

# Rosemount 2088 Absolute and Gage Pressure Transmitter

- Performance of 0.075% with High Accuracy option
- Lightweight, compact design for cost effective installation
- Protocols available include 4-20 mA HART® and 1-5 Vdc HART Low Power
- Absolute and gage pressure ranges up to 4000 psi (276 bar)
- Rangeability of 20:1



## Contents

Specifications . . . . .	page 3
Product Certifications . . . . .	page 5
Dimensional Drawings . . . . .	page 8
Ordering Information . . . . .	page 9

## Rosemount 2088 Absolute and Gage Pressure Transmitter

### Performance of 0.075% with high accuracy option

The Rosemount 2088 utilizes our reliable solid-state, polysilicon pressure sensor with a choice of either 316L or Alloy C-276 isolating diaphragms. This design has many benefits, including a reference accuracy of 0.075% and a stability of 0.10% for 12 months.

### Lightweight, Compact Design

Its lightweight, compact design allows the 2088 to be directly connected to a process – providing a quick, easy and cost effective installation. A variety of process connections are available, including multiple threaded connections, our full line of manifolds and remote diaphragm seals that provide solutions for virtually any application.

### 4-20 mA HART and 1-5Vdc HART Low Power Protocols Available

The 2088 utilizes the advantages of HART communication, enabling quick and easy reranging, calibration and troubleshooting. It also features a fully configurable LCD that displays pressure and diagnostic information. The information displayed is directly from the microprocessor which accounts for its accuracy and reliability.

### Absolute or gage pressure ranges up to 4000 psi (276 bar) and 20:1 rangedown

The 2088 is available in either gauge or absolute pressure in ranges to 4,000 psi (276 bar). Higher turndown means lower inventories by allowing you to measure pressures from 1.5 psi (103 mbar) to 4000 psi (276 bar) with only four transmitter ranges.

## Rosemount Pressure Solutions

### Rosemount 3051S Series of Instrumentation

Highest performing scalable pressure, flow and level measurement solutions drive better plant efficiency and more productivity. Innovative features include wireless, advanced diagnostics, and multivariable technologies.

### Rosemount 305, 306 and 304 Manifolds

Factory-assembled, calibrated and seal-tested transmitter-to-manifold assemblies reduce installation costs.

### Rosemount 1199 Diaphragm Seals

Provides reliable, remote measurements of process pressure and protects the transmitter from hot, corrosive, or viscous fluids.

### Orifice Plate Primary Element Systems: Rosemount 1495 and 1595 Orifice Plates, 1496 Flange Unions and 1497 Meter Sections

A comprehensive offering of orifice plates, flange unions and meter sections that are easy to specify and order. The 1595 Conditioning Orifice provides superior performance in tight fit applications.

### Rosemount 3051SFA Annubar® Flowmeters and Rosemount 485 Annubar Flowmeter Series

The state-of-the-art, fifth generation Rosemount 485 Annubar combined with the Rosemount MultiVariable transmitter technology creates an accurate, repeatable and dependable insertion-type flowmeter.

### Rosemount 3051SFC Compact Orifice Flowmeters and Rosemount 405 Compact Orifice Flowmeter Series

Compact Orifice Flowmeters can be installed between existing flanges, up to a Class 600 (PN100) rating. A conditioning orifice plate version offers installation in tight fit applications requiring only two diameters of straight run upstream after a flow disturbance.

### Rosemount 3051SFP Integral Orifice Flowmeters and Rosemount 1195 Integral Orifice Flowmeter Series

These integral orifice flowmeters eliminate the inaccuracies that become more pronounced in small orifice line installations. The completely assembled, ready to install flowmeters reduce cost and simplify installation.

# Specifications

## Performance Specifications

(Zero-based spans, reference conditions, silicone oil fill, and 316L SST isolating diaphragm.)

### Reference Accuracy

- $\pm 0.10\%$  of calibrated span. Includes combined effects of linearity, hysteresis, and repeatability
- $\pm 0.075\%$  of calibrated span (high accuracy option)

### Ambient Temperature Effect

Expressed as a total effect per 50 °F (28 °C)  
*Total effect includes zero and span effects.*

$\pm (0.15\% \text{ URL} + 0.15\% \text{ of span})$  from  $-40$  °F to 185 °F  
( $-40$  °C to 85 °C)

### Stability

$\pm 0.10\%$  of URL for 12 months

### Vibration Effect

Less than  $\pm 0.1\%$  of URL when subjected to vibration of: peak to peak constant displacement of 4 mm (5–15 Hz) and constant acceleration of 2 g (15–150 Hz) and 1 g (150–2000 Hz).

### Power Supply Effect

Less than 0.01% of calibrated span per volt

### Mounting Position Effect

Zero shift of up to 1.2 inH<sub>2</sub>O (0.30 kPa), which can be calibrated out. No span effect.

### RFI Effect

Less than  $\pm 0.25\%$  of upper range limit from 20–1000 MHz at 30 V/m with leads in conduit. Less than  $\pm 0.25\%$  of upper range limit from 20–1000 MHz at 10 V/m with unshielded twisted pair (no conduit).

### Transient Protection Limits

#### IEEE 587 Category B

- 6 kV Crest ( $1.2 \times 50 \mu\text{s}$ )
- 3 kA Crest ( $8 \times 20 \mu\text{s}$ )
- 6 kV Crest (0.5  $\mu\text{s}$  by 100 kHz)

#### IEEE 472

SWC 2.5 kV Crest, 1 MHz waveform

### General Specifications

Tested to IEC 801-3

## Functional Specifications

### Service

Liquid, gas, and vapor applications

## Ranges

Range	Minimum Span	Upper (URL)	Lower (LRL)	Lower <sup>(1)</sup> (LRL) (Gage)
1	1.5 psi (0,103 bar)	30 psi (2,1 bar)	0 psia (0 bar)	-14.7 psig (-1,01 bar)
2	8 psi (0,55 bar)	150 psi (10,3 bar)	0 psia (0 bar)	-14.7 psig (-1,01 bar)
3	40 psi (2,76 bar)	800 psi (55,2 bar)	0 psia (0 bar)	-14.7 psig (-1,01 bar)
4	200 psi (13,8 bar)	4000 psi (275,8 bar)	0 psia (0 bar)	-14.7 psig (-1,01 bar)

(1) Assumes atmospheric pressure of 14.7 psig.

## Output

Code S: 4–20 mA dc

Code N: 1-5 volt dc, low power

(Outputs are directly proportional to the input pressure)

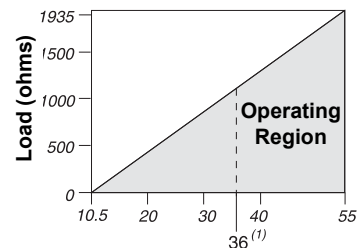
## Rangedown

20 to 1

## Load Limitations

Reverse polarity protection is standard. Maximum loop resistance is determined by the power supply voltage as described by the following equations:

$$\text{Max. Loop Resistance} = 43.5 (\text{Power Supply Voltage} - 10.5)$$



Power Supply Output Code S (dc Volts)

Communication requires a minimum loop resistance of 250 ohms.

(1) For hazardous location approvals, power supply must not exceed 36 V.

(2) For CENELEC Ex ia approval, the power supply must not exceed 30 V.

## Power Supply

External power supply required. Transmitter operates on 10.5–36 V dc with no load (6–14V for Low Power). Reverse polarity protection is standard.

## Current Draw

Output Code N:  $\leq 3$  mA without LCD display.

## Overpressure Limits

Range 1: 120 psig max

All other ranges: two times the URL

### Burst Pressure

11,000 psi for all ranges

### Zero Elevation and Suppression

Zero can be suppressed between atmosphere for gage transmitters or 0 psia for absolute transmitters and upper range limit, provided the calibrated span is equal to or greater than the minimum span, and the upper range value does not exceed the upper range limit.

### Time Response

Time Constant: 200 milliseconds

Dead time: < 0.1 s

Update rate: 20 times per second minimum

### Temperature Limits

Ambient:

-40 to 185 °F (-40 to 85 °C)

-4 to 175 °F (-20 to 80 °C) with LCD display<sup>(1)</sup>

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

Storage:

-50 to 230 °F (-46 to 110 °C)

-40 to 185 °F (-40 to 85 °C) with LCD display

Process:

Silicone fill sensor: -40 to 250 °F (-40 to 121 °C)<sup>(1)</sup>

Inert fill sensor: -22 to 250 °F (-30 to 121 °C)<sup>(1)</sup>

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 °F - 185 °F) x 1.5 = 15 °F, 185 °F - 15 °F = 170 °F

<sup>(1)</sup> 250 °F (140 °C) limit in vacuum service; 130 °F (54 °C) for pressures below 0.5 psia.

### Humidity Limits

0–100% relative humidity

### Volumetric Displacement

Less than 0.00042 cm<sup>3</sup>

### Turn-on Time

2.0 seconds, no warm-up required

### Transmitter Security

Activating the transmitter security function prevents changes to the transmitter configuration, including local zero and span adjustments. Security is activated by an internal switch.

### Failure Mode

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:

Standard Operation			
Output Code	Linear Output	Fail High	Fail Low
S	$3.9 \leq I \leq 20.8$	$I \geq 21.75 \text{ mA}$	$I \leq 3.75 \text{ mA}$
N	$0.97 \leq V \leq 5.2$	$V \geq 5.4 \text{ V}$	$V \leq 0.95 \text{ V}$
N with Code C2	$0.78 \leq V \leq 3.44$	$V \geq 4.0 \text{ V}$	$V \leq 0.77 \text{ V}$

NAMUR-Compliant Operation			
Output Code	Linear Output	Fail High	Fail Low
Output Code S	$3.8 \leq I \leq 20.5$	$I \geq 22.5 \text{ mA}$	$I \leq 3.6 \text{ mA}$

## Physical Specifications

### Electrical Connection

<sup>1</sup>/<sub>2</sub>-14 NPT, M20 × 1.5 (CM20), PG 13.5, or G <sup>1</sup>/<sub>2</sub> female (PF <sup>1</sup>/<sub>2</sub> female) conduit entry

### Process Connection

<sup>1</sup>/<sub>2</sub>-14 NPT female, DIN 16288 G <sup>1</sup>/<sub>2</sub> male, RC <sup>1</sup>/<sub>2</sub> female (PT <sup>1</sup>/<sub>2</sub> female), M20 × 1.5 (CM20) male

### Process Wetted Parts

#### Isolating Diaphragm

316L stainless steel or Alloy C-276

#### Process Connector

316L stainless steel CF-3M (Cast version of 316L SST, material per ASTM\_A743) or Alloy C-276

### Non-wetted Parts

#### Electronics Housing

Low-copper aluminum, NEMA 4X, IP65, IP67, CSA enclosure Type 4X

#### Paint

Polyurethane

#### Cover O-rings

Buna-N

#### Fill Fluid

Silicone or inert fill

#### Weight

Output Code S and N: Approximately 2.44 lb (1.11 kg)

### Tagging

The transmitter is tagged, at no charge, in accordance with customer requirements. All tags are stainless steel. The standard tag is permanently attached to the transmitter. Tag character height is <sup>1</sup>/<sub>8</sub> in. (0.318 cm). A wired tag is available upon request.

### Accessory Block and Bleed Valve (S5 Option)

The Rosemount 306 Integral Manifold is pre-assembled to transmitter and leak checked.

## Product Certifications

### Approved Manufacturing Locations

Rosemount Inc. — Chanhassen, Minnesota, USA  
 Emerson Process Management GmbH & Co. — Wessling, Germany  
 Emerson Process Management Asia Pacific Private Limited — Singapore  
 Beijing Rosemount Far East Instrument Co., LTD — Beijing, China

### European Union Directive Information

The EC declaration of conformity for all applicable European directives for this product can be found at [www.rosemount.com](http://www.rosemount.com). A hard copy may be obtained by contacting our local sales office.

#### ATEX Directive (94/9/EC)

Emerson Process Management complies with the ATEX Directive.

#### European Pressure Equipment Directive (PED) (97/23/EC)

2088/2090 Pressure Transmitters  
 — Sound Engineering Practice

#### Electro Magnetic Compatibility (EMC) (2004/108/EC)

All 2088/2090 Pressure Transmitter:  
 EN 61326-1:1997 with Amendments A1, A2, and A3

### Hazardous Locations Certifications

#### North American Certifications

##### Ordinary Location Certification for Factory Mutual

As standard, the transmitter has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by FM, a nationally recognized testing laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

##### Factory Mutual (FM) Approvals

- E5** Explosion-Proof for Class I, Division 1, Groups B, C, and D. Dust-Ignition-Proof for Class II, Division 1, Groups E, F, G, Class III, Division 1, indoor and outdoor (Type 4X) hazardous locations; factory sealed. Temperature Class T5  $T_a = 85^\circ\text{C}$ .
- I5** Intrinsically safe for use in Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, and G; and Class III, Division 1 when connected in accordance with Rosemount drawing 02088-1018. Non-incendive for Class I, Division 2, Groups A, B, C, and D.  
 For input parameters see control drawing 02088-1018. Temperature Class T4  $T_a = 85^\circ\text{C}$ ; indoor and outdoor (NEMA 4X) hazardous locations.

#### Canadian Standards Association (CSA)

All CSA hazardous approved transmitters are certified per ANSI/ISA 12.27.01-2003.

- C6** Explosion-Proof for Class I, Division 1, Groups B, C, and D. Dust-Ignition-Proof for Class II, Division 1, Groups E, F, G, Class III, indoor and outdoor hazardous locations. CSA enclosure Type 4X; factory sealed. Suitable for Class I, Division 2, Groups A, B, C, and D.  
 Intrinsically Safe for Class I, Division 1, Groups A, B, C, and D. Temp. Code T3C. Intrinsically safe when connected with approved barriers in accordance with Rosemount drawing 02088-1024.  
 For input parameters see control drawing 02088-1024.

### European Certifications



- I1** ATEX Intrinsically Safe  
 Certificate No.: BAS00ATEX1166X  II 1 G  
 Ex ia IIC T5 ( $T_{amb} = -55$  to  $40^\circ\text{C}$ )  
 Ex ia IIC T4 ( $T_{amb} = -55$  to  $70^\circ\text{C}$ )  
**CE** 1180

TABLE 1. Input Parameters

Loop/Power
$U_i = 30$ V dc
$I_i = 200$ mA
$P_i = 0.9$ W
$C_i = 0.012$ $\mu\text{F}$

#### Special Conditions For Safe Use (x):


When the optional transient protection terminal block is installed, the apparatus is not capable of withstanding a 500V rms test to case. This must be taken into account on any installation in which it is used, for example by assuring that the supply to the apparatus is galvanically isolated.

- N1** ATEX Type n  
 Certification No.: BAS00ATEX3167X  II 3 G  
 Ex nA nL IIC T5 ( $T_a = -40^\circ\text{C}$  to  $70^\circ\text{C}$ )  
 $U_i = 50$  V dc max  
**CE**

#### Special Conditions For Safe Use (x):


When the optional transient protection terminal block is installed, the apparatus is not capable of withstanding a 500 V r.m.s. test to case. This must be taken into account on any installation in which it is used, for example, by assuring that the supply to the apparatus is galvanically isolated.

# Rosemount 2088

**ND** ATEX Combustible Dust  
 Certificate No.: BAS01ATEX1427X  II 1 D  
 Ex tD A20 T105°C (T<sub>amb</sub> = -20°C to 85°C)  
 IP66  
 CE 1180  
 V<sub>max</sub> = 36 V dc Max  
 I<sub>i</sub> = 24 mA

**Special Conditions For Safe Use (x):**

1. The user must ensure that the maximum rated voltage and current (36 volts, 24 mA, D.C.) are not exceeded. All connections to other apparatus or associated apparatus shall have control over this voltage and current equivalent to a category "ib" circuit according to EN50020.
2. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP66.
3. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66.
4. Cable entries and blanking plugs must be suitable for the ambient range of the apparatus and capable of withstanding a 7J impact test.
5. The 2088/2090 sensor module must be securely screwed in place to maintain the ingress protection of the enclosure.

**ED** ATEX Flameproof  
 Certificate No.: KEMA97ATEX2378  II 1/2 G  
 Ex d IIC T6 (T<sub>a</sub> = -40 °C to 40°C)  
 T4 (T<sub>a</sub> = -40 °C to 80 °C)  
 CE 1180  
 V<sub>max</sub> = 36 (with Output Code S)  
 V<sub>max</sub> = 14 (with Output Code N)

**Japanese Certifications**

**E4** TIIS Flameproof  
 Ex d IIC T6 (T<sub>amb</sub> = 85 °C)

Certificate	Description
TC15879	2088 with SST wetted parts (with display)
TC15877	2088 with Alloy C-276 wetted parts (with display)
TC15876	2088 with Alloy C-276 wetted parts (no display)
TC15875	2088 with SST wetted parts (no display)
TC15874	2088 with Alloy C-276 wetted parts (with display)
TC15873	2088 with Alloy C-276 wetted parts (no display)
TC15872	2088 with SST wetted parts (with display)
TC15871	2088 with SST wetted parts (no display)

**Australian Certifications**

**I7** SAA Intrinsic Safety  
 Certification No.: AUS Ex 1249X  
 Ex ia IIC T4 (T<sub>amb</sub> = 70 °C)  
 Ex ia IIC T5 (T<sub>amb</sub> = 40 °C)  
 IP66  
 When connected per Rosemount drawing 03031-1026

TABLE 2. Input Parameters

Loop/Power
U <sub>max</sub> = 30 V
I <sub>max</sub> = 200 mA
P <sub>max</sub> = 0.9 W
C <sub>i</sub> = 0.01 μF
L <sub>i</sub> = 10 μH

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

Observe barrier/entity parameters during installation. A passive current limited power source must be used. The power source must be such that  $P_o \leq (U_o * I_o)/4$ . For modules using transient protection in the terminal assembly (T1 transient protection models), the apparatus enclosure is to be electrically bonded to the protective earth. The conductor used for the connection shall be equivalent to a copper conductor of 4mm<sup>2</sup> minimum cross-sectional area.

**N7** SAA Type n (Non-Sparking)  
 Certificate No.: AUS Ex 1249X  
 Ex n IIC T4 (T<sub>amb</sub> = 70 °C)  
 Ex n IIC T5 (T<sub>amb</sub> = 40 °C)  
 IP66

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

Where the equipment is installed such that there is an unused conduit entry, it must be sealed with a suitable blanking plug to maintain the IP66 degree of protection. Any blanking plug used with the equipment shall be of a type which requires the use of a tool to effect its removal. Voltage source shall not exceed 60V ac or 75V dc.

**E7** IECEx Flameproof (Explosion-Proof)  
 IECEx Certificate number: IECEx KEM 06.0021X  
 Ex d IIC T6(T<sub>amb</sub> = -20°C to 40°C)  
 Ex d IIC T4(T<sub>amb</sub> = -20°C to 80°C)  
 V<sub>max</sub> = 55Vdc  
 I<sub>i</sub> = 23mA

## Product Data Sheet

00813-0100-4690, Rev KB

April 2010

# Rosemount 2088

**NK** IECEx Dust Ignition Proof  
IECEx Certificate number: IECEx KEM 06.0021X  
Ex tD A22 IP66 T90°C(T<sub>amb</sub> = -20°C to 80°C)  
V<sub>max</sub> = 55Vdc  
I<sub>i</sub> = 23mA

### Special Conditions For Safe Use (x):

1. The device contains a thin wall diaphragm. Installation, maintenance, and use shall take into account the environmental conditions to which the diaphragm will be subjected. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime.
2. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP 66.
3. Unused cable entries must be used which maintain the ingress protection of the enclosure to at least IP 66.
4. Cable entries and blanking plugs must be suitable for the ambient range of the apparatus and capable of withstanding a 7J impact.
5. The 2088/2090 sensor module must be securely screwed in place to maintain the ingress protection of the enclosure

### Brazil Certifications

**I2** INMETRO Intrinsic Safety  
Certification No.: CEPEL-Ex-063/97-1X  
BR-Ex ia IIC T5/T4

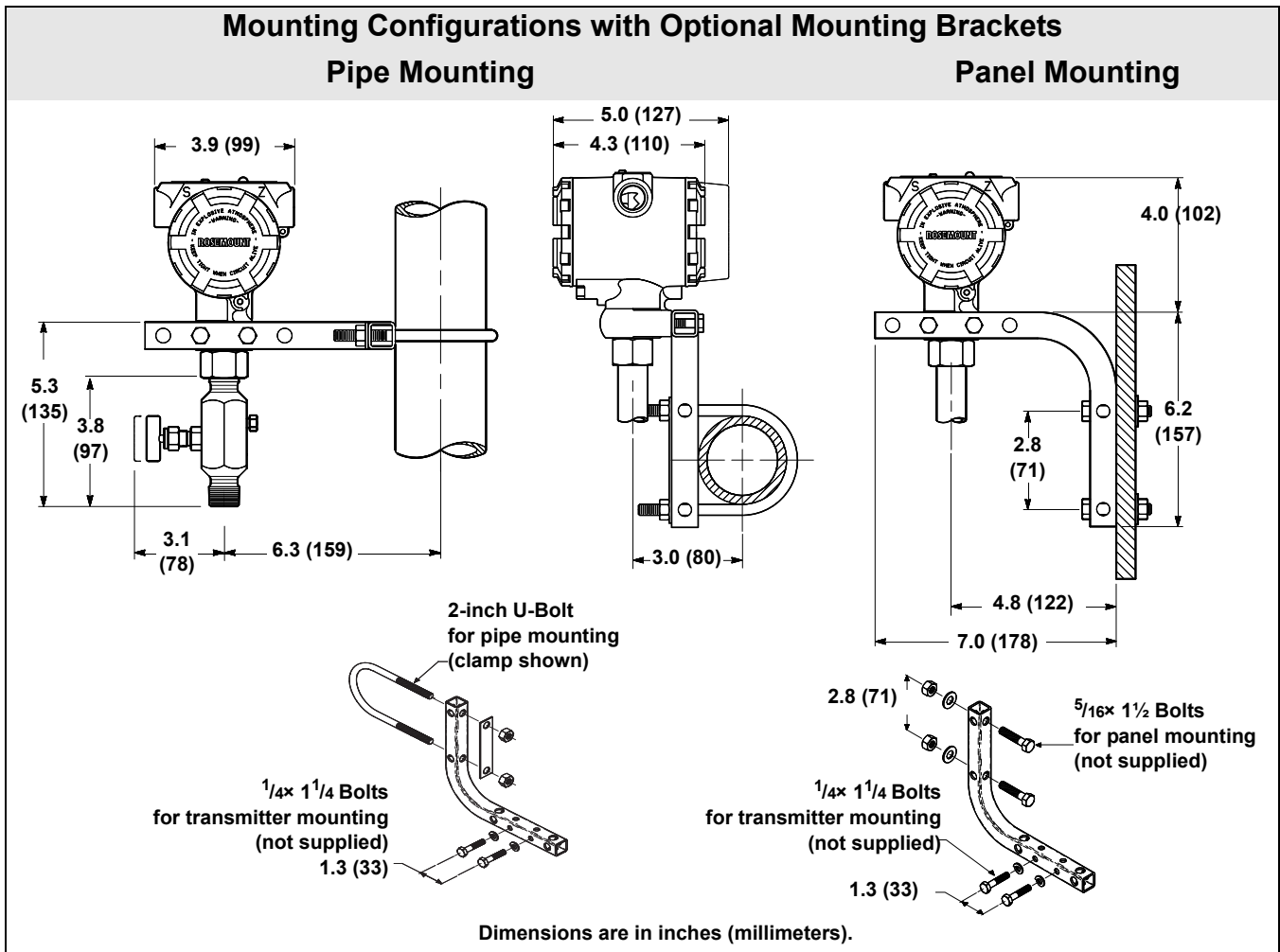
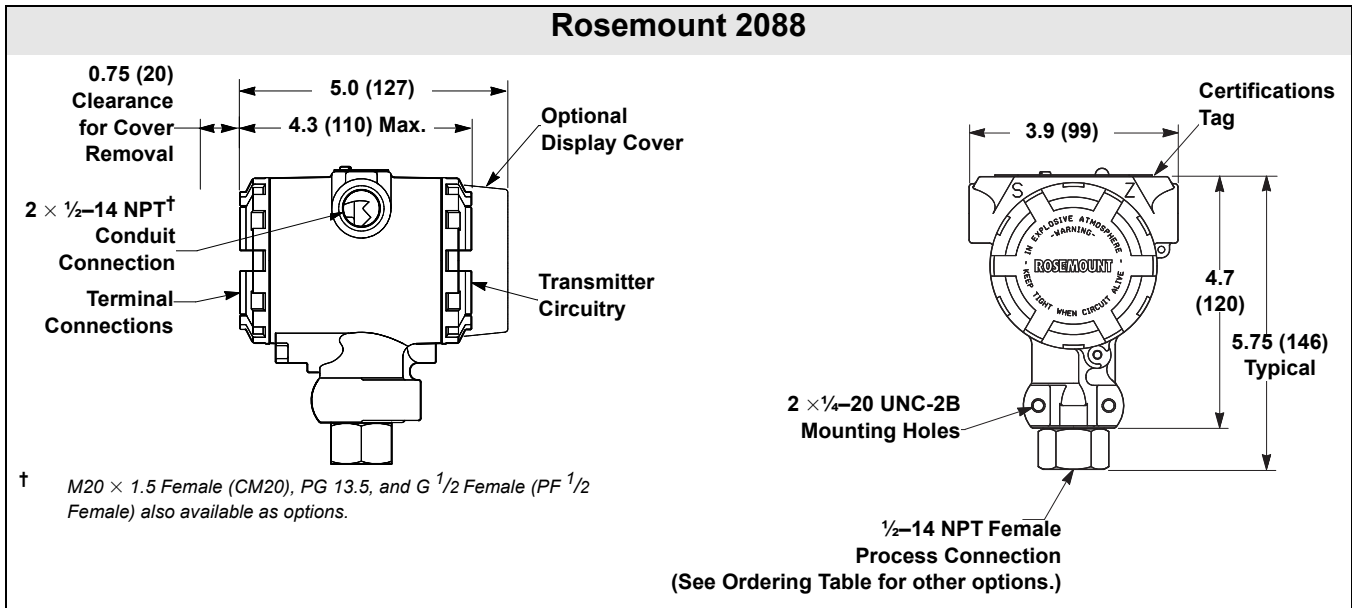
**E2** INMETRO Flameproof  
Certification No.: CEPEL-Ex-076/97-1  
BR-Ex d IIC T6/T5

### Combinations of Certifications

Stainless steel certification tag is provided when optional approval is specified. Once a device labeled with multiple approval types is installed, it should not be reinstalled using any other approval types. Permanently mark the approval label to distinguish it from unused approval types.

**KB** Combination of K5 and C6  
**KH** Combination of K5, I1, and ED  
**K5** Combination of E5 and I5  
**K6** Combination of C6, I1, and ED  
**K7** Combination of I7, N7, E7, and NK  
**K1** Combination of I1, N1, ED, and ND

## Dimensional Drawings





## Ordering Information

TABLE 3. Rosemount 2088 Pressure Transmitter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.  
The Expanded offering is manufactured after receipt of order and is subject to additional delivery lead time.

Model	Product description			
2088	Pressure Transmitter			
Code	Measurement Type			
<b>Standard</b>				<b>Standard</b>
A	Absolute			★
G	Gage			★
Code	Pressure Ranges			
<b>Standard</b>				<b>Standard</b>
	2088G	2088A		
1	-14.7 to 30 psi /(-1,01 to 2,1 bar)	0 to 30 psi (0 to 2,1 bar)		★
2	-14.7 to 150 psi (-1,01 to 10,3 bar)	0 to 150 psi (0 to 10,3 bar)		★
3	-14.7 to 800 psi (-1,01 to 55,2 bar)	0 to 800 psi (0 to 55,2 bar)		★
4	-14.7 to 4,000 psi(-1,01 to 275,8 bar)	0 to 4,000 psi (0 to 275,8 bar)		★
Code	Transmitter Output			
<b>Standard</b>				<b>Standard</b>
S	4–20 mA dc/Digital HART® Protocol			★
N	1-5 V dc Low Power/ Digital HART protocol			★
Code	Materials of Construction			
<b>Standard</b>				<b>Standard</b>
	Process connection	Isolating diaphragm	Fill Fluid	
22 <sup>(1)</sup>	316L SST	316L SST	Silicone	★
33 <sup>(1)</sup>	Alloy C-276	Alloy C-276	Silicone	★
<b>Expanded</b>				
2B <sup>(1)</sup>	316L SST	316L SST	Inert	
Code	Process Connection			
<b>Standard</b>				<b>Standard</b>
A	½–14 NPT Female			★
B <sup>(2)</sup>	DIN 16288 G ½ Male			★
D <sup>(2)(3)</sup>	M20 × 1.5 Male (CM20 Male)			★
<b>Expanded</b>				
C <sup>(2)(3)</sup>	RC ½ Female (PT ½ Female)			
Code	Conduit Entry			
<b>Standard</b>				<b>Standard</b>
1	½–14 NPT			★
2 <sup>(2)</sup>	M20 × 1.5 Female (CM20)			★
<b>Expanded</b>				
4 <sup>(2)</sup>	G ½ Female (PF ½ Female)			

### Options (Include with selected model number)

Diaphragm seal assemblies				
<b>Standard</b>				<b>Standard</b>
S1 <sup>(4)(5)</sup>	Assemble to one Rosemount 1199 diaphragm seal			★

# Rosemount 2088

TABLE 3. Rosemount 2088 Pressure Transmitter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.  
The Expanded offering is manufactured after receipt of order and is subject to additional delivery lead time.

<b>Digital Display</b>		
<b>Standard</b>		<b>Standard</b>
M5	LCD display	★
M7	LCD display, special configuration	★
<b>Mounting brackets</b>		
<b>Standard</b>		<b>Standard</b>
B4	SST mounting bracket with SST Bolts	★
<b>Product Certifications</b>		
<b>Standard</b>		<b>Standard</b>
C6	CSA Explosion-Proof, Intrinsically Safe, and Non-Incendive	★
E4 <sup>(2)(6)</sup>	TIIS Flameproof	★
E5	FM Explosion-Proof, Dust Ignition-proof	★
E7	IECEX Flameproof	★
ED	ATEX Flameproof	★
I1 <sup>(2)</sup>	ATEX Intrinsic Safety	★
I5	FM Intrinsically safe, Division 2	★
I7	SAA Intrinsic Safety	★
K5	FM Explosion-Proof, Dust Ignition-proof, Intrinsically Safe, Division 2	★
K6 <sup>(2)</sup>	CSA Explosion-Proof, Dust Ignition-proof, Intrinsically Safe, Division 2	★
KB	FM and CSA Explosion-Proof, Dust Ignition-proof, Intrinsically Safe, Division 2	★
KH <sup>(2)</sup>	FM Approvals and ATEX Explosion-Proof and Intrinsically Safe	★
N1 <sup>(2)</sup>	ATEX Type n	★
N7	SAA Type n	★
ND <sup>(2)</sup>	ATEX Dust	★
NK	IECEX Dust	★
K7	SAA Flameproof, Dust Ignition-proof, Intrinsic Safety, Type n	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust	★
I2	INMETRO Intrinsic Safety	★
E2	INMETRO Flameproof	★
<b>Pressure Testing</b>		
<b>Expanded</b>		
P1	Hydrostatic testing	
<b>Terminal Blocks</b>		
<b>Standard</b>		<b>Standard</b>
T1	Transient protection	★
<b>Special Cleaning</b>		
<b>Expanded</b>		
P2	Cleaning for special service	
<b>Calibration Certificate</b>		
<b>Standard</b>		<b>Standard</b>
Q4	Calibration certificate	★
<b>Quality Calibration Certificate Traceability Certification</b>		
<b>Standard</b>		<b>Standard</b>
Q8	Material Traceability Certification per EN 10204 3.1B	★
<b>Digital Signal</b>		
<b>Standard</b>		<b>Standard</b>
C4 <sup>(2)</sup>	NAMUR alarm and saturation levels, high alarm	★
CN <sup>(2)</sup>	NAMUR alarm and saturation levels, low alarm	★
<b>Configuration</b>		
<b>Standard</b>		<b>Standard</b>
C9	Software configuration	★

# Product Data Sheet

00813-0100-4690, Rev KB  
 April 2010

# Rosemount 2088

TABLE 3. Rosemount 2088 Pressure Transmitter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.  
 The Expanded offering is manufactured after receipt of order and is subject to additional delivery lead time.

<b>Manifold Assemblies</b>		
<b>Standard</b>		<b>Standard</b>
S5 <sup>(4)(5)</sup>	Assemble to Rosemount 306 integral manifold	★
<b>Calibration Accuracy</b>		
<b>Standard</b>		<b>Standard</b>
P8 <sup>(7)</sup>	0.075% accuracy to 10:1 turndown	★
<b>Water Approval</b>		
<b>Standard</b>		<b>Standard</b>
DW <sup>(8)</sup>	NSF drinking water approval	★
<b>Low Output for Low Power</b>		
<b>Expanded</b>		
C2	0.8 - 3.2 V dc output with HART protocol, Output code N only.	
<b>Surface Finish</b>		
<b>Standard</b>		<b>Standard</b>
Q16	Surface finish certification for sanitary remote seals	★
<b>Toolkit Total System Performance Reports</b>		
<b>Standard</b>		<b>Standard</b>
QZ	Remote Seal System Performance Calculation Report	★
<b>Typical Model Number: 2088 G 2 S 22 A 1 B4 M5</b>		

- (1) Materials of Construction comply with recommendations per NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.
- (2) Not available with low-power Output code N.
- (3) Not available with Alloy C-276, Materials of Construction code 33.
- (4) Use 1/2 - 14 NPT Female Process Connection code A.
- (5) "Assemble-to" items are specified separately and require a completed model number.
- (6) Only available with Conduit Thread code 4.
- (7) Available with Output code S, stainless steel isolators, and silicone fill.
- (8) Requires Materials of Construction code 22 with Process Connection code A.

**TRANSCAT**

 Visit us at [Transcat.com](http://Transcat.com)!

35 Vantage Point Drive // Rochester, NY 14624 // Call 1.800.800.5001

*Standard Terms and Conditions of Sale can be found at [www.rosemount.com/terms\\_of\\_sale](http://www.rosemount.com/terms_of_sale)*

*The Emerson logo is a trade mark and service mark of Emerson Electric Co.*

*Rosemount, the Rosemount logotype, Annubar, ProPlate and Mass ProPlate are registered trademarks of Rosemount Inc.*

*HART is a registered trademark of the HART Communications Foundation.*

*PlantWeb is a registered trademark of one of the Emerson Process Management group of companies.*

*All other marks are the property of their respective owners.*

*© 2010 Rosemount, Inc. All rights reserved.*