



Main characteristics

Measuring range	-1 ... 0 bar up to 0 ... 400 bar
Turn down	5:1
Long term stability	≤ ± 0.1 % FS / Year
Accuracy (20 °C) <small>(Linearity, hysteresis, repeatability, error of span and zero point)</small>	≤ ± 0.5 % FS, 0.25 % FS, 0.1 % FS
Performance after Turn-Down	[Turn-Down] * [Accuracy] FS

Technical specifications

Measuring principle	Piezoresistive silicon sensor
Measuring ranges	-1 ... 0 bar up to 0 ... 400 bar
Type of pressure	Relative / Absolute
Turn down	5:1
Accuracy (20 °C) <small>(Linearity, hysteresis, repeatability, error of span and zero point)</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
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 <small>(without cooling neck)</small>	-40 ... +125 °C
Medium <small>(with cooling neck)</small>	-40 ... +200 °C
Ambient	-40 ... + 85 °C

Main features

- Flush membrane
- 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

- Food
- Beverage
- Water treatment
- Chemical

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 500 VDC
Electrical connections	See page 3

Material

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

ATEX

ATEX II 1G Ex ia IIC T4/T6 Ga	All versions without cooling neck, without DIN connector and with output signal code A1
ATEX II 1/2G Ex ia IIC T4/T6 Ga/Gb	All versions without cooling neck, with DIN connector and output signal code A1
ATEX II 1G Ex ia IIC T3/T4/T6 Ga	All versions with cooling neck, without DIN connector and with output signal code A1
ATEX II 1/2G Ex ia IIC T3/T4/T6 Ga/Gb	All versions with cooling neck, 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 ... T3: $-40 < T_{\text{amb}} < 45/70/75/85 \text{ } ^\circ\text{C}$ 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 ... T3: $-40 < T_{\text{med}} < 130/150/160/170/200 \text{ } ^\circ\text{C}$ T1 ... T4: $-40 < T_{\text{med}} < 115/130 \text{ } ^\circ\text{C}$ T1 ... T6: $-40 < T_{\text{med}} < 75/80 \text{ } ^\circ\text{C}$

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
---------------	---

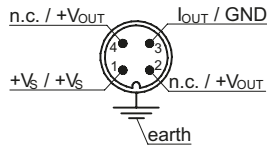
Measuring ranges and overpressure safety

	Pressure in bar							
Pressure range	0 ... 0.1	-0.1 ... 0.1	0 ... 1.6	0 ... 6	0 ... 25	0 ... 40	0 ... 100	-1 ... 399
	0 ... 0.16	-0.2 ... 0.2	0 ... 2	0 ... 10	-1 ... 24	-1 ... 39		0 ... 400
	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	400	690
Burst pressure	2	6	30	120	140	270	800	1350

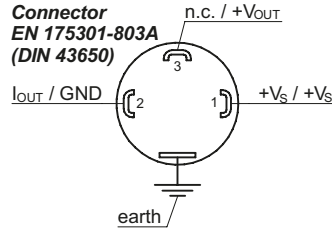
Electrical connections

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

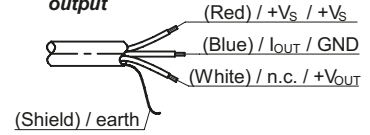
M12 4pins Connector



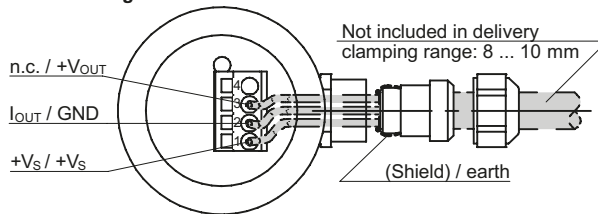
Connector EN 175301-803A (DIN 43650)



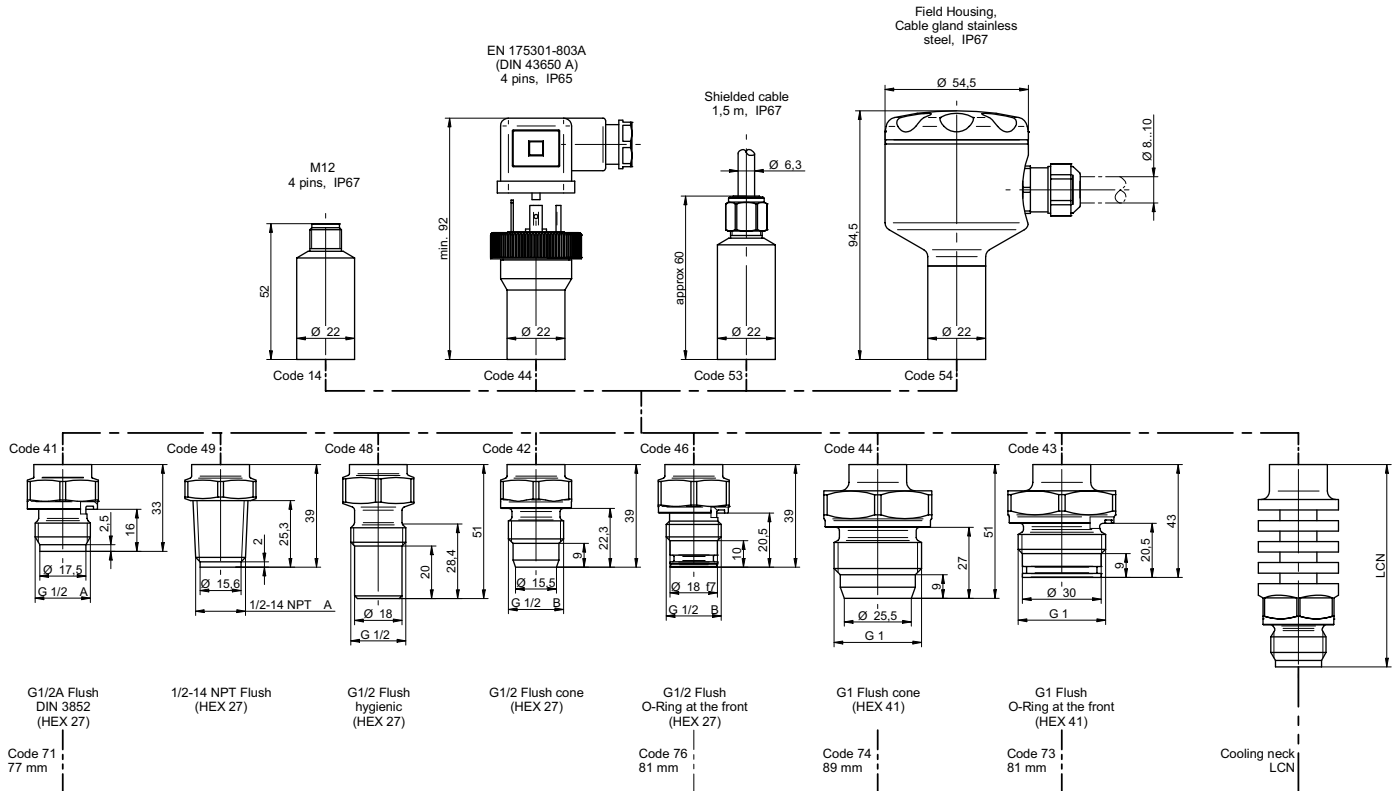
Cable output



Field housing



Dimensions (mm)



Ordering details PBMN flush

	PBMN	_	2	.	x	.	xxx	.	x	.	xx	.	xx	.	x	.	x	.	x	.				
Model	Pressure transmitter	PBMN																						
Housing material	Stainless steel 1.4404 AISI 316L		2																					
Accuracy	0.5 % FS																							
	0.25 % FS																							
	0.10 % FS	P > 250 mbar																						
Pressure range and unit in bar																								
-0.1 ... 0.1	Only pressure type relative																					B2H		
-0.2 ... 0.2	Only pressure type relative																						B4G	
-1 ... 0	Only pressure type relative																						B59	
-1 ... 0.6	Only pressure type relative																						B72	
-1 ... 1.5	Only pressure type relative																						B74	
-1 ... 3	Only pressure type relative																						B76	
-1 ... 5	Only pressure type relative																						B77	
-1 ... 9	Only pressure type relative																						B79	
-1 ... 15	Only pressure type relative																						B81	
-1 ... 24	Only pressure type relative																						B82	
-1 ... 39	Only pressure type relative																						B1L	
0 ... 0.1	Only pressure type relative																						B08	
0 ... 0.16	Only pressure type relative																						B09	
0 ... 0.25	Only pressure type relative																						B10	
0 ... 0.4	Only pressure type relative																						B11	
0 ... 0.6	Only pressure type relative																						B12	
0 ... 1	Only pressure type relative																						B15	
0 ... 1.6	Only pressure type relative																						B16	
0 ... 2	Only pressure type relative																						B17	
0 ... 2.5	Only pressure type relative																						B18	
0 ... 4	Only pressure type relative																						B19	
0 ... 6	Only pressure type relative																						B20	
0 ... 10	Only pressure type relative																						B22	
0 ... 16	Only pressure type relative																						B24	
0 ... 20	Only pressure type relative																						B25	
0 ... 25	Only pressure type relative																						B26	
0 ... 40	Only pressure type relative																						B27	
0 ... 100	Only pressure type relative																						B31	
0 ... 400	Only pressure type relative																						B38	
Kind of pressure																								
Relative																							R	
Absolute																							A	
Output signal																								
4 ... 20 mA																							A1	
0 ... 10 V																							A2	
Output connection																								
M12, 4 pins																							14	
DIN 43650, 4 pins																							44	
Shielded cable (1.5 m)																							53	
Field housing																							54	
Process connection																								
1/2-14 NPT	BCID	N02																					49	
G 1/2 A hygienic ^{1), 2)}	BCID	A03																					48	
G 1/2 DIN 3852-E	BCID	G51																					41	
G 1/2 A cone	BCID	G08																					42	
G 1/2 A with O-ring at front	BCID	G09																					46	
G 1 A with O-ring at front ¹⁾	BCID	G12																					43	
G 1 A hygienic ¹⁾	BCID	A04																					44	
G 1/2 DIN 3852-E with cooling neck	BCID	G51																					71	
G 1 A with O-ring at front with cooling neck ¹⁾	BCID	G12																					73	
G 1 A hygienic with cooling neck ¹⁾	BCID	A04																					74	
Process connection material																								
Stainless steel 1.4404 AISI 316L																							2	
Sealing																								
NBR																							1	
EPDM																							2	
FKM (Viton®)																							3	
Oil filling																								
Silicon oil																							1	
FDA approved white oil																							2	
Display																								
Without																							0	
ATEX																								
Without																							0	
ATEX according to SEV 11 ATEX 0129																							In combination with output signal code A1, not available with "Output connection" 53 (shielded cable)	
																							1	
Approval																								
None																							0	
Downscale																								
Without downscale																								
With downscale																							S0x	

¹⁾ ≤ 40 bar
²⁾ Not compatible with following adapters: ZPW2-321, ZPH1-3213, ZPH1-3216, ZPH1-324E, ZPH1-344F