

## Intrinsically safe pressure meter / transmitters

### Product features

- Measuring of the pressure of gases, vapours and liquids
- Measuring of relative / absolute pressure, vacuum
- Medium temperature: up to 90 °C
- 32 measurement ranges between 0 and 25 bar
- 4-20 mA two-wire transmitter
- Intrinsically safe
- G 1/2" A / M20 × 1.5 / G 3/4" A process connections
- LCD display
- IP 65 protection



The **DT7100 ... Intrinsically safe pressure meter / transmitters** provide a 4-20 mA current signal in proportional to the pressure connected to their input, and present the measured pressure values in an LCD display. The transmitters are intrinsically safe devices, and they are operable in a potentially explosive environment falling into the categories Zone 0, and Zone 1. The transmitters are available with 32 different measurement ranges, for the measuring of relative / absolute pressure and vacuum. Depending on the construction of the device, the temperature of the medium under measurement may vary between -20 °C and 90 °C, while the ambient temperature may be between -20 °C and 60 °C.

The material being in contact with the medium is KO36 steel; the sealing applied depends on the medium and the temperature of the medium, and it can be: Teflon (PTFE), Buna EP (EPDM), Viton (FKM), or Isolast 9503 (FFKM).

The transmitters are available with various threaded connections: G1/2" A / M20 × 1.5 manometer connection, and G 3/4" A front-membrane construction.

**Safety data:**

The connection terminals of the supply voltages are isolated from each other, the isolation is in compliance with the standard EN 61010-1, taking into consideration the following:

Pollution level: 2  
 Measurement category: II

**Intrinsic safety data:**

Certification: BKI 04 ATEX 145 X  
 Protection marking:  II 1/2 G EEx ia IIC T4

Ui [V]	Ii [mA]	Pi [W]	Ci [nF]	Li [uH]
28	100	0.7	37	506

**Input parameters:**

Input signal: pressure  
 Ranges: see the table below

RANGES*							
[mbar] rel.	[bar] rel.			[mbar] abs.	[bar] abs.		
0-100	0-1.00	0-10	-1-0	-1-6.00	0-400	0-1.00	0-10
0-160	0-1.60	0-16	-1-1.00	-1-10	0-600	0-1.60	0-16
0-250	0-2.50	0-25	-1-1.60	-1-16		0-2.50	0-25
0-400	0-4.00		-1-2.50	-1-25		0-4.00	
0-600	0-6.00		-1-4.00			0-6.00	

\*Special ranges that differ from the above are also available upon request.

Overdrive capacity: 150%

**Output parameters:**

Output signal: DC current, proportional to the measured pressure  
 Range: 4-20 mA  
 Accuracy: 0.25% (typically)  
 Temperature-coefficient: 200 ppm / °C (0-75 °C between), 300 ppm / °C (-20-90 °C between)  
 Supply-voltage effect: no  
 Response time: 0.5 ms (10-90%)

**Display:**

Display: 3.5 digits, + or – sign, decimal point  
 Display unit: LCD, 12.7 mm with character height

**Power supply:**

Loop power supply voltage: 12-28 VDC

**Ambient conditions:**

Operating temperature range: see the table below

Type	Ambient temperature	Medium temperature
DT7100	-20 °C <Ta< 60 °C	-20 °C <Tp< 70 °C
DT7100 H	-25 °C <Ta< 60 °C	-20 °C <Tp< 90 °C

Relative humidity: 90% (max., non-condensing)  
 Place of installation: potentially explosive area

**Electromagnetic compatibility (EMC):**

**accordance with the standard EN 61326**

Immunity: industrial area  
 Noise emission: Group 1, Class B

**Data in general:**

Housing: aluminium alloy box, KO36 steel connection  
 Process connection: G1/2”A, M20 × 1.5 (manometer connection), G3/4”A (front-membrane construction)  
 Electrical connection: 3-pole connector DIN43650/IP 65  
 Cross-section of the connected cable: 2 × 0.25 mm<sup>2</sup> (shielded cable)  
 Dimensions: DT7100: 127 × 113 × 58 mm (width × height × depth)  
 DT7100 H: 127 × 163 × 58 mm (width × height × depth)  
 Weight: DT7100: 0.55 kg  
 DT7100 H: 0.6 kg  
 Protection: IP 65  
 Materials being in contact with the medium under measurement: KO36 steel / Teflon (PTFE) / Buna EP (EPDM) / Viton (FKM) / Isolast 9503 (FFKM)

Detailed information see in operating instructions. The Manufacturer maintains the right to change the technical data!