

PD81

Nöding

Messtechnik



Datasheet Differential Pressure Transmitter PD81

PERFORMANCE FEATURES

- Dry ceramic sensor
- Smallest measuring range: 0...100 mbar
- Largest measuring range: 0...20 bar
- Accuracy $\leq 0,3\%$
- Robust industrial design
- Analogausgang: 4...20 mA, 3-wires
0...10 V, 3-wires
0...20 mA, 3-wires

Equipped with two ceramic measuring cells, the differential pressure transmitter PD81 is particularly suitable for corrosive and abrasive media. The capacitive measuring principle enables a very accurate and long-term stable measurement. 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.

AREAS OF APPLICATION

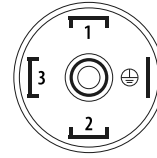
- Gaseous media
- Liquid media
- Abrasive media
- Corrosive media
- Aggressive media
- Level measurement in superimposed pressure tanks

TECHNICAL DATA

Measuring range	
Pressure range	See table "Measuring ranges" others on request
Output	
Analog output	4...20 mA 3-wires 0...10 V 3-wires 0...20 mA 3-wires
Power supply	
20 mA Output	19...30 V DC
10 V Output	19...30 V DC
Signal characteristics	
Accuracy	$\leq \pm 0,3 \% \text{ FS @ } 25^\circ \text{C}$
Long term stability	$\leq \pm 0,2 \% \text{ FS/Year}$
Response time	200 ms - others on request
Swich-on time	< 1 s
Temperature coefficient	
Zero	$\leq \pm 0,015 \% \text{ FS/Kelvin}$
Span	$\leq \pm 0,01 \% \text{ FS/Kelvin}$
Temperature ranges	
Medium temperature	-25...100 °C
Surrounding temperature	0...70 °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	
Housing	Stainless steel 1.4404
Sensor	Ceramics Al_2O_3
Sensor seal	FPM (Viton), NBR, EPDM
Surroundings	
Protection type	see „Electrical connection“ in ordering code
Exemplary weight	
PD81-30708-011 (figure p. 1)	Approx. 500 g

ELECTRICAL CONNECTION

Connector
EN 175301-803A



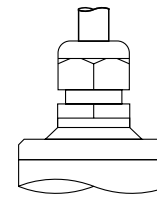
4...20 mA 2-wires

PIN 1: Signal +
PIN 2: Signal -
PIN 3: out +

0...10 V 3-wires

PIN 1: in +
PIN 2: in -
PIN 3: out +

Cable connection



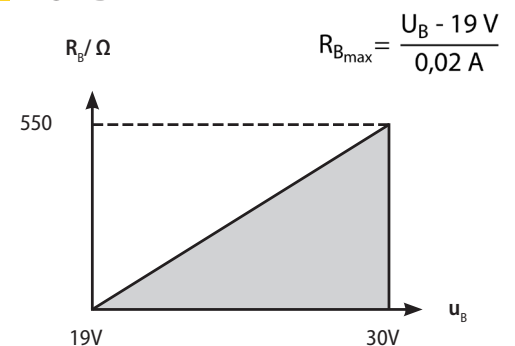
4...20 mA 2-wires

red: Signal +
black: Signal -
white: out +

0...10 V 3-wires

red: in +
black: in -
white: out +

LOAD



MEASURING RANGES

Measuring ranges	Sensor range = max. static pressure ¹	Code	Overload ¹ (bar)
0...100 mbar/0...10 kPa	100 mbar/10 kPa	0000	-0,3/4
0...100 mbar/0...10 kPa	160 mbar/16 kPa	0001	-1/5
0...100 mbar/0...10 kPa	200 mbar/20 kPa	00B1	-1/5
0...100 mbar/0...10 kPa	250 mbar/25 kPa	0002	-1/5
0...100 mbar/0...10 kPa	400 mbar/40 kPa *	0003	-1/6
0...160 mbar/0...16 kPa	160 mbar/16 kPa	0101	-1/5
0...160 mbar/0...16 kPa	200 mbar/20 kPa	01B1	-1/5
0...160 mbar/0...16 kPa	250 mbar/25 kPa	0102	-1/5
0...160 mbar/0...16 kPa	400 mbar/40 kPa	0103	-1/6
0...160 mbar/0...16 kPa	600 mbar/60 kPa *	0104	-1/10
0...200 mbar/0...20 kPa	200 mbar/20 kPa	B1B1	-1/5
0...200 mbar/0...20 kPa	250 mbar/25 kPa	B102	-1/5
0...200 mbar/0...20 kPa	400 mbar/40 kPa	B103	-1/6
0...200 mbar/0...20 kPa	600 mbar/60 kPa	B104	-1/10
0...250 mbar/0...25 kPa	250 mbar/25 kPa	0202	-1/5
0...250 mbar/0...25 kPa	400 mbar/40 kPa	0203	-1/6
0...250 mbar/0...25 kPa	600 mbar/60 kPa	0204	-1/10
0...250 mbar/0...25 kPa	1 bar/100 kPa *	0205	-1/10
0...400 mbar/0...40 kPa	0,4 bar/40 kPa	0303	-1/6
0...400 mbar/0...40 kPa	0,6 bar/60 kPa	0304	-1/10
0...400 mbar/0...40 kPa	1 bar/100 kPa	0305	-1/10
0...400 mbar/0...40 kPa	1,6 bar/160 kPa *	0306	-1/15
0...600 mbar/0...60 kPa	0,6 bar/60 kPa	0404	-1/10
0...600 mbar/0...60 kPa	1 bar/100 kPa	0405	-1/10
0...600 mbar/0...60 kPa	1,6 bar/160 kPa	0406	-1/15
0...600 mbar/0...60 kPa	2 bar/200 kPa	04B3	-1/15
0...600 mbar/0...60 kPa	2,5 bar/250 kPa	0407	-1/15
0...1 bar/0...100 kPa	1 bar/100 kPa	0505	-1/10
0...1 bar/0...100 kPa	1,6 bar/160 kPa	0506	-1/15
0...1 bar/0...100 kPa	2 bar/200 kPa	05B3	-1/15
0...1 bar/0...100 kPa	2,5 bar/250 kPa	0507	-1/15
0...1 bar/0...100 kPa	4 bar/400 kPa *	0508	-1/25
0...1,6 bar/0...160 kPa	1,6 bar/160 kPa	0606	-1/15
0...1,6 bar/0...160 kPa	2 bar/200 kPa	06B3	-1/15
0...1,6 bar/0...160 kPa	2,5 bar/250 kPa	0607	-1/15
0...1,6 bar/0...160 kPa	4 bar/400 kPa	0608	-1/25
0...1,6 bar/0...160 kPa	6 bar/600 kPa *	0609	-1/40
0...2 bar/0...200 kPa	2 bar/200 kPa	B3B3	-1/15
0...2 bar/0...200 kPa	2,5 bar/250 kPa	B307	-1/15
0...2 bar/0...200 kPa	4 bar/400 kPa	B308	-1/25
0...2 bar/0...200 kPa	6 bar/600 kPa	B309	-1/40
0...2,5 bar/0...250 kPa	2,5 bar/250 kPa	0707	-1/15
0...2,5 bar/0...250 kPa	4 bar/400 kPa	0708	-1/25
0...2,5 bar/0...250 kPa	6 bar/600 kPa	0709	-1/40
0...2,5 bar/0...250 kPa	10 bar/1 MPa *	0710	-1/40

Measuring ranges	Sensor range = max. static pressure ¹	Code	Overload ¹ (bar)
0...4 bar/0...400 kPa	4 bar/400 kPa	0808	-1/25
0...4 bar/0...400 kPa	6 bar/600 kPa	0809	-1/40
0...4 bar/0...400 kPa	10 bar/1 MPa	0810	-1/40
0...4 bar/0...400 kPa	16 bar/1,6 MPa *	0811	-1/40
0...6 bar/0...600 kPa	6 bar/600 kPa	0909	-1/40
0...6 bar/0...600 kPa	10 bar/1 MPa	0910	-1/40
0...6 bar/0...600 kPa	16 bar/1,6 MPa	0911	-1/40
0...6 bar/0...600 kPa	20 bar/2 MPa	09B5	-1/40
0...10 bar/0...1 MPa	10 bar/1 MPa	1010	-1/40
0...10 bar/0...1 MPa	16 bar/1,6 MPa	1011	-1/40
0...10 bar/0...1 MPa	20 bar/2 MPa	10B5	-1/40
0...16 bar/0...1,6 MPa	16 bar/1,6 MPa	1111	-1/40
0...16 bar/0...1,6 MPa	20 bar/2 MPa	11B5	-1/40
0...20 bar/0...2 MPa	20 bar/2 MPa	B5B5	-1/40

* Accuracy 0,5% ¹ either side

ORDERING CODE

Output signal

- 1 0...10 V 3-wires
- 2 0...20 mA 3-wires
- 3 4...20 mA 3-wires

Ranges

Measuring ranges see table

- 99 Non-standard range (on request)

Process connection and material

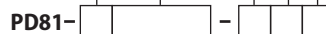
- 0 2x G 1/4 inside, ISO 228-1, 1.4404

Sensor seal

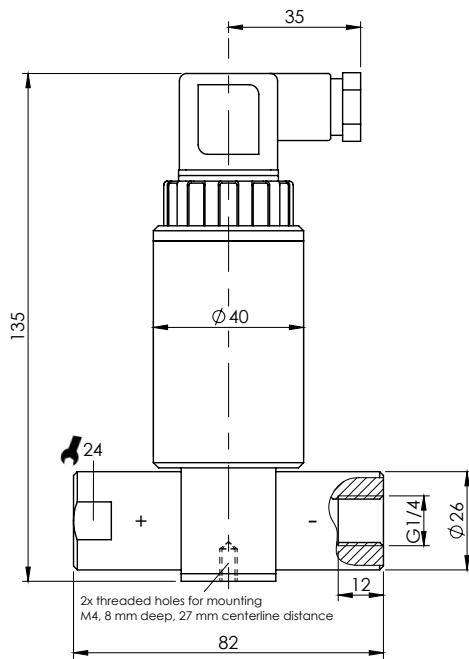
- 1 FPM (Viton), standard
- 2 NBR (Perbuan)
- 3 EPDM
- 9 Others (on request)

Electrical connection

- 0 5 m cable, IP 67
- 1 Connector EN 175301-803A, IP 65
- 4 Connector EN 175301-803A, IP 65 potted electronics
- 5 5 m cable, IP 67 potted electronics
- 6 2 m cable, IP 67
- 7 2 m cable, IP 67 Potted electronics
- 9 Others (on request)



■ **DIMENSIONS**



PROCESS CONNECTION

■ TYPE 0