



Datasheet Pressure Transmitter P10

PERFORMANCE FEATURES

- Dry ceramic sensor
- Cost optimized for standard applications
- Smallest measuring range: 0...250 mbar
- Largest measuring range: 0...250 bar
- Negative pressure measuring range: up to -1 bar
- Compact and rugged design
- Accuracy $\leq 0,5 \%$
- Analog output: 4...20 mA, 2-wires
0...10 V, 3-wires
0...5 V, 3-wires
0,5...4,5 V, 3-wires ratiometric

AREAS OF APPLICATION

- Gaseous media
- Liquid media
- Abrasive media
- Aggressive media
- Vacuum applications

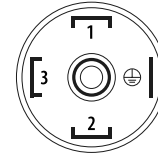
The P10 pressure sensor provides a cost-optimized alternative to capacitive sensors. The piezoresistive principle in combination with a ceramic membrane is resistant to aggressive and abrasive media. Its compact housing is made of high-quality stainless steel 1.4404 and is therefore suitable for almost all media. Our modular design concept provides a wide variety of products. Feel free to contact us if you need a customization that is not listed in this datasheet.

TECHNICAL DATA

Measuring range	
Pressure range	See table "Measuring ranges" others on request
Output	
Analog output	4...20 mA 2-wires 0...10 V 3-wires 0...5 V 3-wires 0,5...4,5 V 3-wires, ratiometric
Power supply	
20 mA output	9...30 V DC
5 V output	9...30 V DC
10 V output	15...30 V DC
0,5...4,5 V output	5 V DC
Signal characteristics	
Accuracy	$\leq \pm 0,5 \% \text{ FS @ } 25^{\circ}\text{C}$
Long term stability	$\leq \pm 0,5 \% \text{ FS/Year}$
Response time	50 ms - others on request
Switch-on time	< 1 s
Temperature coefficient	
Zero	$\leq \pm 0,03 \% \text{ FS/Kelvin}$
Span	$\leq \pm 0,02 \% \text{ FS/Kelvin}$
Temperature ranges	
Medium temperature	-25...100 °C
Surrounding temperature	-25...80 °C
Storage temperature	-40...85 °C
Electrical protections	
Short-circuit resistance	Permanent
Reverse polarity protection	Protection against reverse polarity, but no function
Electromagnetic compatibility	Interference emissions and immunity acc. to EN 61326
Wetted materials	
Process connection	Stainless steel 1.4404
Sensor	Ceramic Al_2O_3
Sensor seal	FPM (Viton), NBR, EPDM, FKKM (Chemraz/Kalrez)
Surroundings	
Protection type	IP 67
Exemplary weight	
P10-410-311 (figure p.1)	Approx. 150 g

ELECTRICAL CONNECTION

Connector
EN 175301-803A



4...20 mA 2-wires

PIN 1: Signal +

PIN 2: Signal -

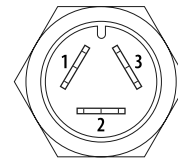
0...10 V 3-wires

PIN 1: in +

PIN 2: in -

PIN 3: out +

Quickon-Connector



4...20 mA 2-wires

PIN 1: Signal +

PIN 2: Signal -

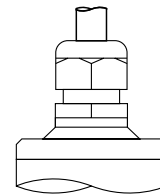
0...10 V 3-wires

PIN 1: in +

PIN 2: in -

PIN 3: out +

Cable connection



4...20 mA 2-wires

red: Signal +

black: Signal -

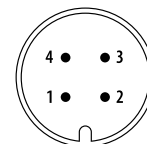
0...10 V 3-wires

red: in +

black: in -

white: out +

M12 Connector



4...20 mA 2-wires

PIN 1: Signal +

PIN 3: Signal -

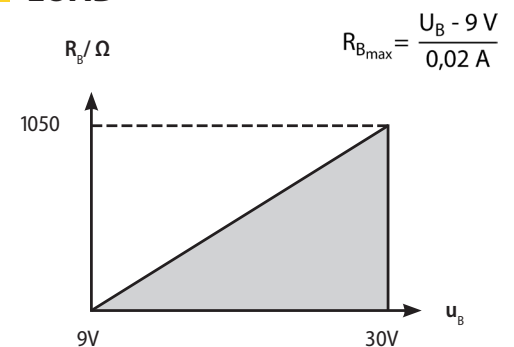
0...10 V 3-wires

PIN 1: in +

PIN 3: in -

PIN 4: out +

LOAD



P10 Datasheet Pressure Transmitter

MEASURING RANGES

Measuring ranges	Relative	Absolute	Overload (bar)
0...250 mbar / 0...25 kPa *	02		-0,1/1
0...400 mbar / 0...40 kPa	03		-0,1/1
0...500 mbar / 0...50 kPa	B7		-0,1/1
0...600 mbar / 0...60 kPa	04		-0,5/2
0...1 bar / 0...100 kPa	05	30 **	-0,5/2
0...1,6 bar / 0...160 kPa	06	31	-1/4
0...2 bar / 0...200 kPa	B3	B4	-1/4
0...2,5 bar / 0...250 kPa	07		-1/10
0...4 bar / 0...400 kPa	08		-1/10
0...5 bar / 0...500 kPa	F1		-1/10
0...6 bar / 0...600 kPa	09		-1/15
0...10 bar / 0...1 MPa	10		-1/15
0...16 bar / 0...1,6 MPa	11		-1/35
0...20 bar / 0...2 MPa	B5		-1/35
0...25 bar / 0...2,5 MPa	12		-1/100
0...40 bar / 0...4 MPa	13		-1/100
0...50 bar / 0...5 MPa	F3		-1/100
0...60 bar / 0...6 MPa	14		-1/100
0...100 bar / 0...10 MPa	15		-1/500
0...160 bar / 0...16 MPa	16		-1/500
0...200 bar / 0...20 MPa	F5		-1/500
0...250 bar / 0...25 MPa	17		-1/500
-1 ...0 bar / -100 ...0 kPa *	D4		4
-1 ...0,6 bar / -100...60 kPa *	D5		4
-1 ...1 bar / -100...100 kPa	D6		4
-1 ...1,5 bar / -100...150 kPa	D7		4
-1 ...3 bar / -100...300 kPa	D8		10
-1 ...5 bar / -100...500kPa	D9		15
-1 ...9 bar / -100...900kPa	E1		15
-1 ...15 bar / -100...1,5 MPa	E2		35
-1 ...19 bar / -100...1,9 MPa	E3		35

* Accuracy 1%

** Accuracy 1%, Overload (bar) -1/4

ORDERING CODE

Output signal

- | | |
|---|----------------------------------|
| 1 | 0...10 V 3-wires |
| 4 | 4...20 mA 2-wires |
| 8 | 0...5 V 3-wires |
| A | 0.5...4.5 V 3-wires, ratiometric |

Ranges

Measuring ranges see table

99 Non-standard range (on request)

Process connection and material

- D G 1/4 A, DIN EN ISO 1179-2, 1.4404
3 G 1/2 B, EN 837-1, 1.4404
G G 1/2 A a. 11,6 mm drill hole, ISO 228-1, 1.4404
DN 1/4 - 18 NPT, 1.4404
DU 1/4 SAE (7/16-20 UNF), 1.4404
2 1/2 - 14 NPT, 1.4404
9 Others (on request)

Sensor seal

- 1 FPM (Viton), standard
- 2 NBR (Perbuan)
- 3 EPDM
- 5 FFKM (Chemraz / Kalrez)
- 9 Others (on request)

Electrical connection

- | | |
|---|--------------------------|
| 1 | Connector EN 175301-803A |
| A | Connector M12x1 4-pole |
| F | Quickon-Connector |
| 6 | 2 m cable |
| 0 | 5 m cable |
| 9 | Others (on request) |

Options

- | | |
|---|----------------------------|
| 0 | Without potted electronics |
| 1 | Potted electronics |

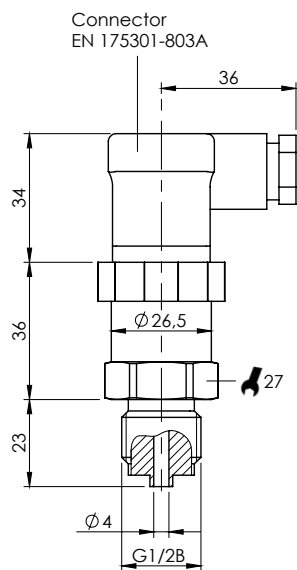
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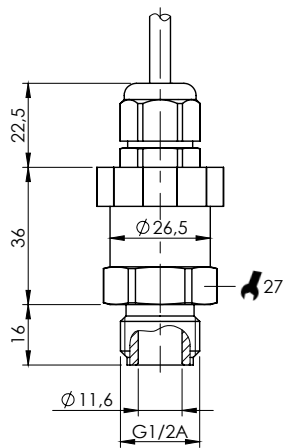
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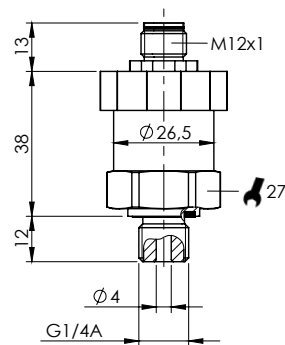
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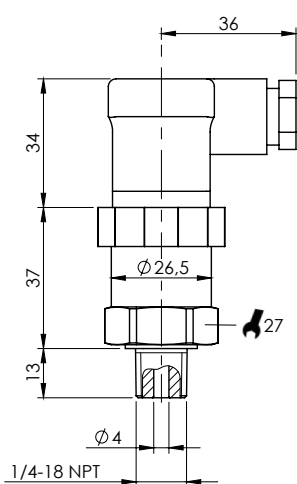
PROCESS CONNECTION ■ TYPE 3



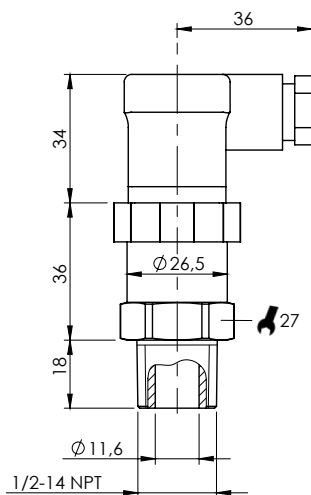
■ TYPE G



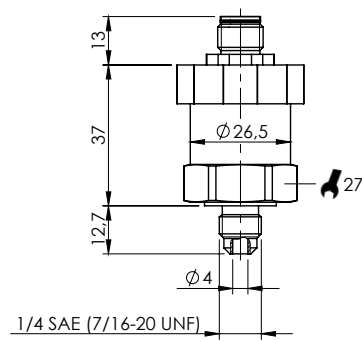
■ TYPE D



PROCESS CONNECTION ■ TYPE DN



■ TYPE 2



■ TYPE DU