

## Pressure Transmitter Series

## ADZ - SML 10.0

4...20 mA

**Measuring range from:** -0,1 MPa...+0,1 MPa and 0,06 MPa bis 200 MPa  
-1...+1 bar and 0...600 mbar to 2000 bar

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

**Operating temperature:** -40°C bis +105°C

**Media:** to +125°C

- Resistant to pressure peaks
- shockproof and vibration-proof
- Insensitive to temperature shocks
- Protective system IP 65 according to DIN EN 60 529
- Parts and casing with contact to measuring material of CrNi steel

### Construction

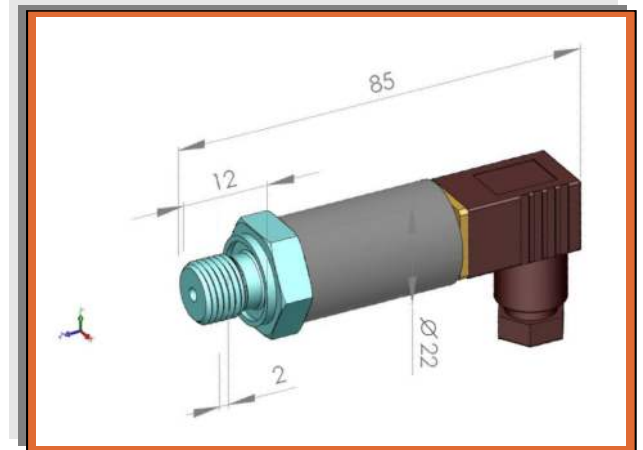
- Piezo-resistive, vacuum-proof
- Stainless steel membrane
- Poly-Si on SiO<sub>2</sub> (thin film resistances)
- Mixed signal ASIC
- Case: Stainless steel
- Electrical connection: MVS DIN EN 175 301 803 \*)
- Port configuration: G 1/4 " Design E \*)
- Accuracy: 0.5% F.S. (RT) standard
- Weight: 90 g



\*) other on request thread types and plug

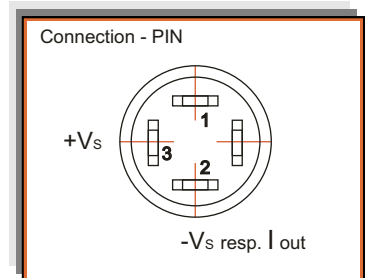
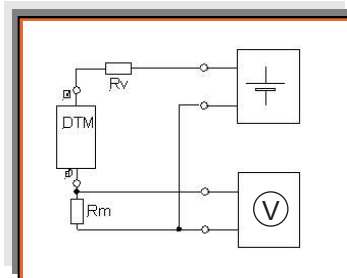
### Application / possible uses

- Hydraulics
- Air Conditioning + Heating
- Testing Technology
- Industrial Robots
- Process Control
- Water Technology
- Pneumatics



### Description

The ADZ-SML-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. The transmitter works with protection circuits connection included with pressure peak damping, load-dump-protection and they are EMV stability reverse voltage protected. 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 longterm 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 protocol, approbations work certificate or (DKD protocol) calibrate certificate - is supplied.



Technical information		Typ: ADZ-SML-10.0			
Measuring range (bar / Mpa)		<b>bar</b>	<b>MPa</b>	<b>bar</b>	<b>MPa</b>
standard pressure ranges *)		0,6	0,06	60,0	6,0
1,0		0,1	100,0	10,0	
1,6		0,16	160,0	16,0	
2,5		0,25	250,0	25,0	
4,0		0,4	400,0	40,0	
6,0		0,6	600,0	60,0	
10,0		1,0	1000,0	100,0	
16,0		1,6	1600,0	160,0	
25,0		2,5	2000,0	200,0	
40,0		4,0			
Overload range (bar) *)		2 times > 350 bar; 1,5 times > 700 bar; 1,2 times up to 1000 bar			
Bursting pressure (bar) *)		2 times > 350 bar; 1,5 times > 700 bar; 1,2 times up to 1000 bar			
Pressure type		Relative pressure			
Pressure connection *)		G 1/4" E Standard Optionally, different pressure connections available			
<b>Materials used</b>					
Materials of parts with contact to measuring medium:		Stainless steel, CrNiCuNb 17-4 ph			
Materials of casing:		no O-ring, no silicone oil			
Diaphragm		Stainless steel			
<b>Electrical parameters</b>					
Output signal *)		4...20 mA			
Operating voltage $U_b$		12 to 32 V			
recommended max. Load resistor $R_l$		$(V_s - 12 V) / 20 \text{ mA}$			
Response time (10...90 %)		< 1 ms			
Insulating resistance at 50 V		100 M			
<b>Electrical connection *)</b>		Standard design device plug DIN EN 175 301-803 BF C			
Protection system according to DIN EN 60 529		IP 65 - according to plug system			
Linearity error at RT (% F.S.) (B.S.F.L.) **)		0,5 max. (optional 0,25) ****)			
<b>Ambient values</b>					
Reproducibility stability per year, permitted					
- Ambient temperature (°C)		-40 ... +105 °C			
- Media temperature (°C)		-40 ... +125 °C			
- Storage temperature (°C)		-40 ... +125 °C			
Total error ***) max. ****)		-40 °C... -20 °C 3,0 % typ. 2,0 %	-20 °C... +85 °C 1,0 % typ. 0,7 %	+85 °C... +100 °C 2,5 % typ. 1,5 %	
Electromagnetic compatibility EMV					
Testing according to DIN EN 55011 and DIN EN 61000-4-3		< 30 dB $\mu$ V/m 25 V/m			
Resistance to shock					
Testing according 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			

\*) Others on request

\*\*) Integral linearity deviation (F.S. = Full Scale; B.F.S.L. = Best Fit Straight Line)

\*\*\*) 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. -

ADZ NAGANO GmbH  
Gesellschaft für Sensortechnik  
Bergener Ring 43  
D-01458 Ottendorf-Okrilla

Tel. + 49 (0) 35 205 - 59 69 30  
Fax: + 49 (0) 35 205 - 59 69 59

eMail: arndt@adz.de  
Internet: www.adz.de