

Pressure Transmitter

CTMc

With ceramic measuring cell, capacitive

Applications

Capacitive pressure transmitter models CTMc are suitable for over-pressure and absolute pressure measurement of liquid or gaseous media, which do not corrode stainless steel 316L (1.4404), Viton (FPM) and aluminum oxide Al_2O_3 .

Construction

The measured pressure acts directly on a ceramic membrane that deflects when pressurised. This mechanical deflection leads to a proportional change in electrical capacity, which is measured directly at the electrodes of the measuring diaphragm and the ceramic substrate. The electronics integrated in the transmitter housing transform the electrical signal into a pressure proportional output signal of 4...20 mA or 0...10 V DC.

Standard Versions

Construction Type

Installation length: standard

Process Connection

G 1/2 B (1/2" BSP), stainless steel 316L (1.4404)

Measuring Cell/Sensor

Aluminum oxide Al_2O_3 (96 %)

Sensor Sealing

FPM (Viton®)

Case

Stainless steel 316L (1.4404),
degree of protection IP65 according to DIN EN 60 529

Pressure Ranges

Overpressure, absolute pressure (a), overrange protection (üs)

Pressure ranges	(a)	üs	Pressure ranges	(a)	üs
in bar					
0 – 40 mbar ¹⁾			0 – 4	x	25
0 – 60 mbar ¹⁾			0 – 6	x	40
0 – 100 mbar		4	0 – 10	x	40
0 – 160 mbar		5	0 – 16	x	40
0 – 250 mbar		6	0 – 25	x	60
0 – 0.4		6	0 – 40	x	60
0 – 0.6		10	0 – 60	x	100
0 – 1	x	10			
0 – 1.6	x	18			
0 – 2.5	x	25			

Overpressure Version

The corresponding vacuum and compound ranges according to DIN EN are also available.

Output Signal

	Supply voltage	Load impedance
4...20 mA 2-wire	9...32 V DC	($U_B - 9 V$) / 0.02 A
0...10 V 3-wire	15...30 V DC	min. 10 kΩ

Measuring Accuracy

Pressure ranges > 60 mbar ±0.2 % of full scale value (including non-linearity, hysteresis and non-repeatability)

Pressure ranges ≤ 60 mbar ±0.5 % of full scale value



Temperature Ranges

Operating temperature: –25 °C to +80 °C (–13 °F to +176 °F)
Diaphragm: –40 °C to +100 °C (–40 °F to +212 °F),
< 0.5 h up to +125 °C (+257 °F)

Temperature Influence in the Rated Temperature Range

Zero point: < 0.15 % / 10 K
Span: < 0.1 % / 10 K

Long-term Stability of Zero Point and Span

Better than ±0.15 % p.a.

Reverse Voltage Protection

Available

Electrical Connection

Plug connector DIN EN 175 301-803, construction type A

Position of Installation/Position of Connection

Any

EMC

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

Options

- Connection thread 1/2" NPT, G 1/4 B, others upon request
- Flush welded version upon request
- Other pressure ranges upon request
- Electrical connection: PG 9 screwed cable gland with 5 m (16.4') connection cable, IP68
- Measuring cell ultrapure aluminum oxide Al_2O_3 (99.9 %)
- Version with field housing stainless steel 304 (1.4301), model CTMcFG, process connection stainless steel 316L (1.4404), IP65, screwed cable gland M 16x1.5
- Other wetted parts upon request
- With attached digital display model DASA according to data sheet 9912

Ordering Information

Basic model	CTMc
Order code for absolute pressure	(a)
Process connection	e.g. G 1/2 B
Pressure range	e.g. 0 – 6 bar
Output signal	e.g. 4...20 mA
Any options	cf. above

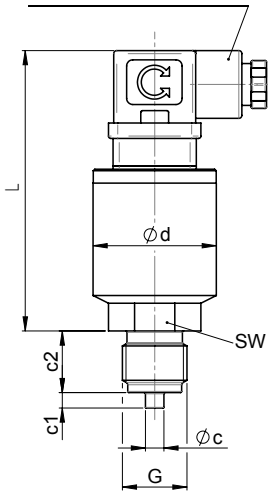
Example: CTMc (a), G 1/2 B, 0 – 6 bar, 4...20 mA

¹⁾ accuracy 0.5 %

Case Configuration, Dimensional Data and Weight, Wiring Diagram

Standard Version

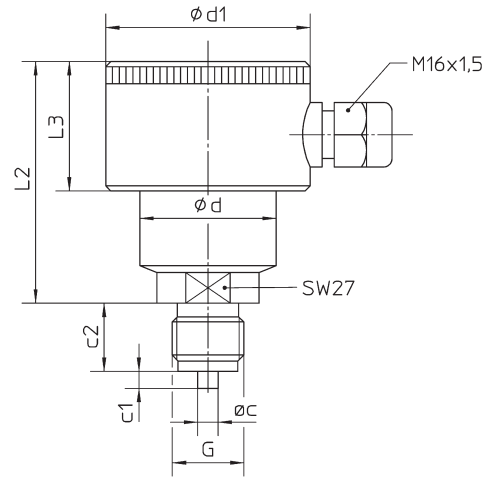
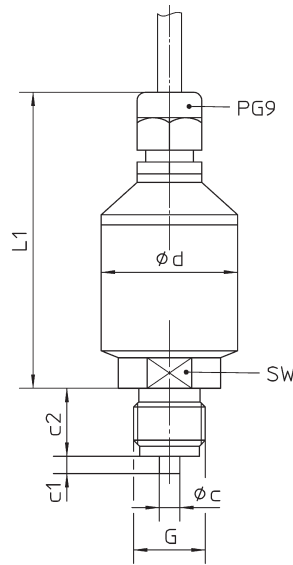
Angular plug connection according to DIN EN 175 301-803, construction type A



Options

PG 9

CTMcFG



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

c	c1	c2	d	d1	G	L	L1	L2	L3	SW	approx. weight
6 0.24	5 0.2	20 0.79	40 1.57	60 2.36	G ½ B ½" BSP	91 3.58	87 3.43	71 2.8	38 1.5	27 1.06	0.28 0.62

Wiring Diagram

2-wire

