

# Rosemount™ 326P Pressure Transmitter



**The Rosemount 326P Pressure Transmitter is designed to provide accurate and repeatable pressure and hydrostatic level measurements in the food and beverage industry.**

# Emerson is here to optimize your food and beverage operations

## The Rosemount 326P Pressure Transmitter ensures your process pressures are always in specification

- Measuring Range: up to 360 psi (24.86 bar)
- Process Temperature: Up to 257°F (125°C); 293°F (145°C) for a maximum of 1 hour
- Wetted Materials: Ceramic, PTFE, 316L SST Polished to Ra <16 μ-in. (0.4 μ-m)
- Ingress Protection: IP69K
- Communication protocol: 4-20 mA, Switch



## Emerson offers a broad portfolio of products to solve your toughest challenges

From simple measurements to critical applications, Emerson’s extensive portfolio of solutions has you covered. Our reliable, easy-to-use, and innovative products will help you to maximize production, maintain quality control and product consistency, minimize product losses, and assure the safety of your products.

## Emerson offers a full service organization to give you the support you need



From simple repairs to complex projects, Emerson supports you with training and instrument services that improve the maintenance, reliability and performance of your products and, ultimately, your process equipment and production quality. We have a full organization of experienced and certified personnel. With both factory and regional service centers, we offer unmatched local support.

### Contents

Emerson is here to optimize your food and beverage operations.....	2
Ordering information.....	3
Transmitter specifications.....	5
Product certifications.....	11
Dimensional drawings.....	13

# Ordering information

**Table 1: 326P Pressure Transmitter ordering information**

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

Model		
326P	Pressure Transmitter	★
Pressure range		
1A	-2.0 to 40 inH <sub>2</sub> O (-5.0 to 99.5 mbar)	★
2A	-5.0 to 100 inH <sub>2</sub> O (-12.4 to 248.8 mbar)	★
3A	-14.5 to 14.5 psi (-1 to 1 bar)	★
2B	-0.73 to 14.5 psi (-50 to 1000 mbar)	★
4A	-1.46 to 20 psi (-0.1 to 1.38 bar)	★
5A	-1.8 to 36 psi (-0.124 to 2.48 bar)	★
6A	-14.5 to 55.0 psi (-1 to 3.79 bar)	★
7A	-14.5 to 85 psi (-1 to 5.86 bar)	★
8A	-14.5 to 145.0 psi (-1 to 10.0 bar)	★
9A	-14.5 to 230.0 psi (-1 to 15.9 bar)	★
1B	-14.5 to 360 psi (-1 to 24.8 bar)	★
Process connections		
G10	G1" thread	★
Housing material		
A	Stainless steel	★

**Optional options (include with the selected model number)**

Calibration certification		
Q4	Calibration certificate	
Material traceability certification		
Q8	Material Traceability per EN 10204 3.1B	

**Note**

Optional options will not be included in the model string printed on the transmitter. For product reorder, make sure to include any desired optional options in the model string.

## Accessories and spare parts

These accessories are available for the Rosemount 326P Pressure Transmitter.

### Hygienic process connection adapters

These hygienic adapters assemble to the G1" process connection of the Rosemount 326P Pressure Transmitter.

**Table 2:**

Type	Description	Part Number
1-1.5 in. Tri-clamp	316L SST, EPDM o-ring, 232 psi (16 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, 3-A, FDA	FB-1001
2.0 in. Tri-clamp	316L SST, EPDM o-ring, 232 psi (16 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, 3-A, FDA	FB-1002
Varivent Type F	316L SST, EPDM o-ring, 362 psi (25 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, 3-A, FDA	FB-1010
Varivent Type N	316L SST, EPDM o-ring, 362 psi (25 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, 3-A, FDA	FB-1011
DIN 11851 DN32	316L SST, EPDM o-ring, 580 psi (40 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, FDA	FB-1020
DIN 11851 DN40	316L SST, EPDM o-ring, 580 psi (40 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, FDA	FB-1021
DIN 11851 DN50	316L SST, EPDM o-ring, 580 psi (40 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, FDA	FB-1022
D50 Weld-in Adapter	316L SST, EPDM o-ring, 725 psi (50 bar) max pressure, 16 μ-in (0.4 μ-m) surface finish, 3-A, FDA	FB-1041
Universal Adapter RD52	316L SST; EPDM o-ring; 232 psi (16 bar) max pressure; FDA	FB-1045
G1 Welding Mandrel	Absorbs heat and prevents warping during welding of FB-1041	FB-6041

#### Note

For a material traceability certificate, add option code Q8 after your part number (Ex: FB-1001Q8). Additional delivery lead times may apply. The certification option (Q8) will not be included in the part number printed on the transmitter. For product reorder, make sure to include any desired certification in the part number.

### O-rings

Description	Part number
Hygienic Adapter O-ring; FKM, Qty 1	FB-3001
Hygienic Adapter O-ring; FKM; Qty 5	FB-3002
Hygienic Adapter O-ring; EPDM; Qty 5	FB-3003
Hygienic Adapter Upper Gasket; PEEK; Qty 1	FB-3010

## Cables and connectors

Description	Length	Part number
<b>Hygienic Wireable Terminal Connector - M12 Female (angled) to Screw Terminals</b> Operating voltage: < 250 AC / < 300 DC, Max current: 4A, Ambient temp: -13°F - 212°F (-25°C - 100°C), Screw Terminals: 23AWG - 17AWG 316L SST, gold plated contacts, EPDM sealing, IP69K	Wireable socket	FB-4000
	6.6 ft. (2 m)	FB-4002
<b>Hygienic Cable - M12 Female (angled) to Flying Lead (4 x 22AWG)</b> Operating voltage: <250 AC / <300 DC, Max current: 4A, Ambient temp: -13°F - 212°F (-25°C - 100°C), cULus approval limited to 149°F (65°C) 316L SST, gold plated contacts, EPDM sealing, IP69K	16.4 ft. (5 m)	FB-4005
	32.8 ft. (10 m)	FB-4010
	65.6 ft. (20 m)	FB-4020
	164 ft. (50 m)	FB-4050
	1.97 ft. (0.6 m)	FB-4106
<b>Hygienic Patch Cable - M12 Female (angled) to M12 Male</b> Operating voltage: < 250 AC / < 300 DC, Max current: 4A, Ambient temp: -13°F - 212°F (-25°C - 100°C), cULus approval limited to 149°F (65°C) 316L SST, gold plated contacts, EPDM sealing, IP69K	3.3 ft. (1 m)	FB-4101
	6.6 ft. (2 m)	FB-4102
	16.4 ft. (5 m)	FB-4105
	32.8 ft. (10 m)	FB-4110

# Transmitter specifications

## Performance specifications

### Reference accuracy

Stated reference accuracy is for 1:1 rangedown and includes hysteresis and repeatability.

Range	Reference accuracy
2A, 3A, 2B, 4A, 5A, 6A, 7A, 8A, 9A, 1B	± 0.2 % of span
1A	± 0.5 % of span

### Long-term stability

±0.1% of span for 1 year

### Switch point accuracy

Range	Switch point accuracy
2A, 3A, 2B, 4A, 5A, 6A, 7A, 8A, 9A, 1B	± 0.2 % of span
1A	± 0.5 % of span

## Dynamic performance

Two-wire	
Analog output	45 ms
Three-wire	
Analog output	7 ms
Switching output	3 ms (minimum)

## Ambient temperature effect

Per 18°F (10°C) in the temperature range 32°F to 158°F (0°C to 70°C)

Range	Ambient temperature effect
2A, 3A, 2B, 4A, 5A, 6A, 7A, 8A, 9A, 1B	± 0.15 % of span
1A	± 0.2 % of span

## Electromagnetic compatibility

The 326P meets the requirements of EN 61000-4.

Susceptibility	Parameter
ESD	4 kV CD / 8 kV AD
Radiated	10 V/m
Burst	2 kV
Surge	0.5/1 kV
Conducted	10 V

## Vibration

The Rosemount 326P is tested to DIN IEC 68-2-6 and has a peak acceleration of 20 g in the frequency range 10 to 2000 Hz.

## Functional specifications

### Range and sensor limits

Range	Minimum span	Upper range limit	Lower range limit <sup>(1)</sup>
1A	10 inH <sub>2</sub> O (24.9 bar)	40 inH <sub>2</sub> O (99.5 bar)	-2 inH <sub>2</sub> O (-5 mbar)
2A	25 inH <sub>2</sub> O (62.2 bar)	100 inH <sub>2</sub> O (248.8 mbar)	-5 inH <sub>2</sub> O (-12.4 mbar)
3A	3.63 psi (0.25 bar)	14.5 psi (1 bar)	-14.5 psi (-1 bar)
2B	3.63 psi (0.25 bar)	14.5 psi (1 bar)	-0.73 psi (-50 mbar)
4A	5.0 psi (0.34 bar)	20 psi (1.38 bar)	-1.46 psi (-0.1 bar)
5A	9.0 psi (0.62 bar)	36 psi (2.48 bar)	-1.8 psi (-0.124 bar)
6A	13.8 psi (0.95 bar)	55 psi (3.79 bar)	-14.5 psi (-1 bar)

Range	Minimum span	Upper range limit	Lower range limit <sup>(1)</sup>
7A	21.3 psi (1.47 bar)	85 psi (5.86 bar)	-14.5 psi (-1 bar)
8A	36.3 psi (2.5 bar)	145 psi (10 bar)	-14.5 psi (-1 bar)
9A	57.5 psi (3.96 bar)	230 psi (15.9 bar)	-14.5 psi (-1 bar)
1B	90 psi (6.21 bar)	360 psi (24.8 bar)	-14.5 psi (-1 bar)

(1) All pressure ranges can mechanically withstand a vacuum of -14.5 psi (-1 bar).

### Transmitter overpressure limits

Range	inH <sub>2</sub> O	mbar
1A	1606	4000
2A	2400	6000

Range	psi	bar
3A	145	10
2B	145	10
4A	215	15
5A	290	20
6A	435	30
7A	435	30
8A	725	50
9A	1085	75
1B	1450	100

### Transmitter burst pressure

Range	inH <sub>2</sub> O	mbar
1A, 2A	12044	30000

Range	psi	bar
3A, 2B	435	30
4A	580	40
5A	725	50
6A, 7A	1450	100
8A	2175	150
9A	3625	250
1B	5070	350

## Service

Liquid, gas, and vapor applications.

## Two-wire configuration

### Output

In a two-wire configuration, the Rosemount 326P Pressure Transmitter provides a 4-20 mA analog output.

### Electrical specifications

Description	Value
Power supply	20 - 32 V DC
Current draw	3.6 - 21 mA
Load limitation ( $\Omega$ )	300
Protection class	III

## Three-wire configuration

### Output

In a three-wire configuration, the Rosemount 326P Pressure Transmitter can provide two outputs:

- OUT1: Switching output
- OUT2: 4-20 mA analog output or switching output

Switching outputs are PNP/NPN configurable.

### Electrical specifications

Description	Value
Power supply	18 - 32 V DC
Current draw	< 45 mA
Load limitation ( $\Omega$ )	(Power Supply Voltage - 10) / 20
Protection class	III
Voltage drop	2 V
Maximum output current (per output)	250 mA
Switching frequency	125 Hz
Minimum switching cycles	100 million

## Temperature limits

	Lower temperature limit	Upper temperature limit
Ambient temperature	-13 °F (-25 °C)	176 °F (80 °C)
Storage temperature	-40 °F (-40 °C)	212 °F (100 °C)
Process temperature limits	-13 °F (-25 °C)	257 °F (125 °C); 293 °F (145 °C) for up to one hour.



### Turn-on time

Two-wire configuration: 1.0 second

Three-wire configuration: 0.5 seconds

### Damping

Output responses to a step input change are user-selectable. This software damping is in addition to sensor response time.

### Analog output

0.01-99.99 seconds

### Switching output

0-30 seconds

### Indication / Local Operator Interface

The Rosemount 326P is comes standard with a four-digit alphanumeric display as well as a Local Operator Interface (LOI). The two-button LOI provides the capability for local commissioning without extra tools/software. The display also includes LED indicators to identify transmitter engineering units and switch status. Engineering units available on the display vary by pressure range and are outlined in the following table.

Pressure Range	psi	inH <sub>2</sub> O	bar	mbar	kPA	Mpa	mWS	mmWS	% Span
1A		X		X		X		X	X
2A		X		X		X		X	X
3A	X	X		X		X	X		X
4A	X	X		X		X	X		X
5A	X	X	X			X	X		X
6A	X		X			X			X
7A	X		X			X			X
8A	X		X						X
9A	X		X						X
1B	X		X						X
2B	X			X		X	X		X

## 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.

## Process connections

External threaded G1 connection.

## Process-wetted parts

- Ceramics: 99.9% Al<sub>2</sub>O<sub>3</sub>
- PTFE
- 316L SST (1.4435)
- Surface finish: Ra < 16 μ-in (0.4 μ-m)

## Non-wetted parts

- 316L SST
- FKM
- PTFE
- PBT
- PEI
- PFA

## Environmental seal for housing

Enclosures meet IP67, IP68, and IP69K ratings when properly installed

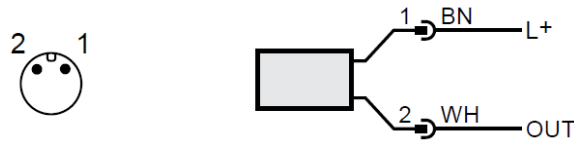
## Shipping weights

Range	Pounds	Grams
1A	0.79	357.5
2A	0.78	356.5
3A	0.78	356
2B	0.78	356.3
4A	0.79	361
5A	0.78	356.5
6A	0.79	357
7A	0.79	358.5
8A	0.78	356.2
9A	0.79	359.5
1B	0.81	367

## Electrical connection

The Rosemount 326P is equipped with an M12 Female electrical connector which features gold-plated contacts. The wiring configuration sets the operating mode. After wiring the pressure transmitter, it automatically recognizes the connections and changes to the respective operating mode. Wiring configurations are shown in the following figures.

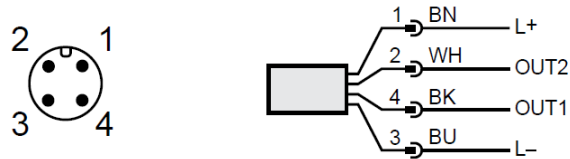
**Figure 1: Connection for two-wire operation**



BN	Brown
WH	White
OUT	Analog output (4-20 mA)

Colors to DIN EN 60947-5-2

**Figure 2: Connection for three-wire operation**



BK	Black
BN	Brown
BU	Blue
WH	White
OUT1	Switching output
OUT2	Switching output or analog output (4-20 mA)

Colors to DIN EN 60947-5-2

## Product certifications

### European directive information

The most recent revision of the EC Declaration of Conformity can be found at [Emerson.com/Rosemount](http://Emerson.com/Rosemount).

### Ordinary location information

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

For the scope of validity cULus:

The device shall be supplied from an isolating transformer having a secondary Listed fuse rated either:

- Max 5 amps for voltages 0~20 Vrms (0~28.3 Vp)
- 100/Vp for voltages of 20~30 Vrms (28.3~42.4 Vp)

The device shall be connected only by using any Listed (CYJV/7) or R/C (CYJV2/8) cord in respect of Condition of Acceptability, having suitable ratings.

## 3-A<sup>®</sup> certification

This product is authorized to display the 3-A symbol. Ensure gaskets and process connection accessories selected for installation meet both the application and 3-A requirements. A certificate of compliance is available at [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).

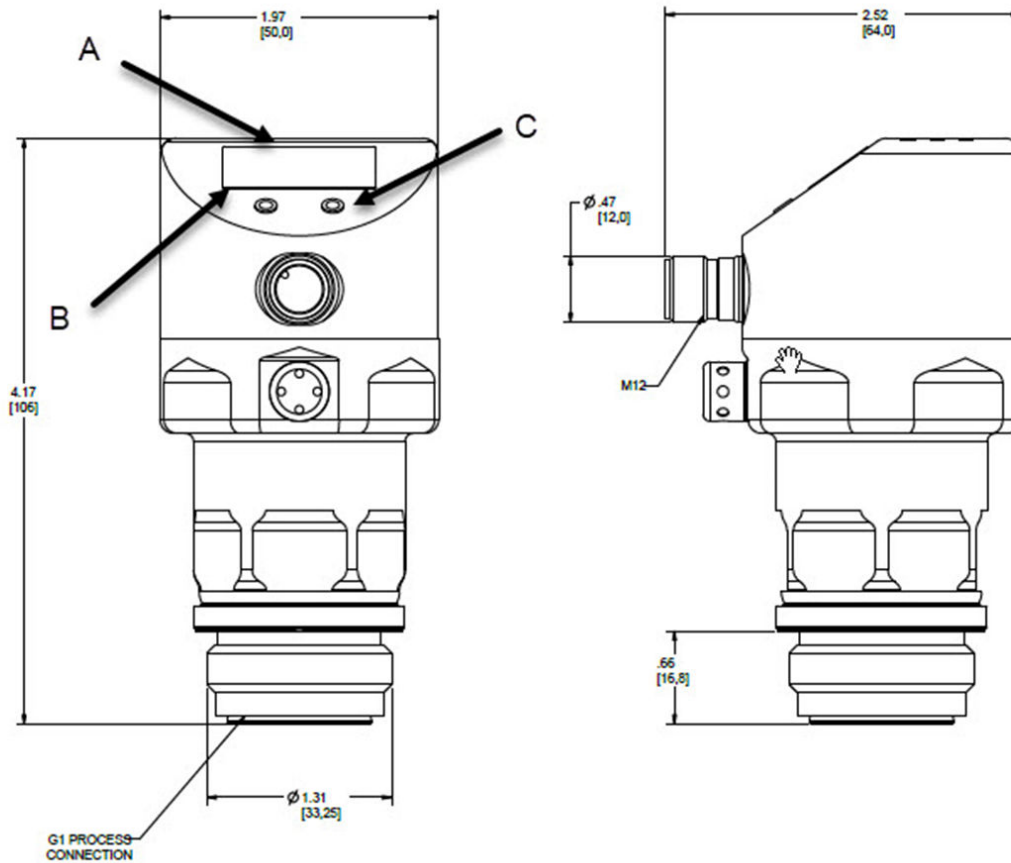
## Other industry certifications

All Rosemount 326P transmitter surfaces and materials which come into contact with process medium comply with the following regulations:

- (EC) No. 1935/2004
- (EC) No. 2023/2006
- CFR Title 21 (FDA) § 186.1256
- CFR Title 21 (FDA) § 177.2600
- CFR Title 21 (FDA) § 177.1550
- CFR Title 21 (FDA) § 177.2415

# Dimensional drawings

Figure 3: Rosemount 326P Pressure Transmitter dimensional drawing



- A. Status LEDs
- B. Four-digit alphanumeric display
- C. Programming button

## Factory settings

Engineering unit	Pressure ranges 1A and 2A: inH <sub>2</sub> O All other ranges: psi
4mA	0% upper range limit Pressure range 3A: -14.5 psi (-1 bar)
20 mA	100% upper range limit





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