

Pressure Transmitters

With piezoresistive measuring cell, welded
Pressure ranges 0 – 400 mbar to 0 – 100 bar

PTMv

Application

Pressure transmitters model PTMv are suitable for the overpressure and absolute pressure measurement of liquid and gaseous media of 0 – 400 mbar up to 0 – 100 bar that do not corrode 1.4571 and 1.4435 (316 stainless steel). The welded version (v) has been developed to grant as much as possible leakproofness also for the long-term use with aggressive media, which has for example also proved of value in the ultrapure gas industry.

Two basic models are available:

Overpressure **0 – 400 mbar to 0 – 100 bar**
(up to 0 – 16 bar with ventilation to atmosphere)

Absolute pressure (a) **0 – 400 mbar to 0 – 100 bar**
(reference point zero absolute)

The pressure transmitters are temperature-compensated and provide a calibrated output signal.

Construction

The piezoresistive measuring cell that is filled with silicone oil, is welded in the pressure connection piece. A thin stainless steel membrane separates the elementary sensor from the medium.

The earth conductor of the plug connector is connected to the case. The attachment of chemical seals, e.g. for the food industry is possible, see data sheets of catalogue-heading 7...

Standard Version

Construction Type

Installation length: Standard

Process Connection

G ½ B (¼" BSP), 1.4571 (316 stainless steel)

Measuring Cell / Sensor

Piezoresistive measuring cell: 1.4435 (316 stainless steel)
Diaphragm (placed inside): 1.4435 (316 stainless steel)

Sensor Sealing

– (Measuring cell welded)

Case

1.4301 (304 stainless steel), case protection type IP65

Pressure Ranges / Overload

Overpressure and absolute pressure	üs	Overpressure and absolute pressure	üs	Overpressure and absolute pressure	üs
		0 – 4 bar	7 bar	0 – 40 bar	100 bar
		0 – 6 bar	15 bar	0 – 60 bar	150 bar
		0 – 10 bar	30 bar	0 – 100 bar	300 bar
0 – 400 mbar	2.5 bar	0 – 16 bar	30 bar		
0 – 600 mbar	2.5 bar	0 – 25 bar	100 bar		
0 – 1 bar	3 bar				
0 – 1.6 bar	3 bar				
0 – 2.5 bar	7 bar				

The corresponding vacuum-/ compound ranges are also available.

Output Signal

		Power Supply			Load Impedance
		Nominal	Range		
4...20 mA	/	24 V DC	10...40 V DC	/	(U _B - 10 V)/0.02 A
0...20 mA	/	24 V DC	8...28 V DC	/	(U _B - 8 V)/0.02 A
0...10 V	/	24 V DC	13...28 V DC	/	min. 10 kΩ

Measuring Accuracy

Better than ±0.5 %, of full scale value (including non-linearity, hysteresis and non-repeatability)

Temperature Ranges

Storage temperature: -40...+125 °C (-40... +257 °F)
Rated temperature: -10...+ 80 °C (-14... +176 °F)

Temperature Influence in the Rated Temperature Range

Zero point: < 0.3 % / 10 K (0.03 % / K)
Measuring span: < 0.2 % / 10 K (0.02 % / K)



Mechanical Shock

100 g / 1 ms

Mechanical Vibration

max. 20 g at 15 – 2000 Hz

Reference Temperature

20 °C (68 °F)

Long-term Stability of Zero Point and Span

Better than ±0.25 % p.a.

Reverse Voltage Protection

Available

Electrical Connection

Plug connection 3-pin + protective contact (DIN EN 175301-803). For assuring electromagnetic compatibility (EMC) please use a shielded cable (e.g. LP/LiMYCY). The shield has to be connected to the case resp. to the ground terminal of the terminal box.

Position of Installation

Any

EMC

EN 61 000-6-3, 61 000-6-2

Options

- Process connection: - G ¼ B, ¼" NPT, ½" NPT, M 12x1.5, M 20x1.5
- High pressure connection (female- or male thread)
- VCR® union nut VCR® male thread rigid, others upon request
- Electrical connection: - Cable bushing (IP67) with 2 m cable
- Circular plug connection M 12x1 (IP67)
- Angular cable box without cable, optional with 2 m die casted cable
- Straight cable box without cable, others upon request
- Special version: - Silicone-free version
- Free of grease and oil
- Adjustment with dry air
- Oxygen version: restrictor screw in the inlet port of the connection, orifice Ø 0.3 mm
- Output signal 0 – 5 V or 1 – 10 V, 4 – 20 mA (3-wire)
- Measuring cell Platinum-diaphragm, Hastelloy-diaphragm (measuring cell case Hastelloy C276)

Ordering Information

Please specify in your order:

Basic model	PTMv
Order code for absolute pressure	(a)
Pressure range	e.g. 0 – 1 bar
Output signal	e.g. 4...20 mA
Possible specifics:	compare above

Example: PTMv (a), 0 – 1 bar, 4...20 mA



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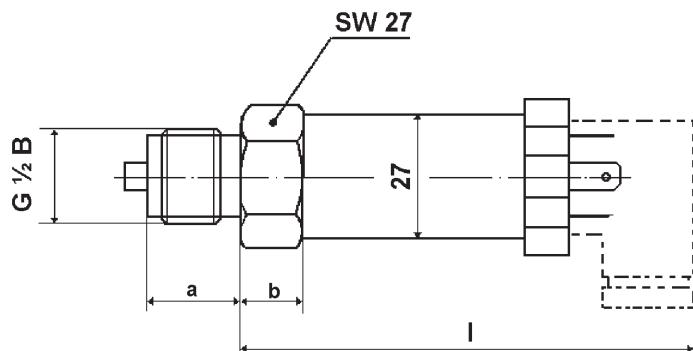
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Case Configuration, Dimensional Data and Weights, Wiring Diagram

PTM_v

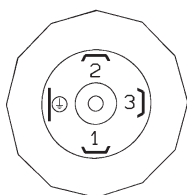
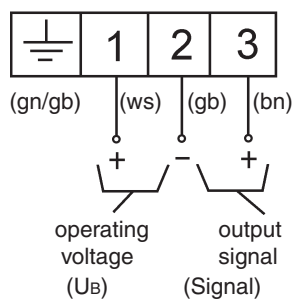


Dimensional Data (mm) and Weights (kg)			
l (mm)	a (mm)	b (mm)	approx. weight
88 (93)	20	10	0.21 kg

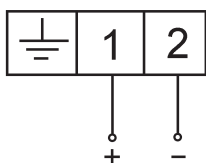
The values in brackets are for the output signals 0...20 mA

Wiring Diagram

3-wire



2-wire



Please note:

Wiring diagram for version with circular plug connector
M 12x1 see supplied operating instructions!