

PBMN flush

PBMN-2#####2##0##/Article number: 96002621

Overview

- 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 (4 ... 20 mA output signal)



Technical data

Performance characteristics

Measuring range	-1 ... 400 bar
Min. measuring span	0.1 bar
Max. measuring span	400 bar
Pressure type	Absolute Relative (gauged)
Standard error of measurement (BFSL)	± 0.04 % FSR ± 0.1 % FSR ± 0.2 % FSR Including non-linearity, hysteresis and non-repeatability according BFSL For turndown, multiply this value by the applied turndown ratio
Max. measuring error	± 0.1 % FSR ± 0.25 % FSR ± 0.5 % FSR Including zero-point and span error, non-linearity (by terminal base line), hysteresis and non-repeatability (EN 61298-2) For turndown, multiply this value by the applied turndown ratio
Temperature coefficient	≤ 0.03 % FSR/10 K , measuring span ≤ 0.03 % FSR/10 K , zero point
Compensated temperature range	-40 ... 85 °C
Long term stability	≤ 0.1 % FSR/a , measuring range > 1 bar ≤ 1 mbar , measuring range ≤ 1 bar
Max. turndown ratio	5 : 1
Rise time (10 ... 90 %)	≤ 5 ms

Process conditions

SIP/CIP compatibility	< 60 min, without cooling neck @ medium temperature up to 150 °C Permanent, with cooling neck @ medium temperature up to 200 °C
Process pressure	Refer to section "Operating conditions"

Process conditions

Process temperature	-40 ... 125 °C , without cooling neck -40 ... 200 °C , with cooling neck
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Process connection

Connection variants	Refer to section "Dimensional drawings"
Wetted parts material	AISI 316L (1.4404)
Wetted parts material, gasket	EPDM, optional EPDM O-rings conform to 3-A Sanitary Standard 18-03 Class II, EPDM gaskets conform to 3-A Sanitary Standard 18-03 Class I (8% milk fat max.) FKM (Viton®), optional FKM (Viton®) gaskets require a minimum ambient temperature of -20 °C and a minimum medium temperature of -25 °C NBR, optional
Wetted parts material, membrane	AISI 316L (1.4435)

Surface roughness (in contact with medium)

Membrane	Ra ≤ 0.4 µm
Weld joint	Ra ≤ 0.8 µm

Ambient conditions

Bump (EN 60068-2-27)	100 g / 2 ms, 4000 impulses per axis and direction
Shock (EN 60068-2-27)	50 g / 11 ms, 100 g / 6 ms, 10 impulses per axis and direction
Vibration (sinusoidal) (EN 60068-2-6)	1.5 mm p-p (10 ... 58 Hz), 10 g (58 Hz ... 2 kHz), 10 cycles (2.5 h) per axis
Vibration, broad-band random (EN 60068-2-64)	0.1 g ² / Hz, > 10 gRMS (20 Hz ... 1 kHz), 30 min. per axis
Degree of protection (EN 60529)	IP 65 , with connector DIN EN 175301-803 A (DIN 43650 A), 4-pin IP 67 , with cable outlet IP 67 , with connector M12-A, 4-pin IP 67 , with shielded cable
Insulation resistance	> 100 MΩ , 500 V DC

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Technical data

Ambient conditions

Operating temperature range	-40 ... 85 °C
Storage temperature range	-40 ... 85 °C

Output signal

Current output	4 ... 20 mA, 2-wire 20 ... 4 mA, 2-wire
Voltage output	0... 10 V, 3-wire 0... 5 V, 3-wire 0.5 ... 4.5 V, 3-wire 1 ... 5 V, 3-wire 10 ... 0V, 3-wire
Load resistance	> 5 kΩ, with voltage output R = (U _{ver} - 8 V)/20 mA, with current output
Insulation resistance	> 100 MΩ, 500 V DC
Short circuit protection	Yes
Shunt resistance	R _s ≤ (V _s - 8 V)/0.0205 A R _s ≤ 270 Ω, V _s = 24 V

Housing

Overall size	Refer to section "Dimensional drawings"
Style	Compact transmitter Connection head
Material	AISI 316L (1.4404)

Electrical connection

Cable gland	Cable Ø 8 ... 10, stainless steel
Cable outlet	1.5 m, 3-wire, shielded
Connector	DIN EN 175301-803 A (DIN 43650 A), 4-pin M12-A, 4-pin

Power supply

Voltage supply range	13 ... 30 V DC, with voltage output 8 ... 30 V DC, with current output
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ATEX II 1/2G Ex ia IIC T4/T6 Ga/Gb

Please note	-40 < Tamb < 70 °C
Maximum values for barrier selection, Ui	30 V DC, max.
Maximum values for barrier selection, Ii	100 mA
Maximum values for barrier selection, Pi	750 mW

Internal capacitance, Ci	31 nF
Internal inductance, Li	3 μH
Temperature class, T4	-40 < Tamb < 85 °C

ATEX II 1D Ex ia IIIC T107°C IP6X Da

Please note	For the application in Ex zone you have to respect the conditions mentioned in the ATEX Type Examination Certificate (SEV 11 ATEX 0129). You will find the relevant certificates and instructions at www.baumer.com
Voltage supply range, Un	30 V DC, max.
Degree of protection for cable accessories	IP 65
Temperature class, T107 °C	-40 < Tamb < 85 °C

ATEX II 1G Ex ia IIC T4/T6 Ga

Please note	For the application in Ex zone you have to respect the conditions mentioned in the ATEX Type Examination Certificate (SEV 11 ATEX 0129). You will find the relevant certificates and instructions at www.baumer.com
Maximum values for barrier selection, Ui	30 V DC, max.
Maximum values for barrier selection, Ii	100 mA
Maximum values for barrier selection, Pi	750 mW
Internal capacitance, Ci	31 nF
Internal inductance, Li	3 μH
Temperature class, T4	-40 < Tamb < 85 °C
Temperature class, T6	-40 < Tamb < 70 °C

Compliance and approvals

EMC	EN 61000-6-2 EN 61000-6-3
Explosion protection	ATEX II 1/2G Ex ia IIC T4/T6 Ga/Gb ATEX II 1/2G Ex ia IIC T3/T4/T6 Ga/Gb ATEX II 1D Ex ia IIIC T107 °C IP6X Da ATEX II 1G Ex ia IIC T4/T6 Ga ATEX II 1G Ex ia IIC T3/T4/T6 Ga

Operating conditions

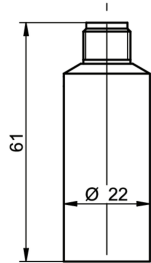
				Measuring range (bar)				Proof pressure (bar)	Burst Pressure (bar)
				0 ... 0,1	0 ... 0,16	0 ... 0,25	1	2	
-0,1 ... 0,1	-0,2 ... 0,2	-1 ... 0	-1 ... 0,6	0 ... 0,4	0 ... 0,6	0 ... 1	3	6	
	-1 ... 1,5	-1 ... 3	-1 ... 5	0 ... 1,6	0 ... 2	0 ... 2,5	15	30	
		-1 ... 9	-1 ... 15	0 ... 6	0 ... 10	0 ... 16	60	120	
			-1 ... 24	0 ... 25			70	140	
			-1 ... 39	0 ... 40			135	270	
				0 ... 100			400	800	
			-1 ... 399	0 ... 400			690	1350	

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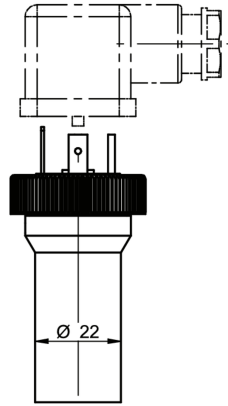
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Dimensional drawings

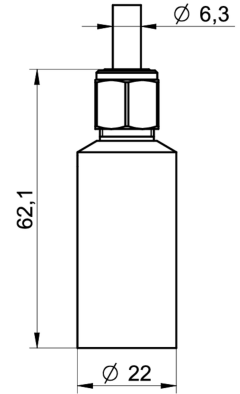
Housing



Housing with connector M12-A, 4-pin



Housing with connector DIN EN 175301-803 A (DIN 43650 A), 4-pin

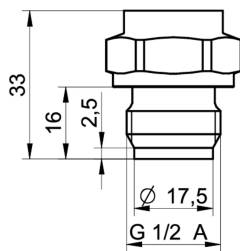


Housing with cable outlet, 3-wire, 1.5 m length

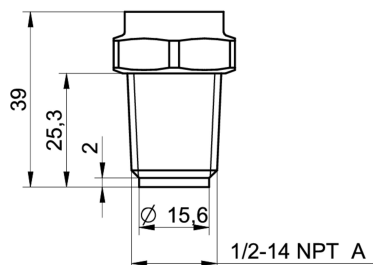


Field housing with cable gland

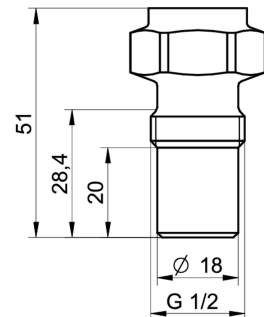
Process connection



G51-41
G 1/2 A DIN 3852-E (BCID: G51)



N02-49
1/2-14 NPT (BCID: N02)

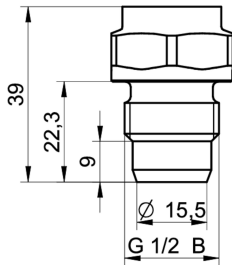


A03-48
G 1/2 A hygienic (BCID: A03)

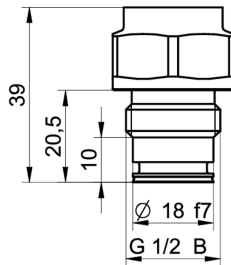
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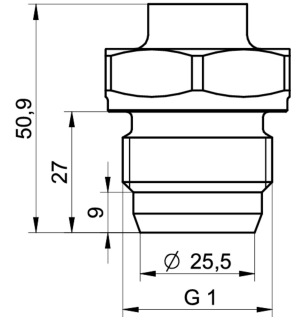
Process connection



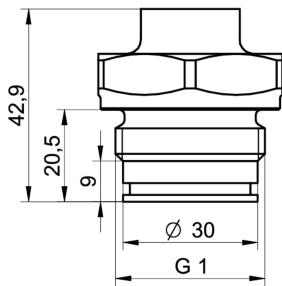
G08-42
G 1/2 A ISO 228-1 with cone (BCID: G08)



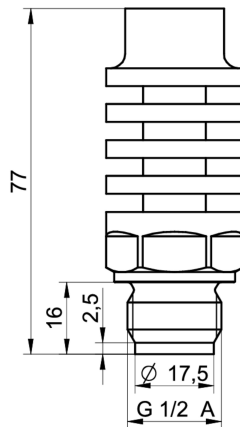
G09-46
G 1/2 A DIN 3852-E with O-ring at the front (BCID: G09)



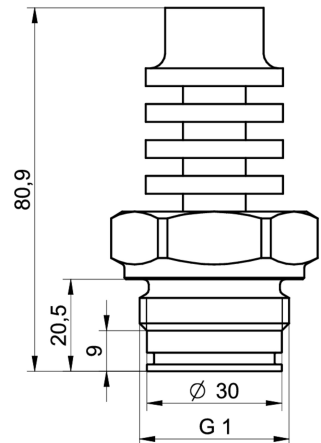
A04-44
G 1 A hygienic (BCID: A04)



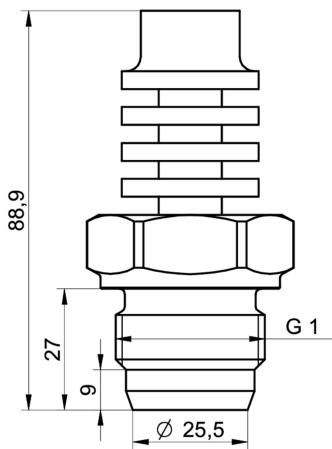
G12-43
G 1 A DIN 3852-E with O-ring at the front (BCID: G12)



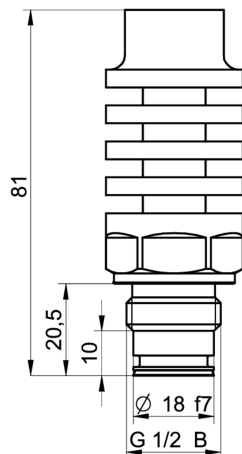
G51-71
G 1/2 A DIN 3852-E with cooling neck (BCID: G51)



G12-73
G 1 A DIN 3852-E with O-ring at the front with cooling neck (BCID: G12)



A04-74
G 1 A hygienic with cooling neck (BCID: A04)



G09-76
G 1/2 A DIN 3852-E with O-ring at the front with cooling neck (BCID: G09)

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Electrical connection

Output signal	Equivalent circuit	Electrical connection	Function	Pin assignment
4 ... 20 mA (2-wire)			+Vs	1
			lout	3
			Frame Ground	Plug thread
			n.c.	2, 4
0 ... 10 V (3-wire)			+Vs	1
			Uout	2, 4
			GND (0 V)	3
			Frame Ground	Plug thread

Ordering information

Ordering key - Configuration possibilities see website

	PBMN - 2 # ### # ## ## ## 2 # # 0 # #
Product	PBMN
Housing material Stainless steel 1.4404 AISI 316L	2
Accuracy	
±0.5 % FS	3
±0.25 % FS	4
±0.10 % FS	5

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Ordering key - Configuration possibilities see website

	PBMN	-	2	#	###	#	##	##	##	2	#	#	0	#	#
Measuring range															
0...0,1 bar (EN)															B08
0...0,16 bar (EN)															B09
0 ... 0.25 bar (EN)															B10
0...0,4 bar (EN)															B11
0...0,6 bar (EN)															B12
0...1 bar (EN)															B15
0...1,6 bar (EN)															B16
0...2 bar (EN)															B17
0 ... 2.5 bar (EN)															B18
0 ... 4 bar (EN)															B19
0...12 bar (EN)															B1K
-1...39 bar (EN)															B1L
0 ... 6 bar (EN)															B20
0 ... 10 bar (EN)															B22
0 ... 16 bar (EN)															B24
0...20 bar (EN)															B25
0...25 bar (EN)															B26
0...40 bar (EN)															B27
-0,1...0,1 bar (EN)															B2H
0...100 bar (EN)															B31
0...400 bar (EN)															B38
-0,2...0,2 bar (EN)															B4G
-0,6...0 bar (EN)															B58
-1...0 bar (EN)															B59
-1...0,6 bar (EN)															B72
-1...1 bar (EN)															B73
-1...1,5 bar (EN)															B74
-1...2 bar (EN)															B75
-1...3 bar (EN)															B76
-1...5 bar (EN)															B77
-1...9 bar (EN)															B79
-1...15 bar (EN)															B81
-1...24 bar (EN)															B82
0...5 bar (EN)															B98
Kind of pressure															
Relative (gauged)															R
Absolute															A
Output signal															
20...4 mA															A0
4...20 mA															A1
0...10 V															A2
1...5 V															A3
0...5 V															A4
0.5...4.5 V															A5
10...0 V															A7
Output Connection															
M12-A, 4-pin															14
DIN EN 175301-803 A (DIN 43650 A), 4-pin															44
Cable outlet 1.5 m, 3-wire, shielded															53

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Ordering key - Configuration possibilities see website

	PBMN	-	2	#	###	#	##	##	##	2	#	#	0	#	#
Connection head, cable gland IP67									54						
Process connection															
G 1/2 A DIN 3852-E (G51)															41
G 1/2 A ISO 228-1 with cone (G08)															42
G 1 A DIN 3852-E with O-ring at the front (G12)															43
G 1 A hygienic (A04)															44
G 1/2 A DIN 3852-E with O-ring at the front (G09)															46
G 1/2 A hygienic (A03)															48
1/2-14 NPT flush (N02)															49
G 1/2 A DIN 3852-E with cooling neck (G51)															71
G 1 A DIN 3852-E with O-ring at the front with cooling neck (G12)															73
G 1 A hygienic with cooling neck (A04)															74
G 1/2 A DIN 3852-E with O-ring at the front with cooling neck (G09)															76
Process connection material															
Stainless steel 1.4404 AISI 316L															2
Seal															
None															0
NBR standard															1
EPDM															2
FKM (Viton®)															3
Oil filling															
Standard oil															1
NSF H1 listed (FDA approved)															2
Display															
Without display															0
ATEX															
Standard safety															0
ATEX according to SEV 11 ATEX 0129															1
Approvals															
Standard approvals															0
EAC															7