

**PSMN****Pressure transmitter for hydrostatic level measurement****Main features**

- **Excellent long term stability**
- **Wide range of medium compatibility**
- **External programming of zero point and span with Flexprogrammer 9701**
- **Piezoresistive silicon sensor**
- **Available with optional ATEX approval**

**Applications**

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| <ul style="list-style-type: none"> <li>■ <b>Process technic</b></li> <li><input type="checkbox"/> Hydraulic</li> <li><input type="checkbox"/> Pneumatic</li> <li><input type="checkbox"/> Refrigeration</li> <li>■ <b>Water treatment</b></li> <li><input type="checkbox"/> Car industry</li> <li><input type="checkbox"/> Test benches</li> <li>■ <b>Safety</b></li> <li><input type="checkbox"/> Aerospace</li> <li><input type="checkbox"/> Railways</li> <li>■ <b>Shipbuilding</b></li> <li><input type="checkbox"/> Heavy vehicle</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Health care</li> <li><input type="checkbox"/> Biotechnology</li> <li>■ <b>Food</b></li> <li>■ <b>Beverage</b></li> <li><input type="checkbox"/> Pharmaceutical</li> <li>■ <b>Petro-chemical</b></li> <li>■ <b>Chemical</b></li> <li><input type="checkbox"/> HVAC</li> <li>■ <b>Energy</b></li> <li><input type="checkbox"/> Medical gas</li> <li><input type="checkbox"/> Agriculture vehicles</li> <li>■ <b>Pumps and compressors</b></li> </ul> |
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**Main characteristics (20 °C)**

Pressure range	0 ... 1 mH <sub>2</sub> O to 0 ... 250 mH <sub>2</sub> O 0 ... 0.1 bar to 0 ... 25 bar
Accuracy <small>(linearity, hysteresis and repeatability)</small>	0.25% FS / 0.1% FS
Maximum medium temperature range	-5 ... 80 °C

## Ordering details - PSMN

	PSMN	2	4	J15	R	A1	U3	91	2	1	1	0	0	0
<b>Housing accuracy</b>														
Stainless steel														
Stainless steel for seawater applications	1.4404 AISI 316L	2												
	AISI 904L	4												
<b>Accuracy</b>														
0.25 % FS														
0.10 % FS	P ≥ 2.5 mH <sub>2</sub> O / 250 mbar	4												
		5												
<b>Pressure range</b>														
0 ... 1 mH <sub>2</sub> O	Only for relative pressure					J08								
0 ... 1.6 mH <sub>2</sub> O	Only for relative pressure					J09								
0 ... 2.5 mH <sub>2</sub> O	Only for relative pressure					J10								
0 ... 4 mH <sub>2</sub> O						J11								
0 ... 6 mH <sub>2</sub> O						J12								
0 ... 10 mH <sub>2</sub> O						J15								
0 ... 16 mH <sub>2</sub> O						J16								
0 ... 20 mH <sub>2</sub> O						J17								
0 ... 25 mH <sub>2</sub> O						J18								
0 ... 40 mH <sub>2</sub> O						J19								
0 ... 60 mH <sub>2</sub> O						J20								
0 ... 100 mH <sub>2</sub> O						J22								
0 ... 160 mH <sub>2</sub> O						J24								
0 ... 200 mH <sub>2</sub> O						J25								
0 ... 250 mH <sub>2</sub> O						J26								
0 ... 0.1 bar	Only for relative pressure					B08								
0 ... 0.16 bar	Only for relative pressure					B09								
0 ... 0.25 bar	Only for relative pressure					B20								
0 ... 0.4 bar						B11								
0 ... 0.6 bar						B12								
0 ... 1 bar						B15								
0 ... 1.6 bar						B16								
0 ... 2 bar						B17								
0 ... 2.5 bar						B18								
0 ... 4 bar						B19								
0 ... 6 bar						B20								
0 ... 10 bar						B22								
0 ... 16 bar						B24								
0 ... 20 bar						B25								
0 ... 25 bar						B26								
<b>Kind of pressure</b>														
Relative						R								
Absolute						A								
<b>Output signal</b>														
4 ... 20 mA									A1					
0 ... 10 VDC									A2					
<b>Cable</b>														
PUR 5 meter													U0	
PUR 10 meter													U1	
PUR 20 meter													U3	
PUR 25 meter													U5	
PUR xxx meter	Additional code / 9001 and cable length in meter, max. 250 meter												U9	
ETFE 5 meter													F0	
ETFE 10 meter													F1	
ETFE 20 meter													F3	
ETFE 25 meter													F5	
ETFE xxx meter	Additional code / 9001 and cable length in meter, max. 250 meter												F9	
<b>Versions</b>														
G1/2 flush diaphragm, protection cap closed (POM)														91
G1/2 flush diaphragm, protection cap open (POM)														92
G1/2 flush diaphragm, protection cap closed (POM) with ballast weight 300 gr														93
G1/2 flush diaphragm, with hex 27 mm														96
<b>Material diaphragm</b>														
Stainless steel	1.4435 AISI 316L													2
Hastelloy-C 276														H
<b>Sealing of the cable</b>														
NBR	Standard with cable type PUR													1
FKM (Viton®)	Standard with cable type ETFE													3
<b>Oil filling</b>														
Silicon oil														1
FDA approved white oil														2
<b>Display</b>														
Without														0
<b>ATEX</b>														
Without														0
ATEX according to SEV 11 ATEX 0129	In combination with output signal code A1													1
<b>Approvals</b>														
CE certified														0

## Model - PSMN

### Technical specification

<b>Measuring principle</b>	Piezoresistive silicon sensor
<b>Measuring ranges</b>	0 ... 1 mH <sub>2</sub> O to 0 ... 250 mH <sub>2</sub> O 0 ... 0.1 bar to 0 ... 25 bar
<b>Type of pressure</b>	Relative / Absolute
<b>Accuracy (20°)</b> <small>(linearity, hysteresis, repeatability)</small>	0.25 % FS, 0.1 % FS
<b>Zero thermal drift</b>	≤ ± 0.03 % FS/10 K
<b>Span thermal drift</b>	≤ ± 0.03 % FS/10 K
<b>Annual stability</b>	0.1 % FS
<b>Response time (10 ... 90%)</b>	≤ 5 ms
<b>Versions</b>	See page 4

### Weight

<b>Transmitter</b>	0.200 kg
<b>Cable</b>	
<b>PUR</b>	0.048 kg / meter
<b>ETFE</b>	0.051 kg / meter

### Environment

<b>Temperature</b>	
<b>Medium</b>	-5 ... 80 °C
<b>Storage</b>	-25 ... 85 °C (Silicon oil) -10 ... 85 °C (FDA approved white oil)
<b>Protection rating</b>	IP 68
<b>Vibration IEC60068-2-6</b>	1.5 mm p.p (10-57Hz), 10 g (58 Hz – 2 KHz) 10 cycles within 2.5 h per axis
<b>Shock IEC60068-2-27</b>	50 g / 11ms 100g / 6ms 10 x Imp. per axis and direction
<b>Bump IEC60068-2-29</b>	100 g / 2 ms 4000 x Imp. per axis and direction
<b>Random IEC60068-2-64</b>	0.1 g 2 / Hz (20 Hz - 1 KHz) 30 min per axis and direction (> 10 g RMS)

### Electrical specification

<b>Output signal / Power Supply</b>	4 ... 20 mA / 8 ... 30 VDC 0 ... 10 V / 13 ... 30 VDC
<b>Load impedance</b>	
<b>Current output</b>	$R_{\Omega} = (U_{\text{supply}} - 8 \text{ V}) / 20 \text{ mA}$
<b>Voltage output</b>	> 5 K $\Omega$
<b>Insulation resistance</b>	>100 M $\Omega$ at 750 VDC
<b>Electrical connections</b>	PUR or ETFE Cable with capillary tube (max. 250 meter)

### Material

<b>Process connection and housing</b>	Stainless steel 1.4404 AISI 316L or stainless steel 904L suitable for seawater applications
<b>Diaphragm</b>	Stainless steel 1.4435 AISI 316L or Hastelloy-C
<b>Sealing cable gland</b>	NBR or FKM (Viton®)
<b>Cable</b>	PUR or ETFE black (standard) and blue (ATEX version) with integrated humidity filter

### Approvals

<b>CE conformity</b>	EMC directive 2004/108/CE in accordance with EN61000-6-2, EN 61000-6-3, Pressure directive 97/23/CE
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### ATEX

<b>ATEX II 1G</b>	All versions with output signal code A1
<b>Ex ia IIC T4/T6 Ga</b>	
<b>Barrier data</b>	$U_i \leq 30 \text{ V}$ $I_i \leq 100 \text{ mA}$ $P_i \leq 750 \text{ mW}$
<b>Capacity</b>	$C_i \leq 17 \text{ nF}$ $C_{\text{Cable}} \leq 0.12 \text{ nF/m}$
<b>Inductivity</b>	$L_i \leq 3 \mu\text{H}$ $L_{\text{Cable}} \leq 1.1 \mu\text{H/m}$
<b>Temperature class</b> <small>(ambient and medium temperature)</small>	T1 ... T4: $-5 < T_{\text{amb/med}} < 85 \text{ °C}$ T1 ... T6: $-5 < T_{\text{amb/med}} < 75 \text{ °C}$

For the application in Ex zone you have to respect the conditions mentioned in the ATEX Type Examination Certificate (SEV 11 ATEX 0129).

You find the certificates and manuals under <http://www.baumer.com/>

## Measuring Ranges

	Pressure				
	0 ... 1	0 ... 4	0 ... 16	0 ... 60	0 ... 200
<b>Pressure range (mH<sub>2</sub>O)</b>	0 ... 1.6 0 ... 2.5	0 ... 6 0 ... 10	0 ... 20 0 ... 25 0 ... 40	0 ... 100 0 ... 160	0 ... 200 0 ... 250
<b>Pressure range (bar)</b>	0 ... 0.1 0 ... 0.16 0 ... 0.25	0...0.4 0...0.6 0 ... 1	0 ... 1.6 0 ... 2 0 ... 2.5 0 ... 4	0 ... 6 0 ... 10 0 ... 16	0 ... 20 0 ... 25
<b>Overpressure (bar)</b>	1	3	15	60	70
<b>Burst pressure (bar)</b>	2	6	30	120	140

## Model - PSMN

### Electrical connections



M12, 4 pins

Connection

4-20 mA      0-10 V

1 : + Supply	1 : + Supply
2 : N.C.	2 : + Measurement
3 : - Supply	3 : - Supply/ - Measurement
4 : N.C.	4 : + Measurement
Body : $\perp$	Body : $\perp$

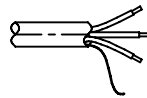


Standard version DIN 43650 connector

Connection EN 176301-803A

4-20 mA      0-10 V

1 : + Supply	1 : + Supply
2 : - Supply	2 : - Supply/ - Measurement
3 : N.C.	3 : + Measurement
$\perp$ : Earth	$\perp$ : Earth



Cable output (1.5m long) + PG7 cable gland

Connection

4-20 mA      0-10 V

+ Supply : Red	+ Supply : Red
- Supply : Blue	- Supply/Meas. : Blue
$\perp$ : Shield	+ Measurement : White
	$\perp$ : Shield

### Dimensions (mm)

