Product Data Sheet
May 2015
00813-0100-4698, Rev FB

Rosemount® 2090F Hygienic Pressure Transmitter

- Conforms to 3-A® Sanitary Standards
- Features CIP/SIP service for process temperatures up to 284 ° F (140 ° C)
- Absolute or gage pressure ranges up to 300 psi
- Mounts with either 1 1/2 or 2-in. Tri Clamp connection
- Utilizes Rosemount solid-state, polysilicon sensor for industry leading reliability and performance

EMERSON.
Process Management

Accurate, stable, and reliable pressure measurement for the hygienic industries

Conforms to 3-A sanitary standards

The hygienic design of the 2090F conforms to 3-A Sanitary Standards, and is USDA accepted. The materials of construction are Generally Recognized As Safe (GRAS) by the FDA, making it the ideal choice for any hygienic application.

Features CIP/SIP service with an upper temperature limit of 284 °F (140 °C)

The 2090F provides accurate, stable, and reliable pressure measurement, which makes it an ideal choice for pharmaceutical and food and beverage applications, including CIP/SIP service for process temperatures up to 284 °F (140 °C).

Absolute or gauge pressure ranges up to 300 psi and 20:1 turndown

Higher turndown allows for lower inventories by allowing you to measure pressures from 1.5 psi to 300 psi with only three transmitter ranges.

Mounts with either 1 1/2 or 2-in. Tri Clamp connection

The 2090F is available with both 1 1/2-in. and 2-in. Tri-Clamp process connections, designed for sanitary applications to easily connect to standard sanitary fittings without requiring special mounting hardware.

Utilizes single-filled sensor system for reliability and outstanding accuracy

The 2090F sensor has a single-filled system with Neobee® M-20 fill fluid which is approved as an indirect food additive according to the FDA. Its benefits include reliability, low oil fill for less temperature effect, and outstanding accuracy due to full sensor compensation.

Contents

Ordering Information

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See page 7 for more information on Material Selection.

★ 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			
2090F	Hygienic Pressure Transmitter			
Transmitter type				
A	Absolute			★
G	Gage			★
Pressure ranges (range/min. span)				
	2090FG		**2090FA**	
1	-14.7 to 30 psi/1.5 psi (-1,01 to 2,1 bar / 103 mbar)		0 to 30 psia/1.5 psi (0 to 2,1 bar/103 mbar)	★
2	-14.7 to 150 psi/7.5 psi (-1,01 to 10,3 bar/517 mbar)		0 to 150 psia/7.5 psi (0 to 10,3 bar/517 mbar)	★
3	-14.7 to 300 psi/40 psi (-1.01 to 20,7 bar / 2,8 bar)		0 to 300 psia/40 psi (0 to 20,7 bar/2,8 bar)	★
Output				
S	4–20 mA dc/Digital HART Protocol			★
Material of construction				
	Process Connection	**Isolating Diaphragm**	**Oil Fill**	
2D	316L SST	316L SST	Neobee	★
Code	**Process connection**			
E	1 1/2–in. Tri-Clamp Connection			★
F	2–in. Tri-Clamp Connection			★
Conduit entry				
1	1/2–14 NPT			★
2	M20 × 1.5 female			★

Options (include with selected model number)

Extended product warranty		
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★
Digital display		
M5	LCD display, configured for percent of range	★
Mounting brackets		
B4	SST mounting bracket with SST Bolts	★

★ 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.

Product certifications		
E5	FM Explosion-Proof, Dust Ignition-proof	★
ED	ATEX Flameproof	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
I5	FM Intrinsically Safe, Nonincendive	★
K5	FM Explosion-Proof, Dust Ignition-proof, Intrinsically Safe, Division 2	★
I1	ATEX Intrinsic Safety	★
N1	ATEX Type n	★
C6	CSA Explosion-Proof, Intrinsically Safe, and Non-incendive	★
KB	FM and CSA Explosion-Proof, Dust Ignition-proof, Intrinsically Safe, Division 2	★
KM	Technical Regulation Customs Union (EAC) Flameproof and Intrinsic Safety	★
KH	FM Approvals and ATEX Explosion-Proof and Intrinsically Safe	★
ND	ATEX Dust	★
NK	IECEx Dust	★
K7	SAA Flameproof, Dust Ignition-proof, Intrinsic Safety, Type n	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust	★
K6	CSA and ATEX Explosion-proof and Intrinsically Safe Approvals	★
I3	China Intrinsic Safety	★
IM	Technical Regulation Customs Union (EAC) Intrinsic Safety	★
E3	China Flameproof	★
Terminal blocks		
T1	Transient Protection	★
Special certificate		
Q4	Calibration Certificate	★
Quality calibration certificate traceability certification		
Q8	Material Traceability Certification per EN 10204 3.1	★
Alarm limit		
C4	NAMUR alarm and saturation levels, high alarm	★
CN	NAMUR alarm and saturation levels, low alarm	★
Special procedures		
P2	Cleaning for Special Service	
Calibration accuracy		
P8	0.1% Accuracy to 10:1 Turndown	★
Typical model number: 2090FG 2 S 2D E 1		

Standard configuration

Unless otherwise specified, transmitter is shipped as follows:

- Engineering units: psi
- 4 mA: 0 psi
- 20 mA: Upper Range Limit
- Alarm Output High
- LCD Display: 0–100%

Custom configuration

Calibration

Transmitters are factory calibrated to customer's specified range. If calibration is not specified, transmitters are calibrated at maximum range. Calibration is at ambient temperature and pressure.

Tagging

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

Accessories

Item description	Part number
Calibration Adapter, 1 1/2 in. Use to connect a calibration device to a transmitter.	02088-0197-0011
Calibration Adapter, 2 in. Use to connect a calibration device to a transmitter.	02088-0197-0012

Specifications

Functional specifications

Service

Liquid, gas, vapor, and high-viscosity applications

Ranges

Range	Minimum span	Upper (URL)	Lower (LRL)	Lower[(1)] (LRL) (gage)
1	1.5 psi (103 mbar)	30 psi (2,1 bar)	0 psia (0 bar)	-14.7 psig (-1,01 bar)
2	7.5 psi (517 mbar)	150 psi (10,3 bar)	0 psia (0 bar)	-14.7 psig (-1,01 bar)
3	40 psi (2,76 bar)	300 psi (20,7 bar)	0 psia (0 bar)	-14.7 psig (-1,01 bar)

(1) Assumes atmospheric pressure of 14.7 psig.

Output

4–20 mA dc/Digital HART Protocol

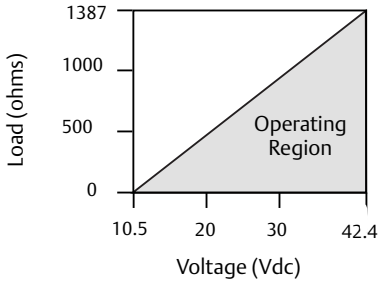
Rangedown

20:1

Load limitations

Maximum loop resistance is determined by the power supply voltage, as described by the following equation:

Max. Loop Resistance = 43.5 (Power Supply Voltage – 10.5)



The Field Communicator requires a minimum loop resistance of 250Ω for communication.

Power supply

External power supply required. Transmitter operates on 10.5–42.4 V dc with no load. Reverse polarity protection is standard.

Zero elevation and suppression

Zero can be suppressed between atmosphere (2090FG), or 0 psia (2090FA) and upper range limit, if the calibrated span is equal to or greater than the minimum span, and the upper range value does not exceed the upper range limit.

Overpressure limits

Range 1:120 psig max
All other ranges: Twice the upper range limit

Temperature limits

Process

–4 to 284 °F (–20 to 140 °C)

Ambient

–4 to 185 °F (–20 to 85 °C)

Storage

–22 to 185 °F (–30 to 85 °C)

Process temperatures above 185 °F (85 °C) require lowering the ambient limits by a 1.5:1 ratio:

$$\text{Max. Ambient temperature in °F} = 185 - \frac{(\text{Process Temp} - 185)}{1.5}$$

$$\text{Max. Ambient temperature in °C} = 85 - \frac{(\text{Process Temp} - 85)}{1.5}$$

Humidity limits

0–100% relative humidity

Volumetric displacement

Less than 0.00042 cm^3

Turn-on time

2.0 seconds, no warm-up required

Failure alarm

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 by 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

Linear Output: $3.9 \le I \le 20.8$
Fail High: $I \ge 21.75$ mA
Low: $I \le 3.75$ mA

NAMUR-compliant operation

Linear Output: $3.8 \le I \le 20.5$
Fail High: $I \ge 22.5$ mA
Low: $I \le 3.6$ mA

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 jumper.

Performance specifications

(Zero-based spans, reference conditions, and 316 SST isolating diaphragm.)

Reference accuracy

±0.20% of calibrated span. Includes combined effects of linearity, hysteresis, and repeatability.

Ambient temperature effect per 100 °F (56 °C)

±(0.3% URL + 0.3% of span) from –40 to 185 °F (-40 to 85 °C)

Stability

±0.10% of upper range limit for 12 months

Time response

Less than 200 ms time constant (63.2% response to a step change in pressure)

Vibration effect

Less than ±0.1% of upper range limit 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_2O (0,3 kPa), which can be calibrated out. No span effect

RFI effect

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

Physical specifications

Material selection

Emerson provides a variety of Rosemount product 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 Process Management 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 connection

$^1/_2$–14 NPT or M20 × 1.5 conduit entry

Process wetted parts

Isolating diaphragm

316L stainless steel

Process connector

316L stainless steel

Non-wetted parts

Electronics housing

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

Paint

Polyurethane

Cover O-rings

Buna-N

Paint

Polyurethane

Cover O-rings

Buna-N

Fill fluid

Neobee M-20

Weight

Approximately 2.74 lb (1.24 kg)

Product Certifications

Rev 1.0

European Directive Information

A copy of the EC Declaration of Conformity can be found at the end of the Quick Start Guide. The most recent revision of the EC Declaration of Conformity can be found at www.rosemount.com.

Ordinary Location Certification from FM Approvals

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

North America

E5 FM Explosionproof (XP) and Dust-Ignitionproof (DIP)
Certificate: 1V2A8.AE
Standards: FM Class 3600 – 1989, FM Class 3615 – 1989, FM Class 3810 – 1989
Markings: XP CL I, DIV 1, GP B, C, D; DIP CL II, DIV 1, GP E, F, G; CL III; T5(-40 °C ≤ T_a ≤ +85 °C); Factory Sealed; Type 4X

I5 FM Intrinsic Safety (IS) and Nonincendive (NI)
Certificate: 0V9A7.AX
Standards: FM Class 3600 – 1998, FM Class 3610 – 2010, FM Class 3611 – 2004, FM Class 3810 – 1989
Markings: IS CL I, DIV 1, GP A, B, C, D; CL II, DIV 1, GP E, F, G; Class III; DIV 1 when connected per Rosemount drawing 02088-1018; NI CL 1, DIV 2, GP A, B, C, D; T4(-40 °C ≤ T_a ≤ +70 °C); Type 4x

Special Condition for Safe Use (X):

1. The Model 2088 transmitter with the transient terminal block (Option code T1) will not pass the 500Vrms dielectric strength test and this must be taken into account during installation.

C6 CSA Explosionproof, Dust-Ignitionproof, Intrinsic Safety and Nonincendive
Certificate: 1015441
Standards: ANSI/ISA 12.27.01-2003, CSA Std. C22.2 No. 30 -M1986, CSA Std. C22.2 No.142-M1987, CSA Std. C22.2. No.157-92, CSA Std. C22.2 No. 213 - M1987
Markings: Explosionproof for Class I, Division 1, Groups B, C and D; Dust-Ignitionproof Class II, Division 1, Groups E, F, G; Class III Division 1; Intrinsically Safe Class I, Division 1 Groups A, B, C, D when connected in accordance with Rosemount drawing 02088-1024, Temperature Code T3C; Class I Division 2 Groups A, B, C and D; Type 4X; Factory Sealed; Single Seal

Europe

ED ATEX Flameproof
Certificate: KEMA97ATEX2378X
Standards: EN60079-0:2006, EN60079-1:2007, EN60079-26:2007
Markings: Ⓔx II 1/2 G Ex d IIC T6/T4, T6(-40 °C ≤ T_a ≤ +40 °C), T4(-40 °C ≤ T_a ≤ +80 °C)

Special Condition for Safe Use (X):

1. This 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.
For information on the dimensions of the flameproof joints the manufacturer shall be contacted.

I1 ATEX Intrinsic Safety
Certificate: BAS00ATEX1166X
Standards: EN60079-0:2012, EN60079-11:2012
Markings: Ⓔx II 1 G Ex ia IIC T5/T4 Ga, T5(-55 °C ≤ T_a ≤ +40 °C), T4(-55 °C ≤ T_a ≤ +70 °C)

Table 1. Input Parameters

	HART®
Voltage U_i	30 V
Current I_i	200 mA
Power P_i	0.9 W
Capacitance C_i	0.012 µF
Inductance L_i	0 mH

Special Condition for Safe Use (X):

1. The apparatus is not capable of withstanding the 500 V insulation test required by EN60079-11. This must be taken into account when installing the apparatus.

N1 ATEX Type n
Certificate: BAS00ATEX3167X
Standards: EN60079-0:2012, EN60079-15:2010
Markings: ⟨Ex⟩ II 3 G Ex nA IIC T5 Gc (-40 °C ≤ T_a ≤ +70 °C)

Special Condition for Safe Use (X):

1. This apparatus is not capable of withstanding the 500 V insulation test that is required by EN60079-15. This must be taken into account when installing the apparatus.

ND ATEX Dust
Certificate: BAS01ATEX1427X
Standards: EN60079-0:2012, EN60079-31:2009
Markings: Ex t IIIC T50 °C T_{500} 60 °C Da

Special Conditions for Safe Use (X):

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

International

K7 IECEx Flameproof, Intrinsic Safety, Type n, and Dust
Certificate: IECEx KEM 06.0021X
Standards: IEC60079-0:2004, IEC60079-1:2003, IEC60079-26:2004,
Markings: Ex d IIC T4...T6, T6(-20 °C ≤ T_a ≤ +40 °C), T4(-20 °C ≤ T_a ≤ +80 °C);

Special Condition for Safe Use (X):

1. This material of the diaphragm shall not be subjected to environmental conditions that might adversely affect the partition wall.

IECEx Intrinsic Safety
Certificate: IECEx BAS 12.0071X
Standards: IEC60079-0:2011, IEC60079-11:2011
Markings: Ex ia IIC T5/T4 Ga, T5(-55 °C ≤ T_a ≤ +40 °C), T4(-55 °C ≤ T_a ≤ +70 °C)

Table 2. Input Parameters

	HART
Voltage U_i	30 V
Current I_i	200 mA
Power P_i	0.9 W
Capacitance C_i	0.012 µF
Inductance L_i	0 mH

Special Conditions for Safe Use (X):

1. When fitted with a transient suppression terminal block, the Model 2088 is incapable of passing the 500 V isolation test. This must be taken into account during installation.
2. The enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a Zone 0 environment.

IECEx Type n
Certificate: IECEx BAS 12.0072X
Standards: IEC60079-0:2011, IEC60079-15:2010
Markings: Ex nA IIC T5 Gc (-40 °C ≤ T_a ≤ +70 °C)

Special Condition for Safe Use (X):

1. When fitted with a transient suppression terminal block, the Model 2088 is incapable of passing the 500 V isolation test. This must be taken into account during installation.

NK IECEx Dust
Certificate: IECEx BAS12.0073X
Standards: IEC60079-0:2011, IEC60079-31:2008
Markings: Ex t IIIC T50 °C T_{500}60 °C Da

Special Conditions for Safe Use (X):

1. Cable entries must be used which mention the ingress protection of the enclosure to at least IP66
2. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66
3. Cable entries and blanking plugs must be suitable for the ambient range of the apparatus and capable of withstanding a 7J impact test.

Technical Regulations Customs Union (EAC)

EM, IM, KM Contact an Emerson Process Management representative for additional information

Brazil

I2 INMETRO Intrinsic Safety
Certificate: UL-BR 13.0246X
Standards: ABNT NBR IEC60079-0:2008 + Errata 1:2011, ABNT NBR IEC60079-11:2009
Markings: HART: Ex ia IIC T5/T4 Ga, T5(-55 °C ≤ T_a ≤ +40 °C), T4(-55 °C ≤ T_a ≤ +70 °C)

Table 3. Input Parameters

	HART
Voltage U_i	30 V
Current I_i	200 mA
Power P_i	0.9 W
Capacitance C_i	0.012 µF
Inductance L_i	0 mH

Special Conditions for Safe Use (X):

1. When fitted with a transient suppression terminal block, the Model 2088 is incapable of passing the 500 V isolation test. This must be taken into account when installing the equipment.
2. The enclosure may be made of aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in Zone 0.

China

E3 China Flameproof
Certificate: GYJ111064
Standards: GB3836.1-2000, GB3836.2-2010
Markings: Ex d IIC T6/T4, T6(-20 °C ≤ T_a ≤ +40 °C), T4(-20 °C ≤ T_a ≤ +80 °C)

Special Conditions for Safe Use (X):

1. The ambient temperature is as follows:

T_a	Temperature class
-20 °C ≤ T_a ≤ 80 °C	T4
-20 °C ≤ T_a ≤ 40 °C	T6

2. The earth connection facility in the enclosure should be connected reliably.
3. During installation in hazardous location, cable glands, conduits, and blanking plugs, certified by state-appointed inspection bodies with Ex d IIC type of protection, should be used.
4. Obey the warning "Do not open when energized."
5. Installation and maintenance should be done in a non-hazardous environment
6. End user is not permitted to change any internal component
7. During installation, use and maintenance of this product, observe the following standards:
GB3836.13-1997 "Electrical apparatus for explosive gas atmospheres Part 13: Repair and overhaul for apparatus used in explosive gas atmospheres"
GB3836.15-2000 "Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous area (other than mines)"
GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres Part 16: Inspection and maintenance of electrical installation (other than mines)"
GB50257-1996 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

I3 China Intrinsic Safety
Certificate: GYJ111065X
Standards: GB3836.1-2000, GB3836.4-2000
Markings: Ex ia IIC T4/T5

Special Conditions for Safe Use (X):

1. This apparatus is not capable of withstanding the 500 V r.m.s. insulation test required by Clause 6.4.12 of GB3836.4-2000.
2. The ambient temperature is:

T_a	Temperature class
-55 °C ≤ T_a ≤ 40 °C	T5
-55 °C ≤ T_a ≤ 70 °C	T4

3. Intrinsically safe parameters:

	HART
Voltage U_i	30 V
Current I_i	200 mA
Power P_i	0.9 W
Capacitance C_i	0.012 µF
Inductance L_i	0 mH

4. The product should be used with Ex-certified linear associated apparatus to establish explosion protection system that can be used in explosive gas atmospheres. Wiring and terminals should comply with the instruction manual of the product and associated apparatus.
5. The cables between this product and associated apparatus should be shielded cables (the cables must have insulated shields). The shield has to be grounded reliably in a non-hazardous area.
6. End users are not permitted to change any internal components, but to settle the problem in conjunction with the manufacturer to avoid damage to the product.

7. During installation, use and maintenance of this product, observe the following standards:
   GB3836.13-1997 “Electrical apparatus for explosive gas atmospheres Part 13: Repair and overhaul for apparatus used in explosive gas atmospheres”
   GB3836.15-2000 “Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous area (other than mines)”
   GB3836.16-2006 “Electrical apparatus for explosive gas atmospheres Part 16: Inspection and maintenance of electrical installation (other than mines)”
   GB50257-1996 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”

Combinations

K1 Combination of ED, I1, ND, and N1

K5 Combination of E5 and I5

K6 Combination of C6, ED, and I1

K7 Combination of E7, I7, NK, and N7

K8 Combination of K5 and C6

KH Combination of ED, I1, and K5

Conduit plugs and adapters

IECEx Flameproof and Increased Safety
Certificate: IECEx FMG 13.0032X
Standards: IEC60079-0:2011, IEC60079-1:2007, IEC60079-7:2006-2007
Markings: Ex de IIC Gb

ATEX Flameproof and Increased Safety
Certificate: FM13ATEX0076X
Standards: EN60079-0:2012, EN60079-1:2007, IEC60079-7:2007
Markings: Ⓔx II 2 G Ex de IIC Gb

Table 4. Conduit Plug Thread Sizes

Thread	Identification mark
M20 x 1.5	M20
½ - 14 NPT	½ NPT
G½A	G½

Table 5. Thread Adapter Thread Sizes

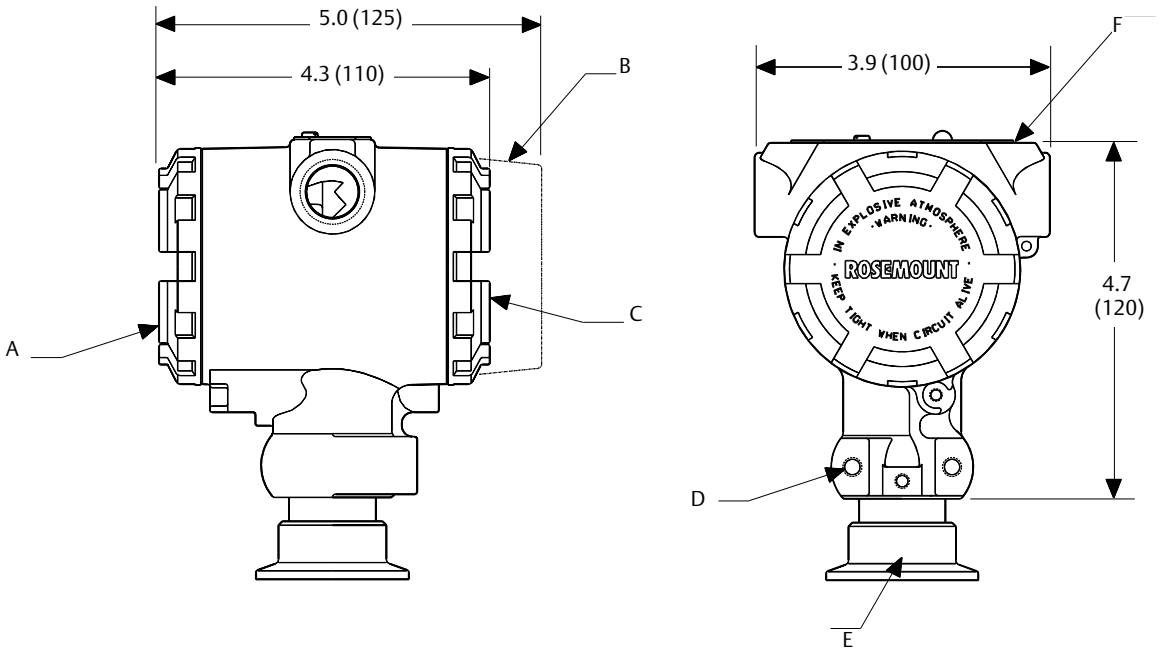
Male thread	Identification mark
M20 x 1.5 – 6H	M20
½ - 14 NPT	½ - 14 NPT
¾ - 14 NPT	¾ - 14 NPT
Female thread	**Identification mark**
M20 x 1.5 – 6H	M20
½ - 14 NPT	½ - 14 NPT
PG 13.5	PG 13.5

Special Conditions for Safe Use (X):

1. When the thread adapter or blanking plug is used with an enclosure in type of protection increased safety “e” the entry thread shall be suitably sealed in order to maintain the ingress protection rating (IP) of the enclosure.
2. The blanking plug shall not be used with an adapter.
3. Blanking Plug and Threaded Adapter shall be either NPT or Metric thread forms. G½ and PG 13.5 thread forms are only acceptable for existing (legacy) equipment installations.

Dimensional Drawings

Figure 1. Rosemount 2090F

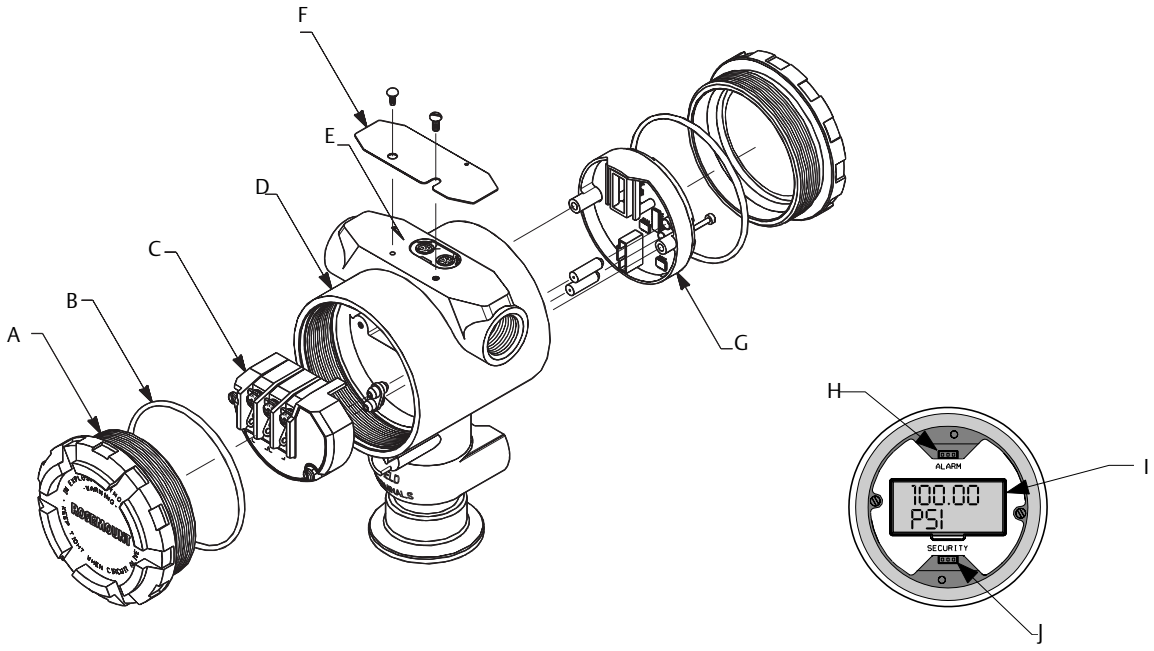


A. Terminal connection side
B. Optional display
C. Transmitter circuity side
* M20 × 1.5 Female also available as options

D. 2 × 1/4–20 UNC–2BX Depth 0.60 mounting holes
E. 1 1/2 or 2-in. Tri-Clamp connection
F. Certification tag

Dimensions are in inches (millimeters).

Figure 2. Rosemount 2090F Transmitter Exploded View



Optional LCD Display

A. Cover
B. O-ring
C. Terminal block
D. Electronics housing assembly
E. Local zero and span
F. Certification label
G. Electronic.s board
H. Alarm output jumper
I. LCD
J. Security jumper

Global Headquarters
Emerson Process Management
6021 Innovation Blvd
Shakopee, MN 55379, USA
+1 800 999 9307 or +1 952 906 8888
+1 952 949 7001
RFQ.RMD-RCC@EmersonProcess.com

North America Regional Office
Emerson Process Management
8200 Market Blvd.
Chanhassen, MN 55317, USA
+1 800 999 9307 or +1 952 906 8888
+1 952 949 7001
RMT-NA.RCCRFQ@Emerson.com

Latin America Regional Office
Emerson Process Management
1300 Concord Terrace, Suite 400
Sunrise, Florida, 33323, USA
+1 954 846 5030
+1 954 846 5121
RFQ.RMD-RCC@EmersonProcess.com

Europe Regional Office
Emerson Process Management Europe GmbH
Neuhofstrasse 19a P.O. Box 1046
CH 6340 Baar
Switzerland
+41 (0) 41 768 6111
+41 (0) 41 768 6300
RFQ.RMD-RCC@EmersonProcess.com

Asia Pacific Regional Office
Emerson Process Management Asia Pacific Pte Ltd
1 Pandan Crescent
Singapore 128461
+65 6777 8211
+65 6777 0947
Enquiries@AP.EmersonProcess.com

Middle East and Africa Regional Office
Emerson Process Management
Emerson FZE P.O. Box 17033,
Jebel Ali Free Zone - South 2
Dubai, United Arab Emirates
+971 4 8118100
+971 4 8865465
RFQ.RMTMEA@Emerson.com

ROSEMOUNT

EMERSON.
Process Management