L4	Austenitic 316 SST bolts	★
L5	ASTM A193, Grade B7M bolts	★
L6	Alloy K-500 bolts	★
L7	ASTM A453, Class D, Grade 660 bolts	★
L8	ASTM A193, Class 2, Grade B8M bolts	★

Digital display

Code	Description	
M5	LCD display	★

Housing cover extension

Code	Description	
HX	Extended housing cover	★

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate	★

Cleaning process area

This option is not available with process connection code A11.

Code	Description	
P2	Cleaning for special services	

Code	Description	
P3	Cleaning for special services with testing for <1PPM chlorine/fluorine	

Maximum static line pressure

This option requires measurement type 3 or 4.

Code	Description	
P9	4500 psi (310 bar) static pressure limit	★
P0	6092 psi (420 bar) static pressure limit	★

Calibration data certification

Code	Description	
Q4	Calibration certificate	★
QP	Calibration certificate and tamper evident seal	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1B	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

NACE certificates

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.

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

Terminal block

Code	Description	
T1	Transient terminal block	★

Cold temperature

This option is not available with static pressure range 5.

Code	Description	
BRR	-58 °F (-50 °C) cold temperature start-ups	★

Coplanar Static pressure sensor configurations**Required model components****Model**

Code	Description	
4088	Multivariable pressure transmitter	

Transmitter register mapping

Code	Description	
A	Modbus protocol	★
B	Remote Automation Solutions ready	★

Performance class

For detailed specifications, see [Performance specifications](#).

Code	Description	
1	Enhanced: 0.075 percent span accuracy	★
2	Standard: 0.1 percent span accuracy	★

Multivariable type

Code	Description	
P	Multivariable measurement with direct process variable output	★

Measurement type

Code	Description	
5	Static pressure and temperature - coplanar style	★
7	Static pressure - coplanar style	★

Differential pressure range

Code	Description	
N	None	★

Static pressure type

Code	Description	
A	Absolute	★
G	Gauge	★

Static pressure range

Code	Description	Absolute (A)	Gauge (G)	
0	Range 0	0 to 5 psia (0 to 0.34 bar)	N/A	★
1	Range 1	0 to 30 psia (0 to 2.06 bar)	-25 to 25 inH ₂ O (-62.16 to 62.16 mbar)	★
2	Range 2	0 to 150 psia (0 to 10.34 bar)	-250 to 250 inH ₂ O (-621.60 to 621.60 mbar)	★
3	Range 3	0 to 800 psia (0 to 55.15 bar)	-393 to 1000 inH ₂ O (-0.98 to 2.49 bar)	★
4	Range 4	0 to 4000 psia (0 to 275.79 bar)	-14.2 to 300 psi (-0.98 to 20.68 bar)	★
5	Range 5	N/A	-14.2 to 2000 psi (-0.98 to 137.89 bar)	★

Temperature input

Code	Description	
N ⁽¹⁾	None	★
R ⁽²⁾	RTD input (type Pt 100, -328 to 1562 °F [-200 to 850 °C])	★

(1) Required for measurement types 2 and 4.

(2) Required for measurement types 1 and 3. RTD sensor must be ordered separately.

Isolating diaphragm

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.

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

Process connection

Code	Description	Conn size	Material type			
			Flange material	Drain vent	Bolting	
A11 ⁽¹⁾ (2)	Assemble to Rosemount 305 Integral Manifold					★
A12 ⁽¹⁾	Assemble to Rosemount 304 or AMF Manifold with 316 SST traditional flange					★
E11	Coplanar flange	¼ -18 NPT	Carbon Steel (CS)	316 SST	N/A	★
E12	Coplanar flange	¼ -18 NPT	316 SST	316 SST	N/A	★
E13 ⁽³⁾	Coplanar flange	¼ -18 NPT	Cast C-276	Alloy C-276	N/A	★
E15 ⁽³⁾	Coplanar flange	¼ -18 NPT	316 SST	Alloy C-276	N/A	★

Code	Description	Conn size	Material type			
			Flange material	Drain vent	Bolting	
E16 ⁽³⁾	Coplanar flange	¼ -18 NPT	CS	Alloy C-276	N/A	★
F12	Coplanar flange	¼ -18 NPT	316 SST	316 SST	N/A	★
F13 ⁽³⁾	Coplanar flange	¼ -18 NPT	Cast C-276	Alloy C-276	N/A	★
F15 ⁽³⁾	Coplanar flange	¼ -18 NPT	316 SST	Alloy C-276	N/A	★
F52	Coplanar flange	¼ -18 NPT	316 SST	316 SST	7/16-in. bolting	★

- (1) "Assemble to" items are specified separately and require a completed model number.
(2) For process connection option code A11, the mounting bracket must be ordered as part of the manifold model number.
(3) 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.

Housing style

Code	Description	Conduit entry size	
1A	Polyurethane-covered aluminum housing	½ -14 NPT	★
1B	Polyurethane-covered aluminum housing	M20 x 1.5 (CM20)	★
1J	SST housing	½ -14 NPT	★
1K	SST housing	M20 x 1.5 (CM20)	★

Additional options

Extended product warranty

Code	Description	
WR3	Three-year limited warranty	★
WR5	Five-year limited warranty	★

RTD cable

RTD sensor must be ordered separately

Code	Description	Cable length	Protection type	
C12	RTD input	12 ft. (3.66 m)	Shielded cable	★
C13	RTD input	24 ft. (7.32 m)	Shielded cable	★
C14	RTD input	75 ft. (22.86 m)	Shielded cable	★
C22	RTD input	12 ft. (3.66 m)	Armored shielded cable	★
C23	RTD input	24 ft. (7.32 m)	Armored shielded cable	★
C24	RTD input	75 ft. (22.86 m)	Armored shielded cable	★
C32	RTD input	12 ft. (3.66 m)	ATEX/IECEx flameproof cable	★
C33	RTD input	24 ft. (7.32 m)	ATEX/IECEx flameproof cable	★
C34	RTD input	75 ft. (22.86 m)	ATEX/IECEx flameproof cable	★

Mounting brackets

For process connection option code A11, the mounting bracket must be ordered as part of the manifold model number.

Code	Description	Bracket material	Pipe/panel	Bolt material	
B4	Coplanar flange bracket	SST	2-in. pipe and panel	SST	★
B1	Traditional flange bracket	CS	2-in. pipe	N/A	★
B2	Traditional flange bracket	CS	Panel	N/A	★
B3	Traditional flange bracket	CS	2-in. pipe	N/A	★
B7	Traditional flange bracket B1	CS	2-in. pipe	SST	★
B8	Traditional flange bracket B2	CS	Panel	SST	★
B9	Traditional flange flat bracket B3	CS	2-in. pipe	SST	★
BA	Traditional flange bracket B1	SST	2-in. pipe	SST	★
BC	Traditional flange flat bracket B3	SST	2-in. pipe	SST	★

Software configuration

This is not available for Rosemount 4088B.

Code	Description	
C1	Custom software configuration (A Configuration Data Sheet must be completed.)	★

Process adapters

Code	Description	
D2	½ -14 NPT process adapters	★

Custody transfer

Code	Description	
D3	Measurement Canada Accuracy Approval	★

External ground screw assembly

This assembly is included with certification options E1, N1, K1, ND, E7, N7, K7, E2, K2, KA, KC, and KD.

Code	Description	
D4	External ground screw assembly	★

Drain/vent valves

This option is not available with process connection code A11.

Code	Description	
D5	Delete transmitter drain/vent valves (install plugs)	★

Conduit plug

Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard CS conduit plug. This option is not available with M20 conduit entry size.

Code	Description	
DO ⁽¹⁾	316 SST conduit plug	★

(1) Not available with M20 conduit entry size.

Product certifications

Product certifications will not drive explosion-proof RTD cable fitting, glands, or adapters.

Code	Description	
E1	ATEX Flameproof	★
I1	ATEX Intrinsic Safety	★
N1	ATEX Type n	★
ND	ATEX Dust	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND)	★
E5	FM Explosion-proof, Dust Ignition-proof, Division 2	★
I5	FM Intrinsically Safe, Division 2	★
E6 ⁽¹⁾	CSA Explosion-proof, Dust Ignition-proof, Division 2	★
I6	CSA Intrinsically Safe	★
K6 ⁽¹⁾	CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)	★
E7	IECEX Flameproof	★
I7	IECEX Intrinsic Safety	★
N7	IECEX Type n	★
K7	IECEX Flameproof, Intrinsic Safety, and Type n (combination of E7, I7, and N7)	★
E2	INMETRO Flameproof	★
I2	INMETRO Intrinsic Safety	★
K2	INMETRO Flameproof, Intrinsic Safety (combination of E2 and I2)	★
KA ⁽¹⁾	ATEX and CSA Explosion-proof, Intrinsically Safe, Division 2 (combination E1, E6, I1, and I6)	★
KB ⁽¹⁾	FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination E5, I5, E6, and I6)	★
KC	FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination E5, I5, E1, and I1)	★
KD ⁽¹⁾	FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination E5, E6, E1, I5, I6, and I1)	★

(1) Not available with M20 conduit entry size.

Sensor fill fluid

Code	Description	
L1	Inert sensor fill fluid (Not available with an absolute static pressure type)	★

O-ring

Code	Description	
L2	Graphite-filled PTFE O-ring	★

Bolting material

Code	Description	
L4	Austenitic 316 SST bolts	★
L5	ASTM A193, Grade B7M bolts	★
L6	Alloy K-500 bolts	★
L7	ASTM A453, Class D, Grade 660 bolts	★
L8	ASTM A193, Class 2, Grade B8M bolts	★

Digital display

Code	Description	
M5	LCD display	★

Housing cover extension

Code	Description	
HX	Extended housing cover	★

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate	★

Cleaning process area

This option is not available with process connection code A11.

Code	Description	
P2	Cleaning for special services	
P3	Cleaning for special services with testing for <1PPM chlorine/fluorine	

Calibration data certification

Code	Description	
Q4	Calibration certificate	★
QP	Calibration certificate and tamper evident seal	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1B	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

NACE certificates

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

Terminal block

Code	Description	
T1	Transient terminal block	★

Cold temperature

Code	Description	
BRR	-58 °F (-50 °C) cold temperature start-up	★

In-line Static pressure sensor configurations**Required model components****Model**

Code	Description	
4088	Multivariable pressure transmitter	

Transmitter register mapping

Code	Description	
A	Modbus protocol	★
B	Remote Automation Solutions ready	★

Performance class

For detailed specifications, see [Performance specifications](#)

Code	Description	
1	Enhanced: 0.075 percent span DP accuracy	★
2	Standard: 0.1 percent span DP accuracy	★

Multivariable type

Code	Description	
P	Multivariable measurement with direct process variable output	★

Measurement type

Code	Description	
6	Static pressure and temperature, in-line style	★
8	Static pressure, in-line style	★

Differential pressure range

Code	Description	
N	None	★

Static pressure type

Code	Description	
A	Absolute	★
G	Gauge	★

Static pressure range

Code		Absolute (A)	Gauge (G)	
1	Range 1	0 to 30 psia (0 to 2.06 bar)	-14.7 to 30 psi (-1.01 to 2.06 bar)	★
2	Range 2	0 to 150 psia (0 to 10.34 bar)	-14.7 to 150 psi (-1.01 to 10.34 bar)	★
3	Range 3	0 to 800 psia (0 to 55.15 bar)	-14.7 to 800 psi (-1.01 to 55.15 bar)	★
4	Range 4	0 to 4000 psia (0 to 275.79 bar)	-14.7 to 4000 psi (-1.01 to 275.79 bar)	★
5	Range 5	0 to 10000 psia (0 to 689.47 bar)	-14.7 to 10000 psi (-1.01 to 689.47 bar)	★

Temperature input

Code	Description	
N ⁽¹⁾	None	★
R ⁽²⁾	RTD input (type Pt 100, -328 to 1562 °F [-200 to 850 °C])	★

(1) Required for measurement types 2 and 4.

(2) Required for measurement types 1 and 3. RTD sensor must be ordered separately.

Isolating diaphragm

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.

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

Process connection

Code	Description	
A11 ⁽¹⁾	Assemble to Rosemount 306 Integral Manifold	★
K11	½ -14 NPT female	★

(1) "Assemble to" items are specified separately and require a completed model number.

Housing style

Code	Description	Conduit entry size	
1A	Polyurethane-covered aluminum housing	½ -14 NPT	★
1B	Polyurethane-covered aluminum housing	M20 x 1.5 (CM20)	★
1J	SST housing	½ -14 NPT	★
1K	SST housing	M20 x 1.5 (CM20)	★

Additional options

Extended product warranty

Code	Description	
WR3	Three-year limited warranty	★
WR5	Five-year limited warranty	★

RTD cable

RTD sensor must be ordered separately

Code	Description	Cable length	Protection type	
C12	RTD input	12 ft. (3.66 m)	Shielded cable	★
C13	RTD input	24 ft. (7.32 m)	Shielded cable	★
C14	RTD input	75 ft. (22.86 m)	Shielded cable	★
C22	RTD input	12 ft. (3.66 m)	Armored shielded cable	★
C23	RTD input	24 ft. (7.32 m)	Armored shielded cable	★
C24	RTD input	75 ft. (22.86 m)	Armored shielded cable	★
C32	RTD input	12 ft. (3.66 m)	ATEX/IECEX flameproof cable	★
C33	RTD input	24 ft. (7.32 m)	ATEX/IECEX flameproof cable	★
C34	RTD input	75 ft. (22.86 m)	ATEX/IECEX flameproof cable	★

Software configuration

This is not available for Rosemount 4088B.

Code	Description	
C1	Custom software configuration (A Configuration Data Sheet must be completed.)	★

Custody transfer

Code	Description	
D3	Measurement Canada Accuracy Approval	★

External ground screw assembly

This assembly is included with certification options E1, N1, K1, ND, E7, N7, K7, E2, K2, KA, KC, and KD.

Code	Description	
D4	External ground screw assembly	★

Drain/vent valves

This option is not available with process connection code A11.

Code	Description	
D5	Delete transmitter drain/vent valves (install plugs)	★

Conduit plug

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

Code	Description	
DO	316 SST conduit plug	★

Product certifications

Product certifications will not drive explosion-proof RTD cable fitting, glands, or adapters.

Code	Description	
E1	ATEX Flameproof	★
I1	ATEX Intrinsic Safety	★
N1	ATEX Type n	★
ND	ATEX Dust	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND)	★
E5	FM Explosion-proof, Dust Ignition-proof, Division 2	★
I5	FM Intrinsically Safe, Division 2	★
E6 ⁽¹⁾	CSA Explosion-proof, Dust Ignition-proof, Division 2	★
I6	CSA Intrinsically Safe	★
K6 ⁽¹⁾	CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)	★
E7	IECEx Flameproof	★

Code	Description	
I7	IECEX Intrinsic Safety	★
N7	IECEX Type n	★
K7	IECEX Flameproof, Intrinsic Safety, and Type n (combination of E7, I7, and N7)	★
E2	INMETRO Flameproof	★
I2	INMETRO Intrinsic Safety	★
K2	INMETRO Flameproof, Intrinsic Safety (combination of E2 and I2)	★
KA ⁽¹⁾	ATEX and CSA Explosion-proof, Intrinsically Safe, Division 2 (combination E1, E6, I1, and I6)	★
KB ⁽¹⁾	FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination E5, I5, E6, and I6)	★
KC	FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination E5, I5, E1, and I1)	★
KD ⁽¹⁾	FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination E5, E6, E1, I5, I6, and I1)	★

(1) Not available with M20 conduit entry size.

Sensor fill fluid

This option is not available with static pressure range 5.

Code	Description	
L1 ⁽¹⁾	Inert sensor fill fluid	★

(1) Not available with an absolute static pressure type.

Digital display

Code	Description	
M5	LCD display	★

Housing cover extension

Code	Description	
HX	Extended housing cover	★

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate	★

Cleaning process area

This option is not available with process connection code A11.

Code	Description	
P2	Cleaning for special services	
P3	Cleaning for special services with testing for <1PPM chlorine/fluorine	

Calibration data certification

Code	Description	
Q4	Calibration certificate	★
QP	Calibration certificate and tamper evident seal	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1B	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

NACE certificates

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

Terminal block

Code	Description	
T1	Transient terminal block	★

Cold temperature

This option is not available with static pressure range 5.

Code	Description	
BRR	-58 °F (-50 °C) cold temperature start-ups	★

Specifications

Performance specifications

For zero-based spans, reference conditions, silicone oil fill, glass-filled PTFE O-rings, SST materials, coplanar flange or ½ -14 NPT process connections, digital trim values set to equal range points.

Conformance to specification ($\pm 3\sigma$ [sigma])

Technology leadership, advanced manufacturing techniques, and statistical process control ensure pressure measurement specification conformance to $\pm 3\sigma$ or better.

Reference accuracy

Stated reference accuracy equations include terminal based linearity, hysteresis, and repeatability.

Table 1: Rosemount MultiVariable and Differential Pressure Sensor Configurations (Measurement Types 1, 2, 3, and 4)

Range	Standard	Enhanced	Enhanced for Flow
DP			
1	$\pm 0.1\%$ span; For spans less than 5:1, $\pm(0.025 + 0.015 \text{ [USL/Span]})\%$ span	$\pm 0.1\%$ span; For spans less than 15:1, $\pm(0.025 + 0.005 \text{ [USL/Span]})\%$ span	N/A
2-3	$\pm 0.1\%$ span; For spans less than 10:1, $\pm(0.01 \text{ [USL/Span]})\%$ span	$\pm 0.075\%$ span; For spans less than 10:1, $\pm(0.025 + 0.005 \text{ [USL/Span]})\%$ span	$\pm 0.05\%$ reading; For readings less than 8:1, $\pm(0.05 + 0.0023 \text{ [USL/Rdg]})\%$ reading
4 ⁽¹⁾			$\pm 0.05\%$ reading; For readings less than 3:1, $\pm(0.05 + 0.00245 \text{ [USL/Rdg]})\%$ reading ⁽²⁾
5 ⁽¹⁾			N/A
Extended range (code A)	N/A	$\pm 0.075\%$ span for spans 25 to 250 inH ₂ O; For readings above span, $\pm 0.15\%$ reading	
AP and GP			
3, 4, 5, 6, and 7	$\pm 0.1\%$ span; For spans less than 5:1, $\pm(0.017 \text{ [USL/Span]})\%$ span	$\pm 0.075\%$ span; For spans less than 5:1, $\pm(0.013 \text{ [USL/Span]})\%$ span	$\pm 0.05\%$ span; For spans less than 5:1, $\pm(0.006 \text{ [USL/ Span]})\%$ span

(1) For measurement types 1 and 2 with Ranges 4 or 5, only available in Alloy C-276.

(2) Only available with measurement types 1 and 2.

Table 2: Static Pressure Sensor Configurations (Measurement Types 5, 6, 7, and 8)

Range	Standard	Enhanced
0-5	$\pm 0.1\%$ span; For spans less than 10:1, $\pm(0.01 \text{ [USL/Span]})\%$ span	$\pm 0.075\%$ span; For spans less than 10:1, $\pm(0.025 + 0.005 \text{ [USL/Span]})\%$ span

Table 3: Process Temperature Measurement Accuracy (Excludes RTD Sensor Error)

Range	RTD reference accuracy
-200 to 850 °C	± 0.56 °C
0 to 60 °C	± 0.1 °C

Long-term stability

Models ⁽¹⁾	Standard	Enhanced/enhanced for flow
All Rosemount 4088 products	±0.1% USL for 1 year	±0.125% USL for 5 years; for ±50 °F (28 °C) temperature changes, up to 1000 psi (68.9 bar) line pressure

(1) For measurement types 1 and 2 with DP range 1 and measurement types 5 and 7 with range 0 (absolute) and range 1 (gauge); ±0.2 percent USL for 1 year.

Process temperature

Temperature element ⁽¹⁾	Specification
RTD interface	±1.00 °F (0.56 °C) per year (excludes RTD sensor stability)

(1) Specifications for process temperature are for the transmitter portion only. The transmitter is compatible with any Pt 100 (100 ohm platinum) RTD. Examples of compatible RTDs include the Rosemount Series 68 and 78 RTD temperature sensors.

Warranty

Models	Standard and Enhanced	Enhanced for Flow
All Rosemount 4088 products ⁽¹⁾	1-year limited warranty ⁽²⁾	12-year limited warranty ⁽³⁾

- (1) Warranty details can be found in Emerson Terms & Conditions of Sale, Document 63445.
- (2) Goods are warranted for 12 months from the date of initial installation or 18 months from the date of shipment by seller, whichever period expires first.
- (3) Rosemount Enhanced for Flow Transmitters have a limited warranty of 12 years from date of shipment. All other provisions of Emerson standard limited warranty remain the same.

Ambient temperature effect

Temperature effect is defined as output at a given temperature minus the output at reference operating conditions, measured in ± percent of USL deviation per 50 °F (28 °C) change from reference operating conditions. Specifications apply only over the ambient temperature limits.

Table 4: Rosemount MultiVariable and Differential Pressure Sensor Configurations (Measurement Types 1, 2, 3, and 4)

Models	Standard per 50 °F (28 °C)	Enhanced per 50 °F (28 °C)	Enhanced for flow per 50 °F (28 °C)
DP range 1	±(0.20% USL + 0.25% span) from 1:1 to 30:1, ±(0.24% USL + 0.15% span) from 30:1 to 50:1	±(0.10% USL + 0.25% span) from 1:1 to 30:1, ±(0.125% USL + 0.15% span) from 30:1 to 50:1	N/A
DP range 2-3 ⁽¹⁾	±(0.15% USL) from 1:1 to 30:1, ±(0.20% USL) from 30:1 to 50:1	±(0.0175% USL + 0.1% span) from 1:1 to 5:1, ±(0.035% USL + 0.125% span) from 5:1 to 100:1	±0.13% reading from 1:1 to 5:1, ±(0.13 + 0.04 [USL/RDG])% reading from 5:1 to 100:1
DP range 2, static pressure range 5 ⁽²⁾	±(0.15% USL) from 1:1 to 30:1, ±(0.2% USL) from 30:1 to 50:1	±(0.025% USL + 0.1% span) from 1:1 to 5:1, ±(0.035% USL + 0.125% span) from 5:1 to 100:1	±0.35% reading from 1:1 to 5:1, ±(0.35 + 0.05 [USL/RDG])% reading from 5:1 to 100:1
DP range 3, static pressure range 5 ⁽²⁾	±(0.15% USL) from 1:1 to 30:1, ±(0.2% USL) from 30:1 to 50:1	±(0.025% USL + 0.075% span) from 1:1 to 5:1, ±(0.035% USL + 0.125% span) from 5:1 to 100:1	±0.25% reading from 1:1 to 5:1, ±(0.25 + 0.045 [USL/RDG])% reading for trims from 5:1 to 100:1

Table 4: Rosemount MultiVariable and Differential Pressure Sensor Configurations (Measurement Types 1, 2, 3, and 4) (continued)

Models	Standard per 50 °F (28 °C)	Enhanced per 50 °F (28 °C)	Enhanced for flow per 50 °F (28 °C)
Extended range (code A) ⁽³⁾⁽⁴⁾	N/A	For units spanned 75 to 250 inH ₂ O, ±(0.025% MSL + 0.125% span) For pressures between span and 250 inH ₂ O, ±(0.025% MSL + 0.125% reading)	N/A
		For units spanned 25 to 75 inH ₂ O, ±(0.09% MSL + 0.03% span) For pressures between span and 250 inH ₂ O, ±(0.09% MSL + 0.03% reading)	
		For pressure readings above 250 inH ₂ O, ±0.15% reading	
DP range 4-5 ⁽⁵⁾	±(0.225% USL) from 1:1 to 50:1	±(0.04% USL + 0.175% span) from 1:1 to 100:1	N/A
AP and GP range 3-7	±(0.175% USL) from 1:1 to 10:1, ±(0.225% USL) from 10:1 to 25:1	±(0.050% USL + 0.125% span) from 1:1 to 10:1, ±(0.060% USL + 0.175% span) from 10:1 to 40:1	±(0.040% USL + 0.060% span) from 1:1 to 10:1, ±(0.050% USL + 0.150% span) from 10:1 to 40:1

- (1) Only applies to SP ranges 3 and 4.
- (2) Temperature limit for Rosemount 4088 with static pressure range 5 is -20 to 185 °F.
- (3) For extended range (code A), the Maximum Span Limit (MSL) of 250 inH₂O (621.60 mbar).
- (4) Only available with measurement types 1 and 2.
- (5) For measurement types 1 and 2 with Ranges 4 or 5, only available in Alloy C-276.

Table 5: Static Pressure Sensor Configurations (Measurement Types 5, 6, 7, and 8)

Range	Standard	Enhanced
Coplanar		
0	±(0.25% USL + 0.1% span)	±(0.25% USL + 0.1% span)
1	±(0.2% USL + 0.25% span) from 1:1 to 30:1, ±(0.24% USL + 0.15% span) from 30:1 to 50:1	±(0.1% USL + 0.25% span) from 1:1 to 30:1, ±(0.125% USL + 0.15% span) from 30:1 to 50:1
2-5	±(0.15% USL) from 1:1 to 30:1, ±(0.20% USL) from 30:1 to 50:1	±(0.025% USL + 0.125% span) from 1:1 to 30:1, ±(0.035% USL + 0.175% span) from 30:1 to 100:1
In-line		
1-4	±(0.175% USL) from 1:1 to 30:1, ±(0.225% USL) for 30:1 to 50:1	±(0.050% USL + 0.125% span) from 1:1 to 30:1, ±(0.060% USL + 0.175% span) for 30:1 to 100:1
5	±(0.05% USL + 0.075% span) for spans above 4000 psi	±(0.05% USL + 0.075% span) for spans above 2000 psi

Table 6: Temperature Effects for RTD Interface (Excludes RTD Sensor Error)

Range	Ambient temperature effect
-200 to 850 °C	±0.40 per 28 °C change
0 to 60 °C	±0.28 per 28 °C change

Table 7: Line pressure effect

For line pressure specifications for DP Ranges 4 and 5, see the Rosemount 4088 [Reference Manual](#).

	Standard	Enhanced and enhanced for flow
Zero error⁽¹⁾		
Range 2–3 and extended range (code A) ^{(2) (3)}	±0.1% URL per 1000 psi (69 bar) For static pressures above 2000 psi: ±(0.2 + 0.1 x [Ps – 2])% /1000 psi	±0.05% URL per 1000 psi (69 bar) For static pressures above 2000 psi: ±(0.1 + 0.1 x [Ps – 2])% /1000 psi
DP range 2, SP range 5	±0.1% URL per 1000 psi (69 bar) For static pressures above 2000 psi: ±(0.2 + 0.1 x [Ps – 2])% /1000 psi	±0.075% URL per 1000 psi (69 bar) For static pressures above 2000 psi: ±(0.15 + 0.15 x [Ps – 2])% /1000 psi
DP range 1	±0.25% URL per 1000 psi (69 bar)	±0.25% URL per 1000 psi (69 bar)
Range 4–5	±0.2% URL per 1000 psi (69 bar) For static pressures above 2000 psi: ±(0.4 + 0.2 x [Ps – 2])% /1000 psi	±0.1% URL per 1000 psi (69 bar) For static pressures above 2000 psi: ±(0.2 + 0.2 x [Ps – 2])% /1000 psi
Span error⁽⁴⁾		
Range 2–5 and extended range (code A)	±0.2% of reading per 1000 psi (69 bar)	±0.2% of reading per 1000 psi (69 bar)
Range 1	±0.4% of reading per 1000 psi (69 bar)	±0.4% of reading per 1000 psi (69 bar)

- (1) Zero error can be removed by performing a zero trim at line pressure.
- (2) For extended range (code A), USL is the MSL of 250 inH₂O (621.60 mbar).
- (3) DP 2 specification only applies to static pressure ranges 3 and 4.
- (4) Specifications for option code P0 are two times those shown above for Range 2.

Vibration effect

Aluminum housing

Less than ±0.1 percent USL when tested per the requirements of IEC60770-1:1999 field or pipeline with high vibration level (10–60 Hz 0.21 mm displacement peak amplitude/ 60–2000 Hz 3 g).

SST housing

Less than ±0.1 percent USL when tested per the requirements of IEC60770-1:1999 field with general application or pipeline with low vibration level (10–60 Hz 0.15 mm displacement peak amplitude/60–500 Hz 2 g).

Mounting position effect

There is no significant span effect due to mounting position. The zero effect can be eliminated by re-trimming output at zero after installation.

Sensor	Maximum zero shift
DP	±1.25 inH ₂ O (3.11 mbar)
AP and GP	±2.5 inH ₂ O (6.22 mbar)

Power supply effect

Digital output shift is less than ±0.005 percent of calibrated span per volt change in voltage at the transmitter terminals.

Electromagnetic compatibility

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

Meets all industrial environment requirements of EN61326. Maximum deviation <1 % span during EMC disturbance.

Note

During surge event, device 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 T1)

Transient protection option meets requirements of IEEE C62.41.2-2002, Location category B.

Ring wave: 6 kV Crest, 100 kHz (0.5 μ s)

Combination wave: 3 kA Crest (8/20 μ s), 6 kV Crest (1.2/50 μ s)

Functional specifications**Service**

Liquid, gas, and vapor applications

Range and sensor limits

The range limits are shown in the tables below. The calibrated span must exceed the minimum trim span.

Table 8: Transmitter with Rosemount MultiVariable Sensor Module (Measurement Types 1 and 2)

Range	Differential pressure sensor ⁽¹⁾			
	Lower sensor limit (LSL)		Upper sensor limit (USL)	
1	-25 inH ₂ O (-62.16 mbar)		25 inH ₂ O (62.16 mbar)	
2	-250 inH ₂ O (-0.62 bar)		250 inH ₂ O (0.62 bar)	
3	-1000 inH ₂ O (-2.49 bar)		1000 inH ₂ O (2.49 bar)	
4	-150 psi (-10.34 bar)		150 psi (10.34 bar)	
5	-2000 psi (-137.89 bar)		2000 psi (137.89 bar)	
Extended range (code A) ⁽²⁾	-800 inH ₂ O (-1.99 bar)		800 inH ₂ O (1.99 bar)	
	Static pressure sensor			
	Absolute pressure		Gauge pressure	
	LSL ⁽³⁾	USL	LSL ⁽⁴⁾	USL
3 ⁽⁵⁾	0.5 psia (34.47 mbar)	800 psia (55.15 bar)	-14.2 psi (-0.98 bar)	800 psi (55.15 bar)
4		3626 psia (250.00 bar) ⁽⁶⁾		3626 psi (250.00 bar)
5 ⁽⁷⁾	N/A	N/A		6092 psi (420.00 bar) ⁽⁸⁾
6	0.5 psia (34.47 mbar)	300 psia (20.68 bar)		300 psi (20.68 bar)
7		1500 psia (103.42 bar)		1500 psi (103.42 bar)

(1) The LSL for enhanced for flow performance class is 0 inH₂O (0 mbar).

(2) For extended range (code A), the MSL is 250 inH₂O (0.62 bar).

(3) Inert fill: Minimum gauge pressure = -13.2 psi (0.91 bar); Minimum absolute pressure: 1.5 psia (103.42 mbar).

(4) Assumes atmosphere pressure of 14.7 psia (1.0 bar).

(5) Available with DP Range 1.

(6) For static pressure Range 4 with DP Range 1, the USL is 2000 psi (137.89 bar).

(7) Static pressure range 5 is a sealed gauge sensor.

(8) For temperature range -40 to -20 °F URL is 4500 psi (310.26 bar), for temperature range -20 to 185 °F URL is 6092 psi (420 bar).

Table 9: Transmitter with Single Variable Coplanar Sensor Module (Measurement Types 3, 4, 5, and 7)

Range	DP sensor (measurement types 3 and 4)		GP sensor (measurement types 5 and 7)		AP sensor (measurement types 5 and 7)	
	LSL ⁽¹⁾	USL	LSL ⁽²⁾	USL	LSL	USL
0	N/A				0 psia (0 bar)	5 psia (0.34 bar)
1	-25 inH ₂ O (-62.16 mbar)	25 inH ₂ O (62.16 mbar)	-25 inH ₂ O (-62.16 mbar)	25 inH ₂ O (62.16 mbar)		30 psia (2.06 bar)
2						150 psia (10.34 bar)
3	-1000 inH ₂ O (-2.49 bar)	1000 inH ₂ O (2.49 bar)	-393 inH ₂ O (-0.98 bar)	1000 inH ₂ O (2.49 bar)	0 psia (0 bar)	800 psia (55.15 bar)
4	-300 psi (-20.68 bar)	300 psi (20.68 bar)	-14.2 psi (-0.98 bar)	300 psi (20.68 bar)		4000 psia (275.79 bar)
5	-2000 psi (-137.89 bar)	2000 psi (137.89 bar)		2000 psi (137.89 bar)	N/A	N/A

(1) The LSL is 0 inH₂O (0 mbar) for enhanced for flow performance class.
 (2) Assumes atmospheric pressure of 14.7 psia (1 bar).

Table 10: Transmitter with In-line Sensor Module (Measurement Types 6 and 8)

Range	Absolute pressure		Gauge pressure	
	LSL	USL	LSL ⁽¹⁾	USL
1	0 psia (0 bar)	30 psia (2.06 bar)	-14.7 psi (-1.01 bar)	30 psi (2.06 bar)
2		150 psia (10.34 bar)		150 psi (10.34 bar)
3		800 psia (55.15 bar)		800 psi (55.15 bar)
4		4000 psia (275.79 bar)		4000 psi (275.79 bar)
5		10000 psia (689.47 bar)		10000 psi (689.47 bar)

(1) Assumes an atmospheric pressure of 14.7 psi.

Table 11: Process Temperature RTD Interface (Measurement Types 1, 3, 5, and 6)

Transmitter is compatible with any Pt 100 RTD sensor. Examples of compatible RTDs include Rosemount Series 68 and 78 RTD Temperature Sensors.

LSL	USL
-328 °F (-200 °C)	1562 °F (850 °C)

Minimum span limits

Table 12: Transmitter with Rosemount MultiVariable Sensor Module (Measurement Types 1 and 2)

Range	Standard	Enhanced	Enhanced for flow
Differential pressure			
1	1.0 inH ₂ O (2.49 mbar)	0.50 inH ₂ O (1.24 mbar)	N/A
2	5.0 inH ₂ O (12.43 mbar)	2.5 inH ₂ O (6.22 mbar)	2.5 inH ₂ O (6.22 mbar)
3	20.0 inH ₂ O (49.73 mbar)	10.0 inH ₂ O (24.86 mbar)	10.0 inH ₂ O (24.86 mbar)
4	6.0 psi (0.41 bar)	3.0 psi (0.21 bar)	3.0 psi (0.21 bar)
5	40.0 psi (2.76 bar)	20.0 psi (1.38 bar)	N/A

Table 12: Transmitter with Rosemount MultiVariable Sensor Module (Measurement Types 1 and 2) (continued)

Range	Standard	Enhanced	Enhanced for flow
Extended range (code A) ⁽¹⁾	N/A	25 inH ₂ O (62.16 mbar)	
Static pressure range			
Allowable static pressure ranges for DP range 2-5, A			
4	145.00 psi (10.00 bar)	90.00 psi (6.21 bar)	90.00 psi (6.21 bar)
5 ⁽²⁾	2000 psi (137.90 bar)	1000 psi (68.95 bar)	1000 psi (68.95 bar)
6	12.00 psi (0.83 bar)	7.50 psi (5.17 bar)	7.50 psi (5.17 bar)
7	60.00 psi (4.14 bar)	37.50 psi (2.59 bar)	37.50 psi (2.59 bar)
Allowable static pressure ranges for DP range 1			
3	32.00 psi (2.21 bar)	20.00 psi (1.38 bar)	N/A
4	145.00 psi (10.00 bar)	90.00 psi (6.21 bar)	

(1) For extended range (code A), the MSL is 250 inH₂O (0.62 bar).

(2) Static Pressure range 5 is "sealed gauge".

Table 13: Transmitter with Single Variable Coplanar Sensor Module (Measurement Types 3, 4, 5, and 7)

DP/GP range	Standard	Enhanced	Enhanced for Flow ⁽¹⁾
1	1.0 inH ₂ O (2.49 mbar)	0.5 inH ₂ O (1.24 mbar)	N/A
2	5.0 inH ₂ O (12.43 mbar)	2.5 inH ₂ O (6.22 mbar)	2.5 inH ₂ O (6.22 mbar)
3	20.0 inH ₂ O (49.73 mbar)	10.0 inH ₂ O (24.86 mbar)	5.0 inH ₂ O (12.43 mbar)
4	6.0 psi (0.41 bar)	3.0 psi (0.21 bar)	N/A
5	40.0 psi (2.76 bar)	20.0 psi (1.38 bar)	

(1) Only available for differential pressure sensors (measurement types 3 and 4).

Table 14: Transmitter with Coplanar Absolute Pressure Sensor Module (Measurement Types 5 and 7)

AP range	Standard	Enhanced
0	0.3 psia (20.68 mbar)	0.3 psia (20.68 mbar)
1	0.6 psia (41.37 mbar)	0.3 psia (20.68 mbar)
2	3.0 psia (0.21 bar)	1.5 psia (0.10 bar)
3	16.0 psia (1.10 bar)	8.0 psia (0.55 bar)
4	80 psia (5.52 bar)	40 psia (2.76 bar)

Table 15: Transmitter with In-line Sensor Module (Measurement Types 6 and 8)

GP/AP range	Standard	Enhanced
1	0.6 psi (41.37 mbar)	0.3 psi (20.68 mbar)
2	3.0 psi (0.21 bar)	1.5 psi (0.10 bar)
3	16.0 psi (1.10 bar)	8.0 psi (0.55 bar)
4	80 psi (5.52 bar)	40 psi (2.76 bar)
5	4000 psi (275.79 bar)	2000 psi (137.89 bar)

Process temperature RTD interface

Minimum span = 50 °F (27.78 °C)

Digital communication protocol

The Rosemount 4088 MultiVariable Transmitter has multiple output protocols available. The Rosemount 4088A communicates via Modbus (RS-485) with 8 data bits, one stop bit, and no parity. Baud rates supported are 1200, 2400, 4800, 9600, and 19200.

The Rosemount 4088B communicates via MVS 205 and BSAP.

Both the Rosemount 4088A and 4088B have a HART port that is only available for configuration. This port conforms to the HART Revision 7 Specifications.

Power supply

External power supply required for Rosemount 4088

V _{min} (V)	V _{max} (V)
5.4	30

The maximum average current is I_{max} (mA) = 4.6 mA at 5.4 Vdc. This includes RS-485 communication at a rate of once per second and no HART communication.

Overpressure limits

Transmitter will withstand the following limits without damage.

Table 16: Transmitter with Rosemount MultiVariable Sensor Module (Measurement Types 1 and 2)

AP/GP range	Differential pressure range ⁽¹⁾					
	1	2	3	4	5	A
3	1600 psi (110.32 bar)	N/A				N/A
4	2000 psi (137.89 bar)	3626 psi (250.00 bar)				
5 ⁽²⁾	N/A	3626 psi (250.00 bar) if applied to one side 6500 psi (448.16 bar) if applied to both side			N/A	
6		1600 psi (110.32 bar)		N/A		1600 psi (110.32 bar)
7		3626 psi (250.00 bar)				3626 psi (250.00 bar)

(1) Pressure can be applied to one or both sides.

(2) Static pressure range 5 is a sealed gauge sensor.

Table 17: Transmitter with Single Variable Sensor Module (Measurement Types 3, 4, 5, 6, 7, and 8)

Range	In-line style	Coplanar Style		
		Absolute	Gauge	DP
0	N/A	60 psia (4.14 bar)	N/A	N/A
1	750 psi (51.71 bar)	750 psia (51.71 bar)	2000 psi (137.89 bar)	2000 psi (137.89 bar)
2	1500 psi (103.42 bar)	1500 psia (103.42 bar)	3626 psi (250.00 bar)	3626 psi (250.00 bar)
3	1600 psi (110.32 bar)	1600 psia (110.32 bar)		
4	6000 psi (413.69 bar)	6000 psia (413.69 bar)		
5	15000 psi (1034.21 bar)	N/A		

Static pressure limits

Operates within specifications between static line pressures of 0.5 psia (0.03 bar) and the values in the tables below.

Table 18: Transmitter with Rosemount MultiVariable Sensor Module (Measurement Types 1 and 2)

DP Range	Static pressure range (GP/AP)				
	3	4	5 ⁽¹⁾⁽²⁾	6	7
1	800 psi (55.15 bar)N/A	2000 psi (137.89 bar)	N/A	N/A	N/A
2		3626 psi (250.00 bar)	6092 psi (420.00 bar)	300 psi (20.68 bar)	1500 psi (103.42 bar)
3				N/A	N/A
4	N/A	N/A	N/A	300 psi (20.68 bar)	1500 psi (103.42 bar)
5			N/A		
Extended range (code A)					

- (1) Static pressure range 5 is a sealed gauge sensor
- (2) For temperature range -40 to -20 °F URL is 4500 psi (310.26 bar), for temperature range -20 to 185 °F URL is 6092 psi (420 bar)

Table 19: Transmitter with Single Variable Coplanar Sensor Module (Measurement Types 3, 4, 5, and 7)

Range	DP sensor ⁽¹⁾
0	N/A
1	2000 psi (137.89 bar)
2	3626 psi (250.00 bar)
3	
4	
5	

- (1) The static pressure limit of a DP sensor with the P9 option is 4500 psi (310.30 bar). The static pressure limit of a DP sensor with the P0 option is 6092 psi (420.00 bar).

Burst pressure limits

Coplanar sensor module (measurement types 1, 2, 3, 4, 5, and 7)

10000 psi (689.47 bar)

Note

12250 psi (844.61 bar) is the coplanar sensor module burst pressure limit with option code P9.

Note

16230 psi (1119.02 bar) is the coplanar sensor module burst pressure limit with option code P0.

Note

16400 psi (1130.74 bar) is the coplanar sensor module burst pressure limit for measurement types 1 and 2 with static pressure range 5.

In-line sensor module (measurement types 6 and 8)

Ranges 1–4: 11000 psi (758.42 bar)

Range 5: 26000 psi (1792.64 bar)

Maximum working pressure limits

Maximum working pressure is the maximum pressure allowed for normal transmitter operation. For a differential pressure transmitter, the maximum working pressure is the static line pressure under which the transmitter can safely operate. If one side of the transmitter is exposed to the full static line pressure due to mis-valving, the transmitter will experience an output shift and must be re-zeroed. For a gauge or absolute pressure transmitter, the maximum working pressure is the same as the USL. The maximum working pressure of transmitters with assembled process connection options is limited by the lowest maximum pressure rating of the individual components.

Table 20: Transmitter with Multivariable Sensor Module (Measurement Types 1 and 2)

DP Range	Static pressure range (GP/AP)				
	3	4	5 ⁽¹⁾	6	7
1	800 psi (55.15 bar)	2000 psi (137.89 bar)	N/A	N/A	N/A
2	N/A	3626 psi (250.00 bar)	6092 psi (420bar)	300 psi (20.68 bar)	1500 psi (103.42 bar)
3				N/A	
4			N/A		
5		N/A			
Extended range (code A)	N/A		N/A	300 psi (20.68 bar)	1500 psi (103.42 bar)

(1) For temperature range -40 to -20 °F MWP is 4500 PSI (310.26 bar), for temperature range -20 to 185 °F is 6092 PSI (420 bar).

Table 21: Transmitter with Single Variable Sensor Module (Measurement Types 3, 4, 5, 6, 7, and 8)

Range	Coplanar (measurement types 3 and 4)			In-line (measurement types 6 and 8)	
	Differential pressure ⁽¹⁾	Gauge pressure	Absolute pressure	Gauge pressure	Absolute pressure
0	N/A	N/A	5 psia (0.35 bar)	N/A	N/A
1	2000 psi (137.89 bar)	0.9 psi (0.06 bar)	30 psia (2.06 bar)	30 psi (2.06 bar)	30 psia (2.06 bar)
2	3626 psi (250.00 bar)	9 psi (0.62 bar)	150 psia (10.34 bar)	150 psi (10.34 bar)	150 psia (10.34 bar)
3		36 psi (2.48 bar)	800 psia (55.15 bar)	800 psi (55.15 bar)	800 psia (55.15 bar)
4		300 psi (20.68 bar)	4000 psia (275.79 bar)	4000 psi (275.79 bar)	4000 psia (275.79 bar)
5		2000 psi (137.89 bar)	N/A	10000 psi (689.47 bar)	10000 psia (689.47 bar)

(1) The maximum working pressure limit of a DP Sensor with the P9 option is 4500 psi (310.30 bar). The maximum working pressure limit of a DP Sensor with the P0 option is 6092 psi (420.00 bar).

Temperature limits

Ambient

Configuration	Temperature limits
Default	-40 to 185 °F (-40 to 85 °C)
With LCD display ⁽¹⁾ :	-40 to 176 °F (-40 to 80 °C)
with option code P0:	-20 to 185 °F (-29 to 85 °C)
with coplanar measurement types 1, 2, and static pressure range 5:	-20 to 185 °F (-29 to 85 °C)

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

Storage

Configuration	Temperature limits
Default	-50 to 185 °F (-46 to 85 °C)
With LCD display	-40 to 185 °F (-40 to 85 °C)

Process temperature limits

At atmospheric pressures and above:

Coplanar sensor module (measurement types 1, 2, 3, 4, 5, and 7)	
Silicone Fill Sensor⁽¹⁾⁽²⁾⁽³⁾	
with coplanar flange	-40 to 250 °F (-40 to 121 °C) ⁽⁴⁾
with traditional flange	-40 to 300 °F (-40 to 149 °C) ⁽⁵⁾⁽⁴⁾
with level flange	-40 to 300 °F (-40 to 149 °C) ⁽⁴⁾
with Rosemount 305 Integral Manifold	-40 to 300 °F (-40 to 149 °C) ⁽⁴⁾⁽⁵⁾
Inert fill sensor ⁽¹⁾⁽⁶⁾	-40 to 185 °F (-40 to 85 °C) ^{(7) (8)}
In-line sensor module (measurement types 6 and 8)	
Silicone fill sensor ⁽¹⁾	-40 to 250 °F (-40 to 121 °C) ⁽⁴⁾
Inert fill sensor ⁽¹⁾	-22 to 250 °F (-30 to 121 °C) ⁽⁴⁾

- (1) Process temperatures above 185 °F (85 °C) require derating the ambient limits by a 1.5:1 ratio. For example, for process temperature of 195 °F (91 °C), new ambient temperature limit is equal to 170 °F (77 °C). This can be determined as follows:
 $(195 - 185 \text{ °F}) \times 1.5 = 15 \text{ °F}$, $185 - 15 \text{ °F} = 170 \text{ °F}$
- (2) 212 °F (100 °C) is the upper process temperature limit for DP Range 0.
- (3) The lower temperature limit of coplanar measurement types 1, and 2 with static pressure range 5 is -20 °F (-29 °C).
- (4) 220 °F (104 °C) limit in vacuum service; 130 °F (54 °C) for pressures below 0.5 psia.
- (5) -20 °F (-29 °C) is the lower process temperature limit with option code P0.
- (6) 32 °F (0 °C) is the lower process temperature limit for DP Range 0.
- (7) For measurement types 3, 4, 5, and 7 there is a 160 °F (71 °C) limit in vacuum service. For measurement types 1 and 2 there is a 140 °F (60 °C) limit in vacuum service.
- (8) Not available measurement types 5 and 7 with an absolute static pressure sensor.

Humidity limits

0 to 100 percent relative humidity

Turn-on time

Transmitter performance will be within specifications within five seconds of power being applied.

Volumetric displacement

Less than 0.005 in³ (0.08 cm³)

Damping

Output response time to a step change is user-selectable from 0 to 60 seconds for one time constant. Each measured variable (Differential Pressure, Static Pressure, and Process Temperature) can be individually adjusted. Software damping is in addition to sensor module response time.

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 and M20 x 1.5 conduit; Modbus or BSAP/MVS interface connections fixed to terminal block.

Process connections

Coplanar sensor module (measurement types 1, 2, 3, 4, 5, and 7)	
Standard	¼ -18 NPT on 2 ⅛-in. centers
Flange adapters	½ -14 NPT on 2-in. (50.8 mm), 2 ⅛-in. (54.0 mm), or 2 ¼-in. (57.2 mm) centers
In-line sensor module (measurement types 6 and 8)	
Standard	½ -14 NPT female

Process-wetted parts

Table 22: Process Isolating Diaphragms

Coplanar sensor module (measurement types 1, 2, 3, 4, 5, and 7)
316L SST (UNS S31603), Alloy C-276 (UNS N10276), Alloy 400 (UNS N04400)
In-line sensor module (measurement types 6 and 8)
316L SST (UNS S31603), Alloy C-276 (UNS N10276)

Drain/vent valves

316 SST or Alloy C-276 material

Process flanges and flange adapters

Plated CS

SST: CF-8M (Cast 316 SST) per ASTM A743

Cast C-276: CW-12MW per ASTM A494

Wetted O-rings

Glass-filled PTFE

Non-wetted parts

Electronics housing

Low-copper aluminum alloy or CF-8M (Cast 316 SST)

Enclosures meet NEMA® Type 4X, IP66, and IP68 [66 ft. (20 m) for 168 hours] when properly installed.

Sensor module housing

SST: CF-3M (cast 316L SST)

Bolts

Plated CS per ASTM A449, Type 1

Austenitic 316 SST per ASTM F593

ASTM A453, Class D, Grade 660 SST

ASTM A193, Grade B7M alloy steel

ASTM A193, Class 2, Grade B8M SST

Alloy K-500

Sensor module fill fluid

Silicone or inert halocarbon (inert not available with coplanar absolute pressure sensors). Inert for In-Line series uses Fluorinert™ FC-43.

Paint for aluminum housing

Polyurethane

Cover O-rings

Buna-N

Shipping weights

Table 23: Sensor module weights (Flange and bolts not included.)

Coplanar sensor module	In-line sensor module
3.1 lb. (1.4 kg)	1.4 lb. (0.6 kg)

Table 24: Transmitter weights

Transmitter with coplanar sensor module (measurement types 1, 2, 3, 4, 5, and 7) ⁽¹⁾	
Aluminum housing, SST flange	5.39 lb. (2.44 kg)

Table 24: Transmitter weights (continued)

Transmitter with in-line sensor module (measurement types 6 and 8)	
Aluminum housing	3.65 lb. (1.66 kg)

(1) Fully functional transmitter with sensor module, housing, terminal block, and covers. Does not include LCD display.

Table 25: Transmitter option weights

Option Code	Option	Add lb (kg)
1J, 1K	SST housing	1.9 (1.1)
M5 ⁽¹⁾	LCD display for aluminum housing LCD display for SST housing	0.3 (0.1) 0.2 (0.1)
B4	SST mounting bracket for coplanar flange	1.2 (0.5)
B1, B7	Mounting bracket for traditional flange	1.7 (0.8)
B2, B8	Mounting bracket for traditional flange with SST bolts	1.3 (0.6)
B3, B9	Flat mounting bracket for traditional flange	1.7 (0.8)
BA, BC	SST bracket for traditional flange	1.6 (0.7)
B4	SST mounting bracket for in-line configuration	1.3 (0.6)
F12 ⁽²⁾	SST traditional flange with SST drain vents	3.2 (1.5)
F13 ⁽²⁾	Cast C-276 traditional flange with Alloy C-276 drain vents	3.6 (1.6)
E12 ⁽²⁾	SST coplanar flange with SST drain vents	1.9 (0.9)
F15 ⁽²⁾	SST traditional flange with Alloy C-276 drain vents	3.2 (1.5)

(1) Includes LCD display and display cover.

(2) Includes mounting bolts.

Table 26: Transmitter component weights

Item	Weight in lb (kg)
Aluminum standard cover	0.4 (0.2)
SST standard cover	1.3 (0.6)
Aluminum display cover	0.7 (0.3)
SST display cover	1.5 (0.7)
LCD display ⁽¹⁾	0.1 (0.04)
Terminal block	0.2 (0.1)

(1) Display only.

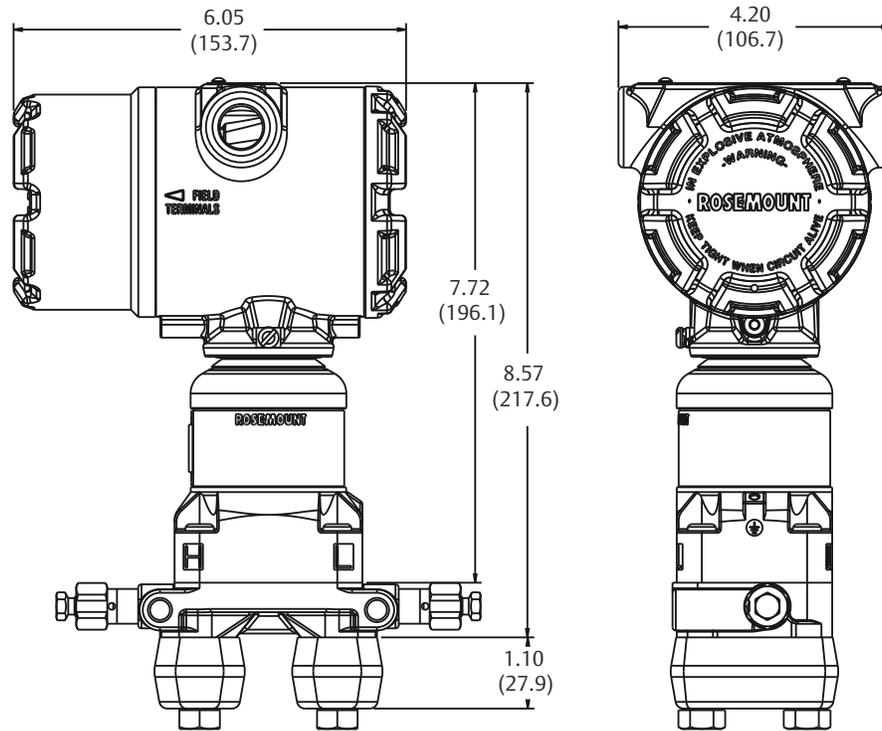
Product certifications

See the Rosemount 4088 [Quick Start Guide](#) for detailed information on the existing approvals and certifications.

Dimensional drawings

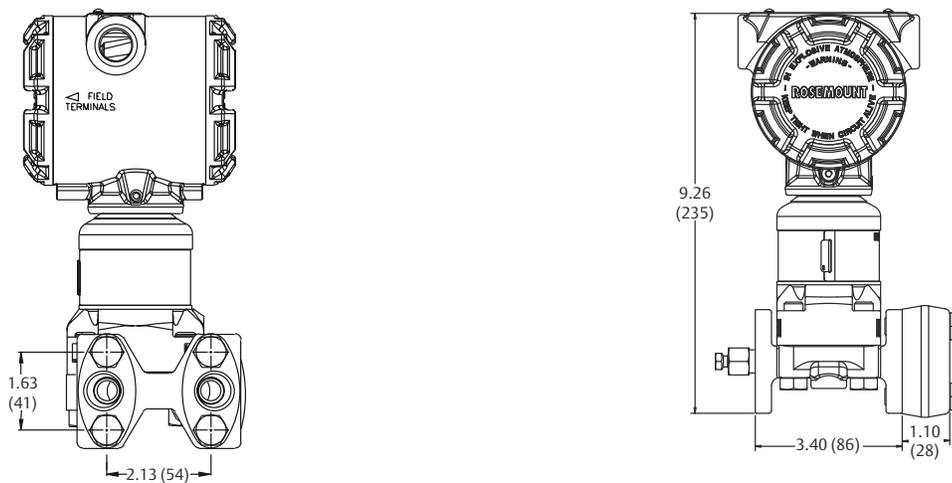
Process adapters (option D2) and Rosemount 305 Integral Manifolds must be ordered with the transmitter.

Figure 1: Transmitter with Coplanar Sensor Module and Coplanar Flange



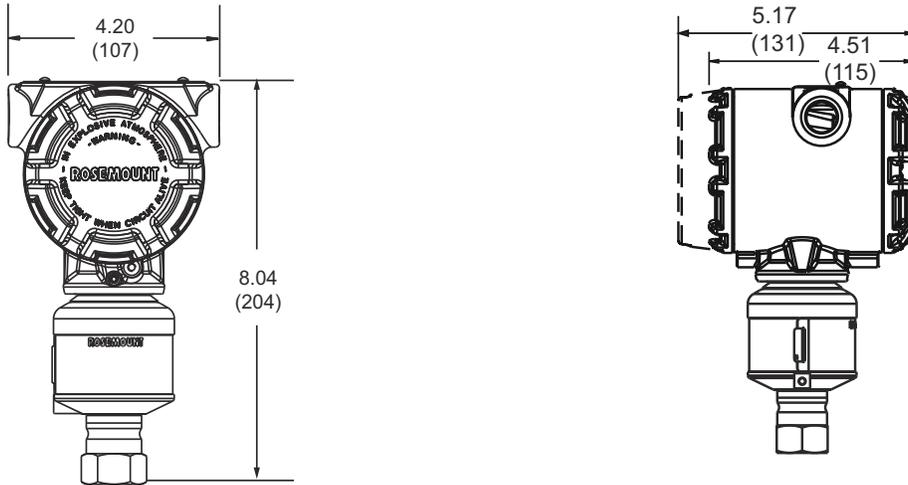
Dimensions are in inches (millimeters).

Figure 2: Transmitter with Coplanar Sensor Module and Traditional Flange



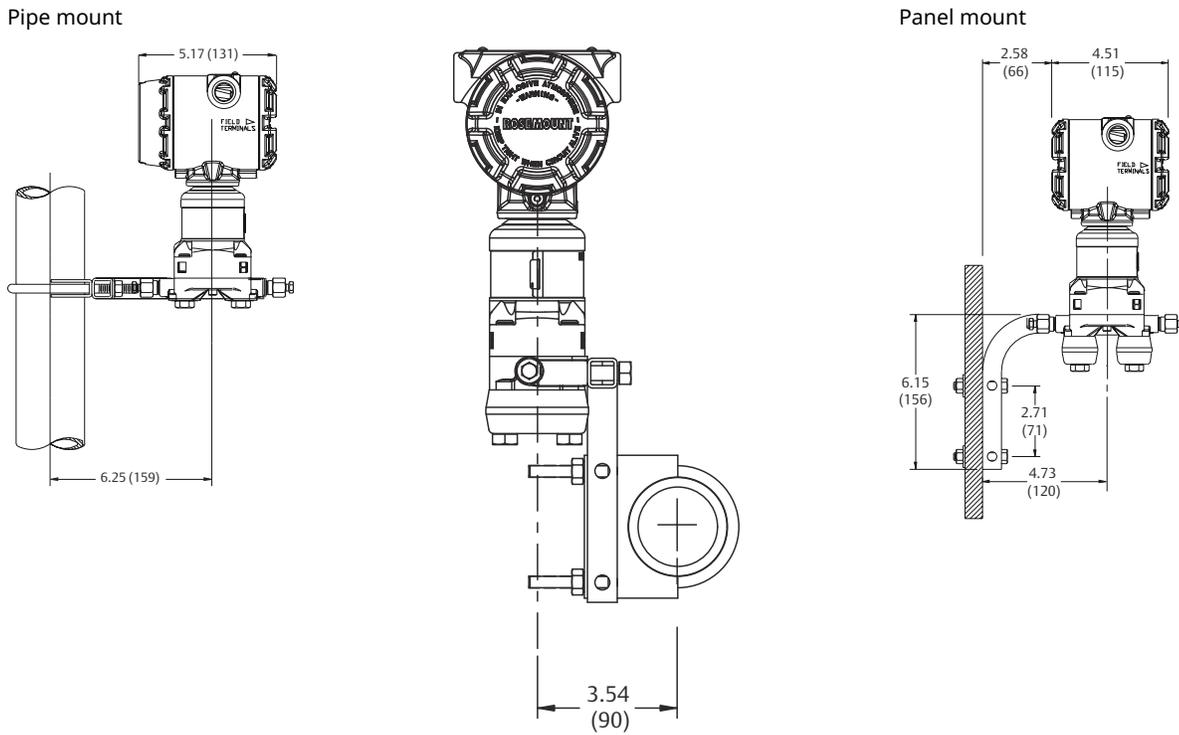
Dimensions are in inches (millimeters).

Figure 3: Transmitter with In-line Sensor Module



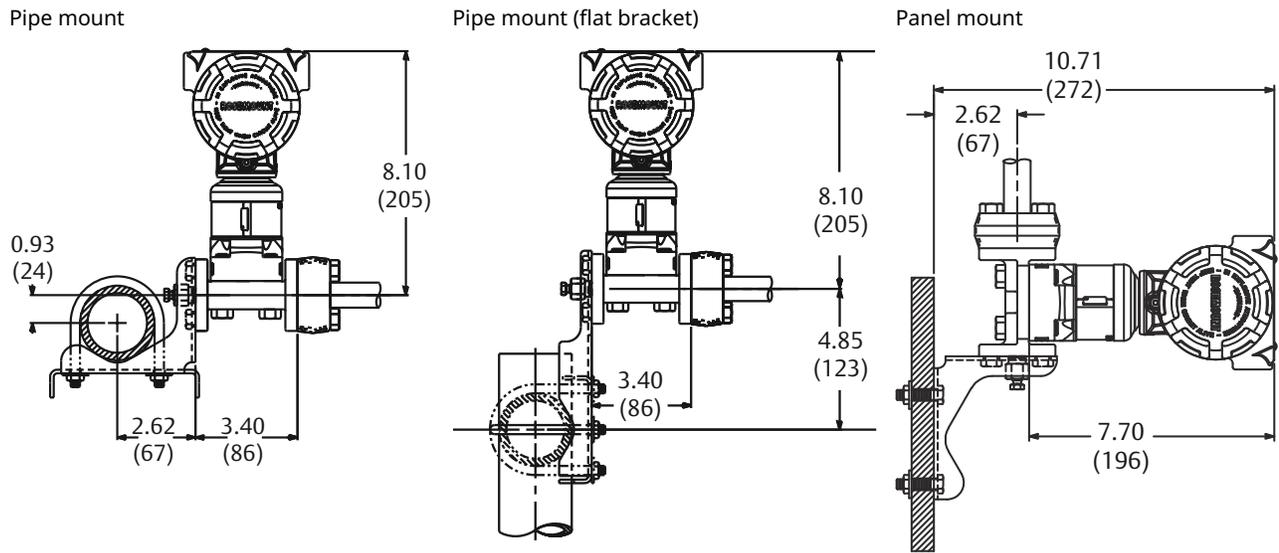
Dimensions are in inches (millimeters).

Figure 4: Coplanar Flange Mounting Configurations



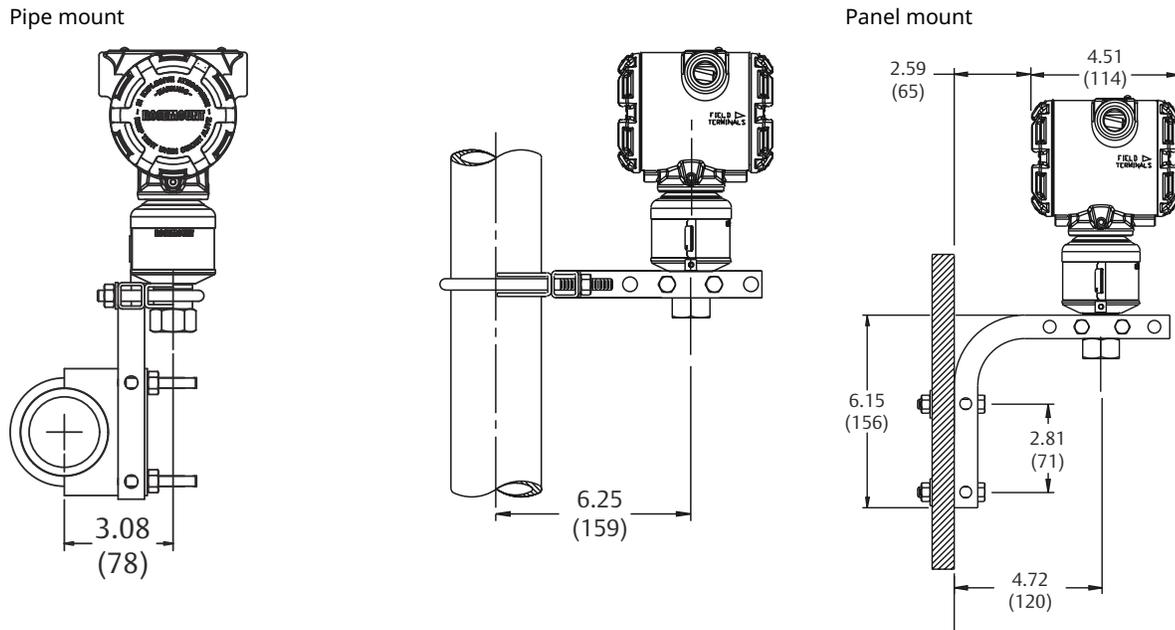
Dimensions are in inches (millimeters).

Figure 5: Traditional Flange Mounting Configurations



Dimensions are in inches (millimeters).

Figure 6: In-Line Mounting Configurations



Dimensions are in inches (millimeters).

For more information: [Emerson.com](https://www.emerson.com)

©2023 Emerson. All rights reserved.

Emerson Terms and Conditions of Sale are available upon request. The Emerson logo is a trademark and service mark of Emerson Electric Co. Rosemount is a mark of one of the Emerson family of companies. All other marks are the property of their respective owners.