Pressure Transmitter

With piezoresistive measuring cell, compact version
Pressure ranges 0 – 100 mbar to 0 – 1000 bar

PTMk

Applications

Pressure transmitter models PTMk are suitable for overpressure and absolute pressure measurement of liquid and gaseous media from 0 – 100 mbar up to 0 – 1000 bar, which do neither corrode stainless steel 316L (1.4404 and 1.4435) nor Viton. They stand out due to their compact construction type. Two basic versions are available:

Overpressure	**0 – 100 mbar to 0 – 1000 bar** (up to 0 – 16 bar with ventilation to atmosphere)
Absolute pressure (a)	**0 – 100 mbar to 0 – 1000 bar** (reference point zero absolute)

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

Construction

The piezoresistive sensor is installed in the pressure connection piece and is surrounded by silicone oil. It is separated from the medium by a thin stainless steel diaphragm. 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 Versions

Construction Type
Installation length compact

Process Connection
G ¼ B (¼" BSP), stainless steel 316L (1.4404)

Measuring Cell / Sensor
Piezoresistive measuring cell stainless steel 316L (1.4435)
Diaphragm, placed inside stainless steel 316L (1.4435)

Sensor Sealing
FKM (Viton®)

Case
Stainless steel 304 (1.4301), degree of protection IP65

Pressure Ranges / Overload Capability (üs)

Overpressure and absolute pressure	üs	Overpressure and absolute pressure	üs	Overpressure and absolute pressure	üs
in bar					
0 – 100 mbar	2.5	0 – 4	7	0 – 40	100
0 – 160 mbar	2.5	0 – 6	15	0 – 60	150
0 – 250 mbar	2.5	0 – 10	30	0 – 100	300
0 – 400 mbar	2.5	0 – 16	30	0 – 160	300
0 – 600 mbar	2.5	0 – 25	100	0 – 250	300
0 – 1	3			0 – 400	1100
0 – 1.6	3			0 – 600	1100
0 – 2.5	7			0 – 1000	1100

The corresponding vacuum / compound ranges are also available.

Output Signal	Supply voltage	Load impedance
4...20 mA 2-wire	10...40 V DC	(U_B – 10 V) / 0.02 A

Measuring Accuracy
Better than ±0.5 % of full scale value (including non-linearity, hysteresis and non-repeatability)
For measuring spans 100, 160 and 250 mbar ±1.0 %

Temperature Ranges
Storage temperature −40 to +125 °C (−40 to +257 °F)
Rated temperature −10 to +80 °C (+14 to +176 °F)

Temperature Influence in the Rated Temperature Range
Zero point < 0.3 % / 10 K
Measuring span < 0.2 % / 10 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 4-pin, Hirschmann series G
For assuring the electromagnetic compatibility (EMC), please use a shielded cable (e.g. LP/LiMYCY). The shield has to be connected to the case.

Position of Installation / Position of Connection
Any

EMC
EN 61000-6-3, 61000-6-2

Options

- Pressure connection:
  male thread M 12x1.5 or ¼" NPT; others upon request
- Special calibration upon request
- Sensor sealing Perbunan (NBR), EPDM, others upon request
- Model PTMkv:
  welded version (e.g. for ultrapure gas application)

Ordering Information

Basic model	PTMk
Order code absolute pressure	(a)
Pressure range	e.g. 0 – 1 bar
Output signal	e.g. 4...20 mA
Possible specifics	cf. above
Example	**PTMk (a), 0 – 1 bar, 4...20 mA**

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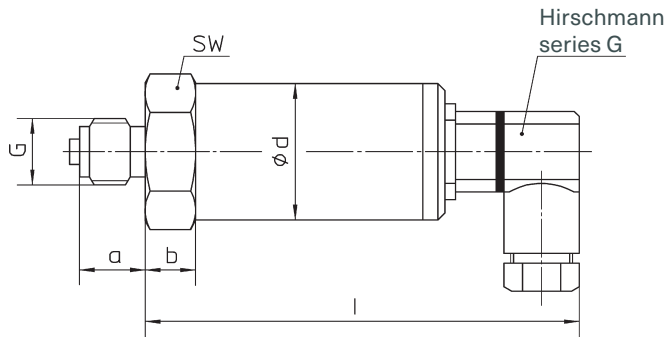
Case Configuration, Dimensional Data and Weight, Wiring Diagram

PTMk



Dimensional Data (mm / inch) and Weight (kg / lb)

model	version	a	b	d	G	l	SW	approx. weight
PTMk	up to 0 – 100 bar	13 **0.51**	10 **0.39**	27 **1.06**	G¼ B **¼" BSP**	86 **3.39**	27 **1.06**	0,16 **0.35**
	> 0 – 160 bar		15 **0.59**			91 **3.58**		0.21 **0.46**

Wiring Diagram