

PBMN industrial Low Pressure

Fully welded pressure transmitter for general industrial applications



Main benefits

- Excellent accuracy and active temperature compensation for precise pressure measurements
- Universal field of applications due to fully welded and robust stainless steel housing
- External programming of zero point and span with FlexProgrammer 9701

Applications

- Pneumatic
- Water treatment
- Chemical
- Factory automation

Technical specifications

Measuring principle	Piezoresistive silicon sensor
Measuring ranges	-1 ... 0 bar up to 0 ... 40 bar
Type of pressure	Relative / Absolute
Accuracy (20 °C) <small>(includes linearity, hysteresis, repeatability, error of span and zero point according limit point adjustment)</small>	≤ 0.5% FS ≤ 0.25% FS ≤ 0.1% FS
Turn down	5:1
Performance after Turn down	[Turn-Down] * [Accuracy] FS
Zero thermal drift	≤ ± 0.03% FS/10 K
Span thermal drift	≤ ± 0.03% FS/10 K
Long term stability	≤ 0.1% FS / Year
Response time (10 ... 90%)	≤ 5 ms
Process connections	See page 3

Environment

Temperature	
Storage	-40 ... + 85°C
Compensated range	-40 ... + 85°C
Medium	-40 ... +120°C
Ambient	-40 ... + 85°C
Protection rating	IP65 (EN 60529) up to IP67 depending on electrical connection
Vibration IEC60068-2-6	1.5 mm p-p (10 – 57 Hz), 10 g (58 Hz – 2 KHz) 10 cycles within 2.5 h per axis
Shock IEC60068-2-27	50 g/11 ms 100 g/6 ms 10 x Imp. per axis and direction
Bump IEC60068-2-27	100 g/2 ms 4000 x Imp. per axis and direction
Random IEC60068-2-64	0.1 g ² /Hz (20 Hz – 1 KHz) 30 min per axis (>10 g RMS)

Electrical specification

Output signal / Power supply	4 ... 20 mA / 8 ... 30 VDC 0 ... 10 V / 13 ... 30 VDC
Load impedance	
Current output	$R_{\Omega} = (U_{\text{supply}} - 8 \text{ V}) / 20 \text{ mA}$
Voltage output	> 5 KΩ
Insulation resistance	>100 MΩ at 500 VDC
Electrical connections	See page 3

Material

Process connection	SS 1.4404 AISI 316L
Housing	SS 1.4404 AISI 316L
Diaphragm	SS 1.4435 AISI 316L
Sealing	NBR or FKM (Viton®)
Cable	PUR

ATEX

ATEX II 1G Ex ia IIC T4/T6 Ga	All versions without DIN connector and with output signal code A1
ATEX II 1/2G Ex ia IIC T4/T6 Ga/Gb	All versions with DIN connector and output signal code A1
ATEX II 1D Ex ia IIIC T107°C IP6X Da	All versions with output signal code A1
Barrier data	$U_i \leq 30 \text{ V}$ $I_i \leq 100 \text{ mA}$ $P_i \leq 750 \text{ mW}$
Capacity	$C_i \leq 31 \text{ nF}$ $C_{\text{Cable}} \leq 0.12 \text{ nF/m}$
Inductivity	$L_i \leq 3 \text{ }\mu\text{H}$ $L_{\text{Cable}} \leq 1.1 \text{ }\mu\text{H/m}$
Temperature class (ambient temperature)	T1 ... T4: $-40 < T_{\text{amb}} < 85 \text{ }^\circ\text{C}$ T1 ... T6: $-40 < T_{\text{amb}} < 70 \text{ }^\circ\text{C}$
Temperature class (medium temperature)	T1 ... T4: $-40 < T_{\text{med}} < 115 \text{ }^\circ\text{C}$ T1 ... T6: $-40 < T_{\text{med}} < 75 \text{ }^\circ\text{C}$

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/>

Approvals

CE conformity	EMC directive 2004/108/CE in accordance with EN61000-6-2, EN 61000-6-3
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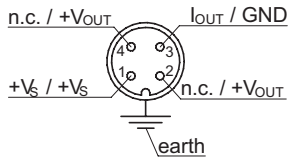
Measuring ranges and overpressure safety

	Pressure in bar					
Pressure range	0 ... 0.1	-0.1 ... 0.1	0 ... 1.6	0 ... 6	0 ... 25	0 ... 40
	0 ... 0.16	-0.2 ... 0.2	0 ... 2	0 ... 10	-1 ... 24	-1 ... 39
	0 ... 0.25	0 ... 0.4	0 ... 2.5	-1 ... 9		
		0 ... 0.6	-1 ... 1.5	0 ... 16		
		0 ... 1	0 ... 4	-1 ... 15		
		-1 ... 0	-1 ... 3	0 ... 20		
		-1 ... 0.6	-1 ... 5			
Over pressure	1	3	15	60	70	135
Burst pressure	2	6	30	120	140	270

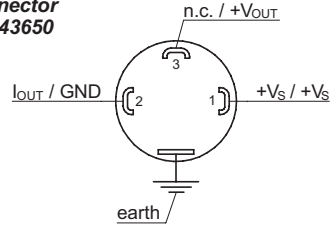
Electrical connections

Signal at 4...20 mA / Signal at 0...10V

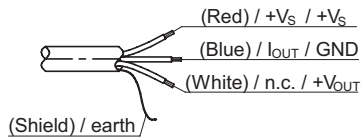
**M12
4-pins**



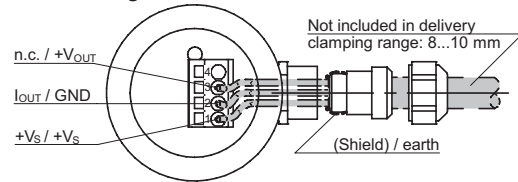
**Connector
DIN 43650**



**Cable
output**



Field housing



Dimensions (mm)

