

Pressure Transmitter Series EExia SMX-10.0

Industry Standard - Explosion proof construction

Measuring range from: - 0,1 MPa ... + 0,1 MPa to 0...200 MPa
 (- 1 ... + 1 bar to 0...2000 bar)

Output signal: 4...20 mA (2 wire)

- Temperature class T4 (- 40... + 85 °C)
- Resistant to pressure peaks
- Shockproof and vibration-proof
- Insensitive to temperature shocks
- Protection class: according to DIN EN 60 529 - IP 65
- Wetted material sensor: stainless steel

Construction

- Piezo-resistive, vacuum-proof, stainless steel membrane
- Pressure range resistor Poly-Si on SiO₂ (thin film resistances)
- Mixed signal ASIC
- Case: Stainless steel
- Accuracy: < ± 0,5% standard
- Pressure port: G 1/4" Design E *)
- Electrical connection: MVS DIN 175 301 - 803 C *)
- Operating temperature: - 40 °C to + 85 °C
- Weight: 90 g



*) Other on request

Application / possible uses

- Hydraulics
- Pneumatics
- Air conditioning + heating
- Testing technology
- Industrial robots
- Process control
- Water technology

Description / options

The ADZ SMX-10.0 pressure transmitters contain only a small number of active components, such as the sensor element, a signal processing ASIC and a U/I converter circuit. By corresponding protection circuits there is a reverse-connect protection, overload-strenght and a limitation of the dissipation power in the error indication. Calibration takes place electronically, so that the pressure transmitters display a comparably small total error and are stable in the long term. The hermetically welded thin film measuring cell ensures a high degree of long-term resistance to leakage and stability.

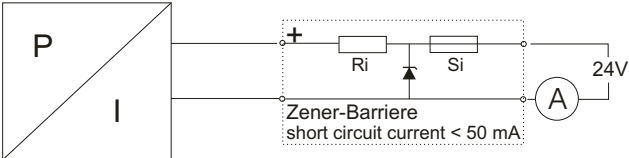
The ASIC is a programmable precision CMOS ASIC with EEPROM data storage and analogue signal path. The special steel membrane is completely vacuum tight, extremely burst-proof and can be used with all standard media in hydraulics, pneumatics, environmental technology, process technology, semi-conductor technology and automotive engineering, in as far as they are compatible with special steel.

This thereby covers use in standard applications in mobile hydraulics and in other areas of application. The great exactness and the robust, compact structure guarantee a broad range of possible uses in industry. On the basis of the combinability of different mechanical and electronic connections, a variety of different pressure transmitters is offered. Upon request, a test certificate supplied.

Security information / conditions governing the use:

Observe the applicable safety regulations laid down by the regulatory bodies in the country of use. Observe without fail the warning notices and other instructions laid down in the operating instructions.



Technical information		Type			
Measuring range (bar) standard pressure ranges *)		0,6 1,0 1,6 2,5 4,0 6,0 10,0 16,0 25,0 40,0	0,06 0,1 0,16 0,25 0,4 0,6 1,0 1,6 2,5 4,0	60,0 100,0 160,0 250,0 400,0 600,0 1000,0 1600,0 2000,0	6,0 10,0 16,0 25,0 40,0 60,0 100,0 160,0 200,0
Overload range (bar)		1,5 times / over 500 bar 1,2 times			
Bursting pressure (bar)		3 times / over 500 bar 1,5 times			
Pressure type		Relative pressure or seal reference			
Pressure connection *)		G 1/4" E Standard optionally, different pressure connections available			
Materials used: Materials of parts with contact to measuring medium: Materials of casing: Sensor element: Electrical connector:		CrNiCuNb 17-4 PH - stainless steel no O-ring, no silicone oil, X5CrNi18-10 Suited to the media stainless steel Plug depend on offer			
Diaphragm		stainless steel			
Response time (10...90 %)		< 1 ms			
Insulating resistance at 50 V		100 M			
Insulation voltage U_{DC}/U_{AC}		750 V / 500 V			
Electrical connection *)		Standard design device plug - MVS DIN 175 301 / 803 C *)			
Protective system according to DIN 40 050		IP 65 - according to plug system			
Supply Current supply with Ex-licensing Output voltage max. 24 V DC Output current max. 50 mA Ri (over 24 V) 510 Ohm		Circuit diagram 			
Linearity error at RT (% FS) (BFSL) **)		± 0,5 max. (optional 0,25 ****)			
Reproduce range %		< 0,1			
Stability per year % range		< 0,2 (above reference condition)			
Ambient values Reproducibility stability per year, permitted - Process temperature (°C) - Storage temperature (°C) - Compensated temperature range (°C)		- 40... + 85 °C - 40... + 125 °C - 40... + 85 °C			
Total error ***) max. ± ****)		- 40 °C... - 20 °C 3,0 typ. < 2,0 %	- 20 °C... + 85 °C 1,0 typ. < 0,7 %	+ 25 °C... 5 °C 0,5 typ. < 0,3 %	
Electromagnetic compatibility Unwanted emission to DIN EN 55011 Testing according to DIN EN 61000-4-3		< 30 dB µV/m 25 V/m			
Resistance to shock Testing acc. to IEC 68-2-32		1 m (free fall onto steel plate)			
Vibration resistance Testing according to IEC 68-2-6 and IEC 68-2-36		20 g			
Ex-licensing Ignition protection According standards Maximum contact Temperature range		II 2G EEx ia IIC T4 (IBExU 04 ATEX 1182) EN 50014, EN 50020 30 V, 50 mA, 1 W T4 (ambient temperature - 40... + 85 °C)			

*) Others on request

**) Integral linearity deviation

***) The total error includes non-linearity, hysteresis, repeatability, and temperature influence.

****) Customer-specific special design with optional better exactness on request

- Mistakes and changes in the sense of technical improvements reserved. -