Pressure Transmitter

With thin film measuring cell
Pressure ranges 0 – 6 bar to 0 – 2500 bar

DTM

Application

Pressure transmitter models DTM are suitable for overpressure measurement of liquid and gaseous media from 0 – 6 bar up to 0 – 2500 bar, which do not corrode stainless steel 1.4548 (diaphragm) and 1.4542 or 1.4548.4 (process connection).
The design of this robust, compact instrument allows for applications also in rough operating conditions, e.g. in hydraulic systems, in test benches, 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. Thus, the entire instrument is particularly dirt-resistant and can also be applied under critical conditions.

Standard Versions

Construction Type
Installation length: standard, measuring cell placed inside

Process Connection
G ¼ B (¼" BSP), 1.4542: up to 0 – 1000 bar
High pressure connection
M 16x1.5 female, 1.4548.4: from 0 – 1600 bar

Measuring Cell / Sensor
Thin film, diaphragm made of stainless steel 1.4548, welded, placed inside

Case
Stainless steel, degree of protection IP65 according to DIN EN 60 529

Pressure Ranges / Overload
Overpressure 0 – 10 bar to 0 – 2500 bar
(reference point ambient air pressure during manufacturing)

Overpressure (bar)	Overrange protection (bar)	Overpressure (bar)	Overrange protection (bar)
–1 / +5	20	0 – 100	300
–1 / +9		0 – 160	
–1 / +15	40	0 – 250	600
–1 / +24		0 – 400	
0 – 6	20	0 – 600	1200
0 – 10		0 – 1000	
0 – 16	40	0 – 1600	2200
0 – 25		0 – 2500	3200
0 – 40	100		
0 – 60			

Output Signal

	Supply voltage	Load impedance
4…20 mA 2-wire	9…30 V DC	(U_B - 9 V) / 0.02 A
0…20 mA 3-wire	9…30 V DC	(U_B - 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 value (including non-linearity, hysteresis and non-repeatability)

Temperature Ranges
Storage temperature: –25 °C to +85 °C (–13 °F to +185 °F)
Rated temperature: –25 °C to +85 °C (–13 °F to +185 °F)

[1] with limited reverse voltage protection

Temperature Influence in the Rated Temperature Range
Zero point: ≤ 0.3 % / 10 K
Span: ≤ 0.2 % / 10 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 175 301-803 construction type A, 3-pin + protective contact, IP65 (DIN EN 60 529 / IEC 529)
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
DIN EN 61 000-6-3, 61 000-6-2

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:**
  - circular plug connector M 12x1 (IP67)[1]
    - 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 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:**
  with temperature decoupler TE, length approx. 30 mm (1.18")
  - for medium temperatures > 80 °C < 140 °C (> 176 °F < 284 °F)
  - for medium temperatures > 140 °C (> 284 °F) upon request

Ordering Information

Basic model	DTM
Process connection	e.g. G ¼ B
Pressure range	e.g. 0 – 60 bar
Output signal	e.g. 4…20 mA

Example: DTM, G ¼ B, 0 – 60 bar, 4…20 mA

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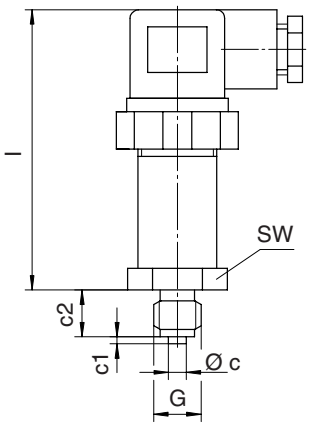
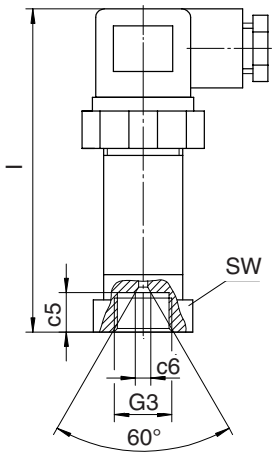
Case Configuration, Dimensional Data and Weight, Wiring Diagram

Standard Version

Pressure ranges up to 0 – 1000 bar



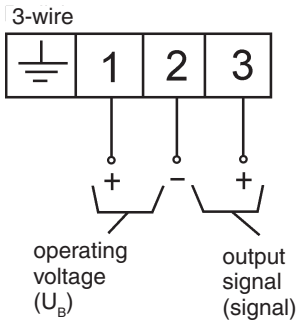
Pressure ranges up to 0 – 1600 bar and 0 – 2500 bar

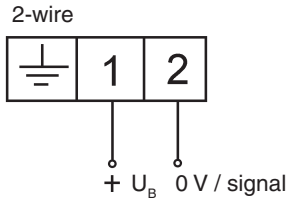


Dimensional Data (mm/inch) and Weight (kg/lb)

pressure range	Ø c	c1	c2	c5	c6	G	G3	l	SW	approx. weight
up to 0 – 1000 bar	5 **0.2**	2 **0.08**	13 **0.51**	—	—	G ¼ B **¼" BSP**	—	78 **3.07**	24 **0.94**	0.12 **0.26**
from 1600 bar	—	—	—	11 **0.43**	4.3 **0.17**	—	M 16x1.5	90 **3.54**	24 **0.94**	0.13 **0.29**

Wiring Diagram





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