

P30-2

Pressure Transmitter Datasheet



***High Quality*
3 Years Warranty**

At a Glance

- Premium Pressure Transmitter for gauge and pressure measurement with 3 years warranty
- High repeatability and long-term stability
- High overload resistance
- Measuring ranges up to 40 bar (600psi)
- Customer specific measuring ranges available
- Flush mounted or manometer connection
- Housing and connection made from 316L

Overview

Application

P30-2 transducers have been designed for precise measurement of gauge pressure in simple industrial applications. The measurement ranges available start from -200 ...200 mbar or 0...400 mbar to the highest measurement ranges of -1 ... 40 bar or 0...40 bar. Custom ranges are also available for volume applications. P30-2 transducers are made from AISI 316L stainless steel for improved robustness and have a permissible overload is four times the nominal span.

Typical applications: Hydraulic systems, compressed air, plant construction, pumps, filling and weighing machines, level measuring, packaging machines

Function

The P30-2 pressure transmitter is available with a process connection with an internal diaphragm or in a flush-mount design. The process pressure deflects the metal process isolating diaphragm of the sensor and the fill fluid transfers the pressure to a Wheatstone bridge (semiconductor technology). As pressure varies, the related bridge output voltage changes and is measured by the connected device. The transducer can be supplied with a 0...10V (3-wire) or 4...20mA (2-wire) output.

Technical Data

| | |
|----------------------------|---|
| Measuring Range | 0 ... 40bar |
| Long Term Drift | 0.2% Full scale (FS)/year (non-cumulative) |
| Accuracy | 0.5% FS (including linearity, repeatability, zero point and span, hysteresis) |
| Thermal Error | 1.0% FS (<1bar measuring range) 0.8% FS (≥1bar measuring range) |
| Process Temperature | -25 ... +85°C (-13 ... 185°F) |
| Ambient Temperature | -40 ... +70°C (-40 ... +158°F) |
| Storage Temperature | -40 ... +85°C (-40 ... +185°F) |
| Ambient Humidity | 4 ... 95% HR (non-condensing) |
| Response Time | 6ms (dead time) |
| Setting time | 10ms (t63) |
| Lifetime | >100M cycles |

Mechanical Configuration

| | |
|------------------------------|--|
| Pressure Port | See under "Process Connections" |
| Wetted Parts | Membrane: 1.4435 /X2CrNiMo 18-14-3), AISI 316L Fitting: 1.44044 (X2CrNiMo 17-12-2), AISI 316L |
| Non-wetted parts | Housing 316L; pressure venting element PBT/PC; lower part connector PPSU; design element PMT/PC; Valve connector PA (sealing NBR; screw V2A) |
| Process media | Gases, vapors, liquids and dust |
| Mounting Position | Any position |
| Electrical Connection | Plug connection |
| Mis-wire protection | Yes, incl. overvoltage protection |
| Protection | IP65, NEMA Type 4X |
| Vibration | Warranted for 5 ... 200H: 0.05g ² /Hz (IEC 60068-2-64:2008) |
| Approvals | CE, conforms to European Pressure Directive, RoHS compliant, CSA C/US |
| Weight | Approx. 250g |

Output Signals

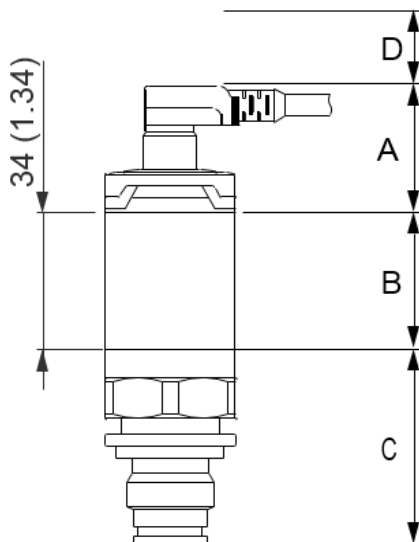
| | |
|----------------------------|---|
| Voltage Output | 0 ... 10V |
| Output Signal | 3-wire, linear characteristic curve |
| Max Burden | Load ≥ 5kΩ |
| Current Output | 4 ... 20 mA |
| Output Signal | 2-wire, linear characteristic curve |
| Signal Range | 3.8 ... 20.5 mA |
| Error Signal | > 21mA according to NAMUR NE43 |
| Max. Burden | Depending of supply voltage: $R = (\text{Supply voltage} - 6.5V)/22\text{mA}$ |
| Supply Voltage | 12 ... 30 V DC; 10 ... 30V DC (4 ... 20 mA version) |
| Current Consumption | ≤ 12mA; ≤ 26mA (4 ... 20mA version) |
| Fuse Protection | Micro fuse 500mA (slow) |

Measuring Ranges

(All data in bar)

| Standard Measuring Range | Customized, maximum Measuring Range | Smallest Measuring Span | Overload Limit | Burst Pressure |
|--------------------------|-------------------------------------|-------------------------|----------------|----------------|
| 0 ... 0.4 | -0.4 ... +0.4 | 0.4 | 1 | 1.6 |
| 0 ... 0.6 | -0.6 ... +0.6 | | 6.7 | 10 |
| 0 ... 1.0 | -1.0 ... +1.0 | | 2.7 | 4 |
| 0 ... 1.6 | -1.0 ... +1.6 | | 6.7 | 10 |
| 0 ... 2.5 | -1.0 ... +2.5 | 0.8 | 10.7 | 16 |
| 0 ... 4 | -1.0 ... +4.0 | | | |
| 0 ... 6 | -1.0 ... +6.0 | 2.4 | 16 | 24 |
| 0 ... 10 | -1.0 ... +10 | 2 | 25 | 40 |
| 0 ... 16 | -1.0 ... +16 | 5 | | 64 |
| 0 ... 25 | -1.0 ... +25 | | | 100 |
| 0 ... 40 | -1.0 ... +40 | 8 | 100 | 160 |

Process Connections/Pressure Ports



A: Electrical Connection

M12: 45mm (1.77")

Valve connector: 52mm (2.05")

B: Basic Housing

34mm (1.34")

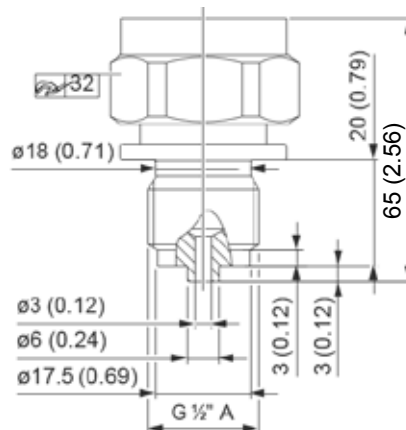
Ø 31.5 mm (1,24")

C: Process Connections

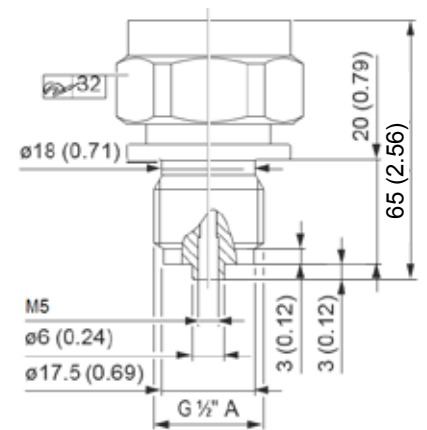
See sketches

D: Mounting Space

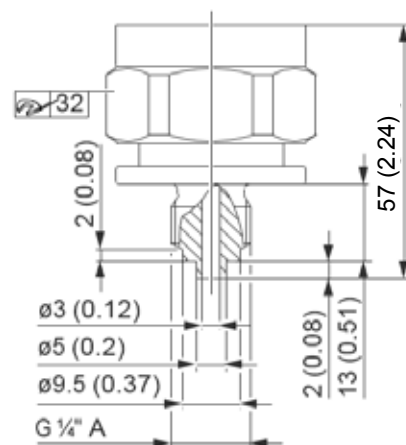
Sufficient space to mount plugs needs to be provided.



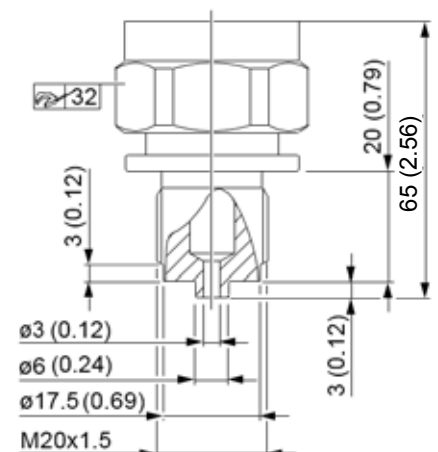
G 1/2" A, EN 837, ISO 228



G 1/2" A with M5 inner thread (optional with mechanical damping)

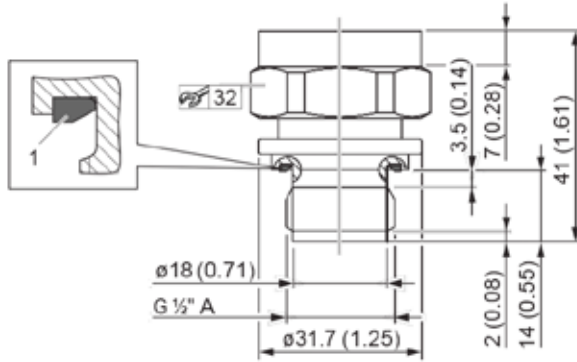


G 1/4" A, EN 837, ISO 228

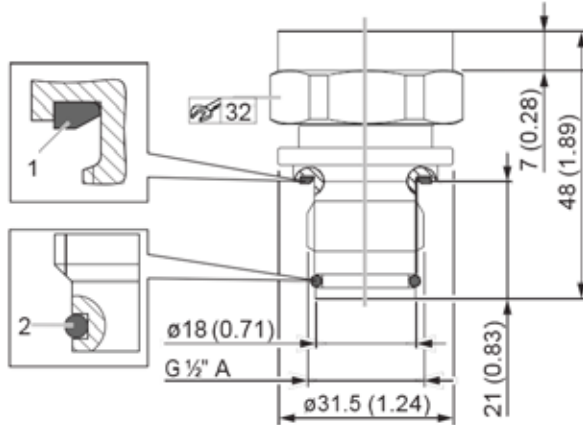


M20x1,5, EN 837

Process Connections



Flush mount, G 1/2" A, DIN3852, ISO 228

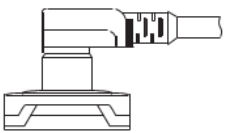


Flush mount, G 1/2" A, DIN3852, ISO 228, with O-ring

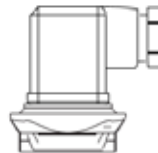
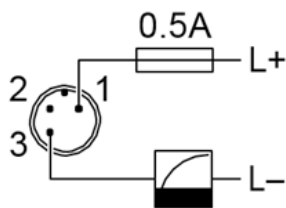
- 1. FKM pre-installed gasket
- 2. FKM pre-installed O-ring

Electrical Connection

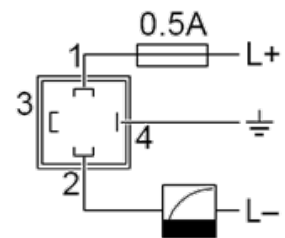
Current Output



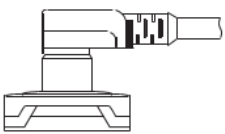
M12 plug



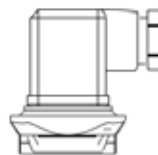
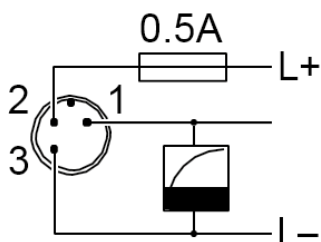
Valve connector



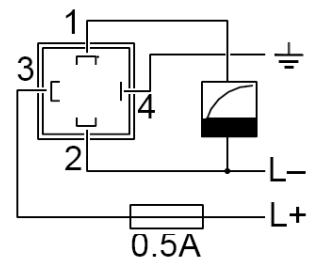
Voltage Output



M12 plug



Valve connector



Ausführungen / Bestellungenangaben

P30 - 2 x x - x 0 x x x - 0 0 x

Process connection

Internal diaphragm

- 1 - G 1/2" A, EN 837, ISO 228
- 2 - G 1/4" A, EN 837, ISO 228
- 3 - M20 x 1.5, EN 837, DIN 13
- 4 - G 1/2" A, with M5 inner thread
- 5 - G 1/2" A, with mechanical damping

Flush mounting

- 7 - G 1/2" A, DIN3852, ISO 228
- 8 - G 1/2" A with O-ring

Electrical connection

- 1 - M12 Connector
- 2 - Valve connector ISO4400 M16
- 3 - Valve connector ISO4400 NPT1/2

Output

- 1 - 4...20mA (2-wire)
- 2 - 0...10V (3-wire)

Output Filter

- 0 - none
- 1 - 100ms
- 2 - 200ms
- 3 - 300ms
- 4 - 400ms
- 5 - 500ms

Test and Calibration

- 0 - Manufacturing test report
- 1 - Calibration certificate

Measuring Range

- 03 - 0..400 mbar
- 04 - 0..600 mbar
- 05 - 0..1.0 bar
- 06 - 0..1.6 bar
- 07 - 0..2.5 bar
- 08 - 0..4 bar
- 09 - 0..6 bar
- 10 - 0..10 bar
- 11 - 0..16 bar
- 12 - 0..25 bar
- 13 - 0..40 bar
- 99 - Customized (starting at -1 bar)

On request: Customized version, connection plug M12, free of oil and grease, OEM-packaging

Contact



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