

PBMN industrial High Pressure Industrial pressure transmitter with fully welded metal sensor

Main features

- 0 ... 60 bar up to 0 ... 1600 bar
- Fully welded version
- Robust stainless steel housing
- External programming of zero point and span with FlexProgrammer 9701
- High overpressure resistance
- Available with optional ATEX approval



Applications

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

Pressure range	0 ... 60 bar up to 0 ... 1600 bar
Accuracy (linearity, hysteresis and repeatability)	0.5% FS / 0.25% FS / 0.1% FS

Ordering details - PBMN industrial High Pressure

	PBMN	2	3	B29	R	A1	14	02	4	0	0	0	0	0	0
Housing material															
Stainless steel			1.4404 AISI 316L												
		2													
Accuracy															
0.50% FS															3
0.25% FS															4
0.10% FS															5
Pressure range and unit in bar															
0 ... 60				B29											
0 ... 100				B31											
0 ... 160				B33											
0 ... 250				B35											
0 ... 400				B38											
0 ... 600				B39											
0 ... 1000				B41											
0 ... 1600			Only with process connection code 08	B42											
Kind of pressure															
Relative					R										
Output signal															
4 ... 20 mA						A1									
0 ... 10 V						A2									
Output connection															
M12, 4 pins							14								
DIN 43650, 4 pins							44								
Shielded PUR cable (1.5 m)							53								
Process connection															
G 1/4 EN 837			P ≤ 1000 bar				02								
G 1/2 EN 837			P ≤ 1000 bar				03								
1/4 NPT			P ≤ 1000 bar				04								
1/2 NPT			P ≤ 1000 bar				05								
G 1/4 DIN 3852			P ≤ 600 bar				06								
M14x1.5 cone 60°			P ≥ 1000 bar				08								
G 1/2 DIN 3852			P ≤ 600 bar				09								
G 1/4 female			P ≤ 1000 bar				12								
Process connection material															
Stainless steel			1.4301 AISI 304												4
Sealing															
Without															0
NBR			In combination with process connection code 06/09												1
FKM (Viton®)			In combination with process connection code 06/09												3
Oil filling															
Without															0
Display															
Without															0
ATEX															
Without															0
ATEX according to SEV 11 ATEX 0129			In combination with output signal code A1												1
Approvals															
CE certified															0

Model / PBMN industrial High Pressure
Technical specification

Measuring principle	Resistive thin film sensor
Measuring ranges	0 ... 60 bar up to 0 ... 1600 bar
Type of pressure	Relative
Accuracy (20 °C) <small>(linearity, hysteresis, repeatability)</small>	0.5% FS, 0.25% FS, 0.1% FS
Zero thermal drift	≤ ± 0.03% FS/10 K
Span thermal drift	≤ ± 0.03% FS/10 K
Annual stability	0.1 % FS
Response time (10 ... 90%)	≤ 5 ms
Process connections	See page 4

Environment

Temperature	
Storage	-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 IEC60068-2-29	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 K Ω
Insulation resistance	>100 M Ω at 750 VDC
Electrical connections	See page 4

Material

Housing	SS 1.4404 AISI 316L
Process connection	SS 1.4301 AISI 304
Diaphragm	SS 1.4301 AISI 304
Sealing	NBR or FKM (Viton®)
Cable	PUR

Approvals

CE conformity	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

ATEX II 1G	All versions without DIN connector and with output signal code A1
Ex ia IIC T4/T6 Ga	
ATEX II 1/2G	All versions with DIN connector and output signal code A1
Ex ia IIC T4/T6 Ga/Gb	
ATEX II 1D	All versions with output signal code A1
Ex ia IIIC T107°C IP6X Da	
Barrier data	U _i ≤ 30 V I _i ≤ 100 mA P _i ≤ 750 mW
Capacity	C _i ≤ 17 nF C _{Cable} ≤ 0.12 nF/m
Inductivity	L _i ≤ 3 μ H L _{Cable} ≤ 1.1 μ H/m
Temperature class <small>(ambient temperature)</small>	T1 ... T4: -40 < T _{amb} < 85 °C T1 ... T6: -40 < T _{amb} < 70 °C
Temperature class <small>(medium temperature)</small>	T1 ... T4: -40 < T _{med} < 115 °C T1 ... T6: -40 < T _{med} < 75 °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 range	Pressure in bar							
	0 ... 60	0 ... 100	0 ... 160	0 ... 250	0 ... 400	0 ... 600	0 ... 1000	0 ... 1600
Overpressure	120	200	320	500	800	1200	2000	3200
Burst pressure	480	800	1280	2000	3200	4000	4000	4000

Model / PBMN industrial High Pressure

Electrical connections



M12, 4 pins

Connection

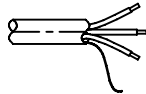
4-20 mA	0-10 V
1 : + Supply	1 : + Supply
2 : N.C.	2 : + Measurement
3 : - Supply	3 : - Supply/ - Measurement
4 : N.C.	4 : + Measurement
Body : \perp	Body : \perp



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

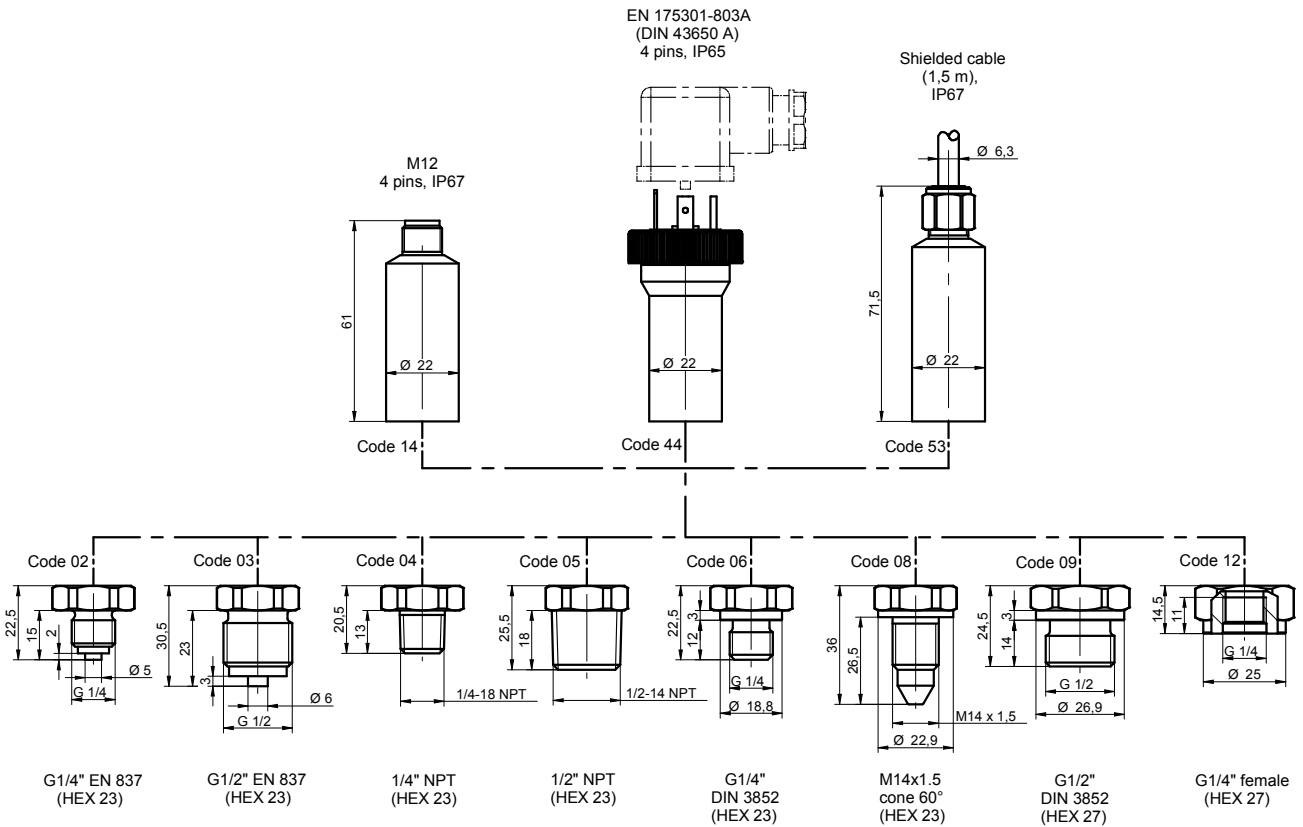


Cable output (1.5m long) + PG7 cable gland

Connection

4-20 mA	0-10 V
+ Supply : Red	+ Supply : Red
- Supply : Blue	- Supply/Meas. : Blue
\perp : Shield	+ Measurement : White
	\perp : Shield

Dimensions (mm), Connections



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