



Total length depends on internal structure, thread length and type of sealing!



Fields of application

- Hydraulics
- Air conditioning and heating
- Testing technology
- Industrial robots
- Process controlling
- Water technology
- Pneumatics

Description

The pressure transmitters contain only a small number of active components, such as the sensor element, a signal processing ASIC and possibly a U/I or U/U converter circuit.

Calibration is made electronically, so that the pressure transmitters are characterized by a comparably small total error and long-time stability. The hermetically welded thin film measuring cell guarantees a high degree of long-time resistance to leakage as well as long-time stability. The ASIC represents a programmable precision CMOS ASIC with EEPROM data storage and analogue signal path, that is qualified for the use in an extended range of working temperature.

The stainless steel membrane is completely vacuum-tight, extremely burst-proof and can be used with all standard media in the fields of hydraulics, pneumatics, environmental technology, process technology, semi-conductor technology and automotive engineering, in so far as these media are compatible with stainless steel. Thus, the pressure transmitters can be used for standard applications in mobile hydraulics and other fields of application. High accuracy and robust and compact structure guarantees a broad range of possible applications in industry.

A variety of different pressure transmitters can be offered as a result of the combinability of various mechanical and electronic connections. Upon request, a test certificate according to DIN ISO 9001 or DKD (German Calibration Service) can be supplied.

Technical data

Measuring range (0 to ... bar) *)	-1 0,6 1 1,6 2,5 4 6 10 16 25 40 60 100 160 250 400 600 1000 1600 2000												
Overload range *)	1.5 times 500 bar and more: 1.2 times												
Bursting pressure *)	3 times 500 bar and more: 1.5 times												
Pressure type	pressure in relation to outer atmosphere or seal reference												
Pressure connection *)	standard: G 1/4 " form E optionally are various pressure connections available ➤ see data sheet "Pressure connections"												
Materials used													
Material of parts with contact to measuring medium:	CrNiCuNb 17-4 PH stainless steel, no O-ring, no silicone oil												
Case:	X5CrNi18-10												
Sensor element	stainless steel membrane poly-Si on SiO ₂ (thin film resistors)												
Weight	90 g												
Electrical parameters													
	<table border="1"> <thead> <tr> <th>Output voltage</th> <th>Operational voltage</th> </tr> </thead> <tbody> <tr> <td>➤ 4 ... 20 mA (2-wires)</td> <td>12 ... 30 V a)</td> </tr> <tr> <td>➤ 0 bzw. 4 ... 20 mA (3-wires)</td> <td>9 ... 30 V b)</td> </tr> <tr> <td>➤ 0 ... 10 V</td> <td>12 ... 30 V c)</td> </tr> <tr> <td>➤ 0 ... 5 V</td> <td>8 ... 30 V d)</td> </tr> <tr> <td>➤ 0,5 ... 4,5 V</td> <td>8 ... 30 V d)</td> </tr> </tbody> </table>	Output voltage	Operational voltage	➤ 4 ... 20 mA (2-wires)	12 ... 30 V a)	➤ 0 bzw. 4 ... 20 mA (3-wires)	9 ... 30 V b)	➤ 0 ... 10 V	12 ... 30 V c)	➤ 0 ... 5 V	8 ... 30 V d)	➤ 0,5 ... 4,5 V	8 ... 30 V d)
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➤ 0,5 ... 4,5 V	8 ... 30 V d)												
Recommended max. load resistance R _l	a) (U _b – 12 V) / 20 mA b) (U _b – 9 V) / 28 mA c) ≥ 5 kΩ d) ≥ 2,5 kΩ												
Setting time (10 ... 90 %) t _E	< 1 ms												
Insulation resistance at 50 V	≥ 100 MΩ												
Electrical connection *)	➤ standard design device plug DIN EN 175301-803 BF C ➤ optionally other electrical connections are available - see data sheet "Electrical connections"												
Protection class acc. to DIN 40 050	➤ IP 65 or acc. to plug system, resp.												
Linearity error at room temperature (% FS) (BFSL) **)	± 0.5 max. ➤ optionally 0.25 ****)												
Reproducibility % of range	< 0.1												
Stability per year % of range	< 0.2 (on reference conditions)												

Ambient values				
➤ Ambient temperature	-40 ... + 105 °C			
➤ Temperature of the medium	-40 ... + 125 °C			
➤ Storage temperature	-40 ... + 125 °C			
➤ Compensated temperature range	-40 ... + 105 °C			
Total error				
max. ± ***) ****)				
- 40 °C ... -20 °C	-20 °C ... +85 °C	+25 °C ± 5 °C	+30 °C ... +85 °C	+85 °C ... +105 °C
3.0 %	1.0 %	0.5 %	0.7 %	2.5 %
typ. < 2.0 %	typ. < 0.7 %	typ. < 0.3 %	typ. < 0.5 %	typ. < 1.5 %
Electromagnetic compatibility				
➤ Disturbing radiation acc. to DIN EN 55011		< 30 dB μ V/m		
➤ Persistency acc. to DIN EN 61000-4-3		25 V / m		
Resistance to shock, testing acc. to IEC 68-2-32		1 m (free fall onto a steel plate)		
Vibration resistance, testing acc. to IEC 68-2-6 and IEC 68-2-36		20 g		
Mixed signal ASIC				
Resistant to pressure peaks				
Insensitive to temperature shocks				

*) others on request

**) integral deviation of linearity (FS = Full Scale, BFSL = Best Fit Straight Line)

***) total error contains non-linearity, hysteresis, reproducibility and temperature influence

****) special versions with optionally higher accuracy on client's request

Safety information

During installation, putting into service and operation of the pressure sensors, it is necessary to observe the relevant safety regulations that are in force in the country of the user (as for example, DIN VDE 0100).

Errors excepted; subject to alterations in the sense of technical improvement.