

# Pressure Transmitters

With thin film measuring cell

Pressure ranges 0 – 10 bar to 0 – 2,500 bar

DTM

## Applications

Pressure transmitters model DTM are suitable for overpressure measurement of liquid and gaseous media of 0 – 10 to 0 – 2,500 bar that do not corrode 1.4548 (diaphragm) and 1.4542 resp. 1.4548.4 (process connection) stainless steel.

The construction of this robust, compact instrument allows for applications also in 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

Our pressure transmitters with thin film measuring cell stand out especially due to their robust construction. The thin film sensor is, just as the case, welded directly to the pressure connection piece. The whole instrument thus is particularly dirt-resistant and can also be applied under critical conditions.

## Standard Version

### Construction Type

Installation length: standard, measuring cell placed inside

### Process Connection

Pressure ranges up to 0 – 1,000 bar: G ¼ B (¼" BSP), 1.4542

Pressure ranges 0 – 1,600 bar and above: high pressure-connection M 16x1.5 female, 1.4548.4

### Measuring Cell / Sensor

Thin film, diaphragm made of 1.4548, welded, placed inside

### Case

Stainless steel, case protection type IP65

### Pressure Ranges / Overload

Overpressure 0 – 10 to 0 – 2,500 bar

(reference point ambient air pressure during manufacturing)

Overpressure (bar)	Overrange limit (bar)	Overpressure (bar)	Overrange limit (bar)
-1/+ 9	20	0 – 100	300
-1/+15	40	0 – 160	
-1/+24		0 – 250	600
0 – 10	20	0 – 400	
0 – 16	40	0 – 600	
0 – 25		0 – 1,000	1,200
0 – 40	100	0 – 1,600	
0 – 60		0 – 2,500	3,200

### Output Signal

4...20 mA	2-wire	9...30 V DC	Load impedance (U <sub>B</sub> - 9 V)/0.02 A
0...20 mA	3-wire	9...30 V DC	(U <sub>B</sub> - 9 V)/0.02 A
0...10 V	3-wire	14...30 V DC	min. 10 kΩ

### Measuring Accuracy

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

### Temperature Ranges

Storage temperature: -25...+85 °C (-13... +185 °F)

Rated temperature: -25...+85 °C (-13... +185 °F)

### Temperature Influence within the Rated Temperature Range

Zero point:	≤ 0.3 % / 10 K	(0.03 % / K)
Span:	≤ 0.2 % / 10 K	(0.02 % / K)

### Reference Temperature

+20 °C (68 °F)



### Long-term Stability of Zero Point and Span

Better than ±0.2 % p.a.

### Reverse Voltage Protection

Available

### Electrical Connection

Plug connector DIN EN 175301-803 construction type A, 3-pin + protective contact, case protection type IP65 (EN 60529 / IEC 529). In order to ensure 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: - G ½ B, ¼" NPT, ½" NPT, M 12x1.5, M 20x1.5  
- high pressure-connection 9/16-18 UNF  
- VCR® union nut (1.4301), VCR® male thread rigid, others upon request
- Electrical connection: - cable feed (IP67), 2 m cable,  
- circular plug connector M 12x1 (IP67), angular cable box, without cable, optional with 2 m die casted 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 600 bar adjustment ≤ 250 bar with dry air, ≥ 400 bar with distilled water  
- oxygen version: up to max. 0 – 600 bar, restrictor screw in the inlet port of the connection, orifice Ø 0.3 mm (0.01")
- Higher temperature: - measuring cell for temperatures up to +125 °C  
- with temperature decoupler TE, approx. 30 mm, for medium temperatures > 80 °C < 140 °C, for > 140 °C upon request

## Ordering Information

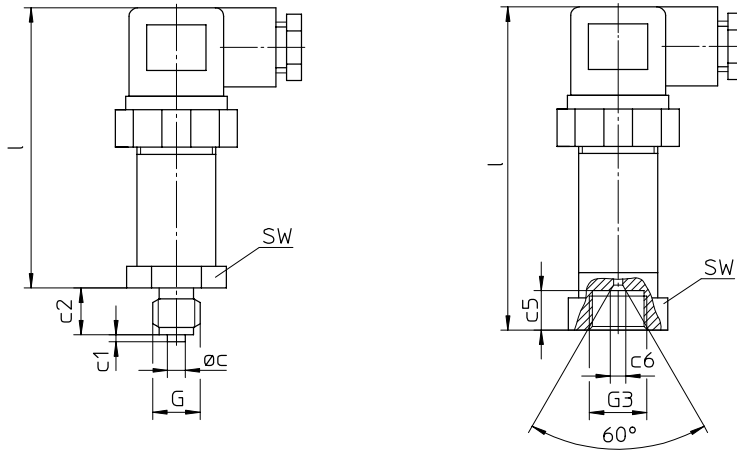
See page 2

# Dimensional Data and Weights, Wiring Diagram, Ordering Information

## Standard Version

Pressure ranges up to 0 – 1,000 bar

Pressure ranges up to 0 – 1,600 bar and 0 – 2,500 bar

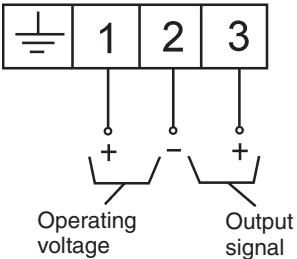


## Dimensional Data (mm / inches) and Weights (kg / lb)

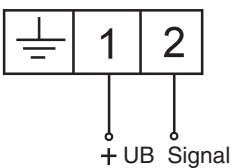
Pressure ranges:	Ø c	c1	c2	c5	c6	G	G3	l	SW	approx. Weight
up to 0 – 1000 bar	5 .2	2 .08	13 .51	—	—	G ¼ B ¼" BSP	—	78 3.07	24 .94	0.12 0.26
1600 bar and above	—	—	—	11 .43	4.3 .17	—	M 16x1.5	90 3.54	24 .94	0.13 0.29

## Wiring Diagram

3-wire



2-wire



### Please note:

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

## Ordering Information

Please specify in your order:

Model: **DTM**  
 Pressure range: e.g. **0 – 60 bar**  
 Output signal: e.g. **4...20 mA**  
 Possible options: cf. page 1

**Example:** **DTM, 0 – 60 bar, 4...20 mA**  
 i.e. thin film pressure transmitter DTM for overpressure  
 0 – 60 bar, output signal 4 to 20 mA, process connection G ¼ B

Our item numbers for numerous standard versions can be found in our price list.