

# Pressure Transmitter

With piezoresistive measuring cell  
Pressure ranges 0 – 1 bar to 0 – 1000 bar

**PTMFB**

## Applications

Pressure transmitter models PTMFB are suitable for overpressure and absolute pressure measurement of liquid and gaseous media from 0 – 1 bar to 0 – 1000 bar that do not corrode stainless steel 1.4435 (flush welded membrane), 1.4404 (process connection) and NBR. The design of this robust and compact instrument allows for application even under rough operating conditions, e.g. in hydraulic systems, in test stands, in process engineering, industry and research. The pressure transmitters are temperature-compensated and provide a calibrated output signal.

## Construction

The piezoresistive sensor is installed in the pressure connection piece and surrounded by silicone oil. It is separated from the medium by a thin diaphragm made of stainless steel. The earth conductor of the plug is connected to the case.

## Standard Versions

### Construction Type

Construction length: standard, measuring cell placed inside

### Process Connection

G ½ B according to DIN 3852 Form E, made of stainless steel 316L (1.4404) with gasket made of NBR

### Measuring Cell / Sensor

Piezoresistive sensor, placed inside, upstreamed integrated chemical seal unit with flush welded membrane made of stainless steel 316L (1.4435), filling fluid white oil FN2

### Case

Stainless steel, degree of protection IP65

### Pressure Ranges / Overrange Protection (üs)

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

The corresponding vacuum and compound ranges are also available.

### Output Signal

	Supply voltage	Load impedance
4...20 mA 2-wire	10...40 V DC	(U <sub>B</sub> – 10 V) / 0.02 A
0...20 mA 3-wire	8...28 V DC	(U <sub>B</sub> – 8 V) / 0.02 A
0...10 V 3-wire	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
Span	<0.2 % / 10 K



### Mechanical Shock

100 g / 1 ms

### Mechanical Oscillation

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 connector DIN EN 175301-803 type A, 3-pin + protective contact, degree of protection IP65 (DIN EN 60529)  
For assuring the electromagnetic compatibility (EMC), please use a shielded cable (e.g. LP/LiMYCY). The shield has to be connected to the ground terminal or the case. Wiring diagram see page 2.

### Position of Installation / Position of Connection

Any

### EMC

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

## Options

- **Process connection: others upon request**
- **Electrical connection:**
  - cable gland (IP67), 2 m (6.56') cable
  - circular plug connector M 12x1 (IP67)
  - angular cable box, without cable
  - optional with 2 m (6.56') die cast cable
  - circular plug connector M 12x1 (IP67)
  - straight cable box, without cable
  - others upon request
- **Special version:**
  - silicone-free version
  - version free of grease and oil, up to 0 – 600 bar adjustment ≤ 250 bar with dry air
  - ≥ 400 bar with distilled water
- **Higher temperature:**
  - with temperature decoupler TE, length approx. 30 mm (1.18"),
  - for medium temperatures > 80 °C < 140 °C (> 176 °F < 284 °F)
  - for > 140 °C (> 284 °F) upon request

## Ordering Information

<b>Model</b>	PTMFB
<b>Pressure range</b>	e.g. 0 – 100 bar
<b>Output signal</b>	e.g. 0...20 mA
<b>Process connection</b>	e.g. G ½ B

**Example** PTMFB, 0 – 100 bar, 0...20 mA, G ½ B

[www.armano-messtechnik.com](http://www.armano-messtechnik.com)

**ARMANO**

ARMANO Messtechnik GmbH

Location Beierfeld  
Am Gewerbehark 9 • 08344 Grünhain-Beierfeld  
Tel.: +49 3774 58 – 0 • Fax: +49 3774 58 – 545  
mail@armano-beierfeld.com

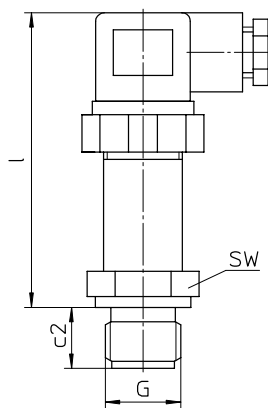
Location Wesel  
Manometerstraße 5 • 46487 Wesel-Ginderich  
Tel.: +49 2803 9130 – 0 • Fax: +49 2803 1035  
mail@armano-wesel.com

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# Case Configuration, Dimensional Data and Weight, Wiring Diagram

PTMFB

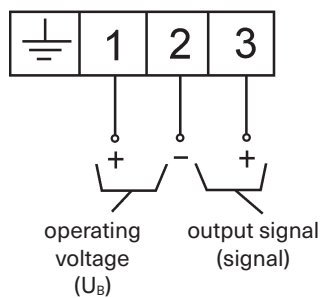


## Dimensional Data (mm / inch) and Weight (kg / lb)

c2	G	I	SW	approx. weight
14	G ½ B	99	27	0.25
<b>0.55</b>	(up to 0 – 100 bar)	<b>3.9</b>	<b>1.06</b>	<b>0.55</b>
14	G ½ B	104	27	0.27
<b>0.55</b>	(from 0 – 160 bar)	<b>4.09</b>	<b>1.06</b>	<b>0.6</b>

## Wiring Diagram

3-wire



2-wire

