

PBMN flush

PBMN-2#####2##0##

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

Pressure type	Absolute Relative (gauged)
Compensated temperature range	-40 ... 85 °C
Long term stability	≤ 0.1 % FSR/a , measuring range > 1 bar ≤ 1 mbar , measuring range ≤ 1 bar
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
Max. measuring span	400 bar
Max. turndown ratio	5 : 1
Measuring range	-1 ... 400 bar
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
Min. measuring span	0.1 bar
Rise time (10 ... 90 %)	≤ 5 ms
Temperature coefficient	≤ 0.03 % FSR/10 K , measuring span ≤ 0.03 % FSR/10 K , zero point

Process conditions

Process temperature	-40 ... 125 °C , without cooling neck -40 ... 200 °C , with cooling neck
Process pressure	Refer to section "Operating conditions"

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
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Process connection

Connection variants	Refer to section "Dimensional drawings"
Wetted parts material	AISI 316L (1.4404)
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

Operating temperature range	-40 ... 85 °C
Storage temperature range	-40 ... 85 °C
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
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
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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
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Vibration, broad-band random (EN 60068-2-64)	0.1 g ² / Hz, > 10 gRMS (20 Hz ... 1 kHz), 30 min. per axis
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Output signal

Current output	4 ... 20 mA , 2-wire 20 ... 4 mA , 2-wire
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Technical data

Output signal

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 = (Uver - 8 V)/20 mA, with current output
Insulation resistance	> 100 MΩ , 500 V DC
Short circuit protection	Yes
Shunt resistance	Rs ≤ (Vs - 8 V)/0.0205 A Rs ≤ 270 Ω, Vs = 24 V

Housing

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

Electrical connection

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

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

ATEX II 1/2G Ex ia IIC T4/T6 Ga/Gb

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

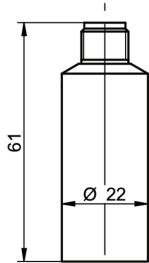
Measuring range (bar)								Proof pressure (bar)	Burst Pressure (bar)
0 ... 0,1 0 ... 0,16 0 ... 0,25								1	2
-0,1 ... 0,1	-0,2 ... 0,2	-1 ... 0	-1 ... 0,6	0 ... 0,4	0 ... 0,6	0 ... 1		3	6
	-1 ... 1,5	-1 ... 3	-1 ... 5	0 ... 1,6	0 ... 2	0 ... 2,5	0 ... 4	15	30
		-1 ... 9	-1 ... 15	0 ... 6	0 ... 10	0 ... 16	0 ... 20	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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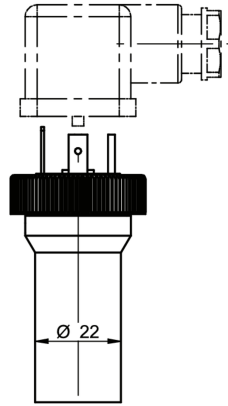
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Dimensional drawings

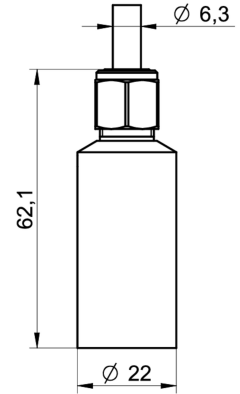
Housing



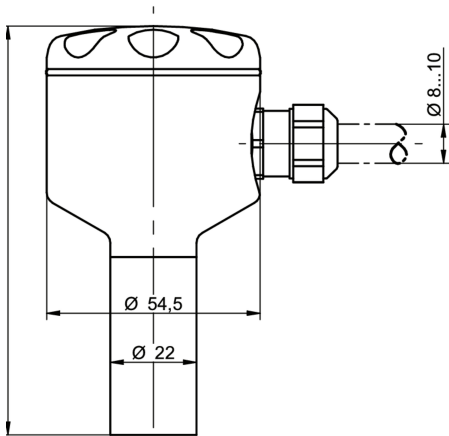
Housing with connector M12-A, 4-pin



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

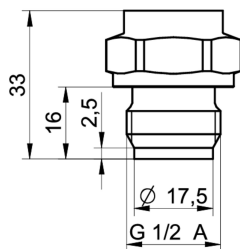


Housing with cable outlet, 3-wire, 1.5 m length

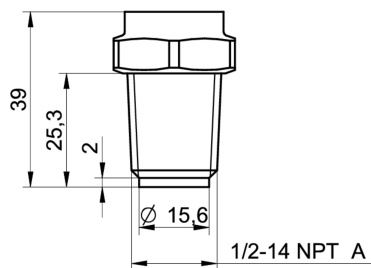


Field housing with cable gland

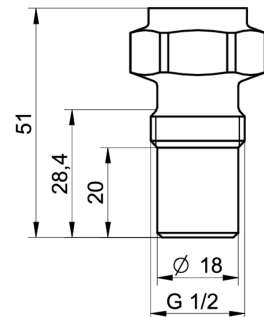
Process connection



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



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



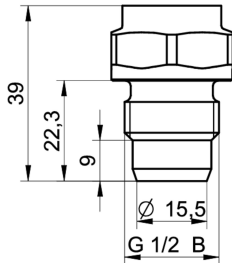
A03-48
G 1/2 A hygienic (BCID: A03)

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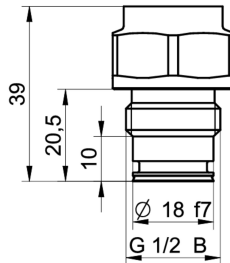
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Dimensional drawings

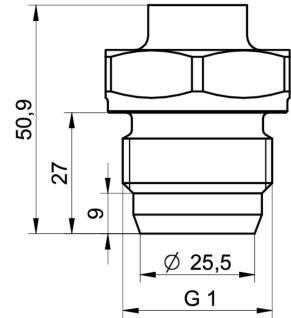
Process connection



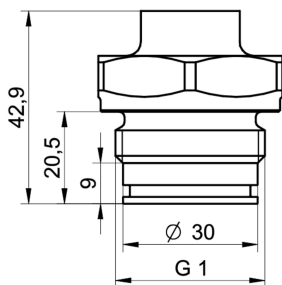
G08-42
G 1/2 A ISO 228-1 with cone (BCID: G08)



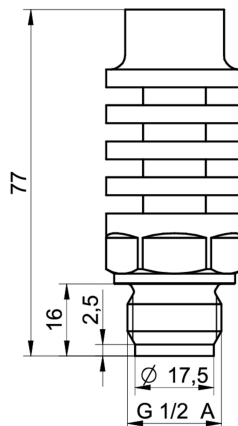
G09-46
G 1/2 A DIN 3852-E with O-ring at the front (BCID: G09)



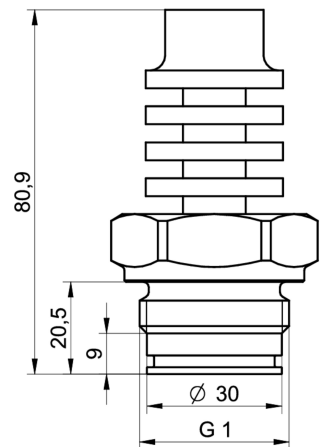
A04-44
G 1 A hygienic (BCID: A04)



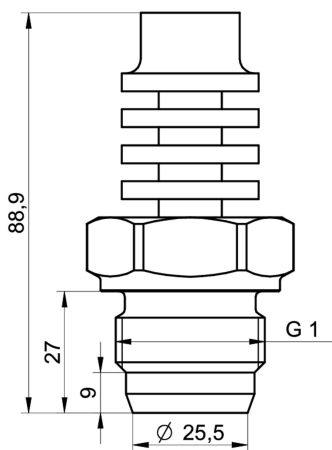
G12-43
G 1 A DIN 3852-E with O-ring at the front (BCID: G12)



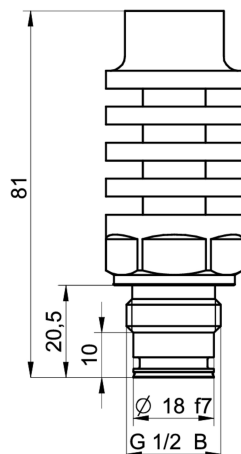
G51-71
G 1/2 A DIN 3852-E with cooling neck (BCID: G51)



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
0 ... 10 V (3-wire)			+Vs	1
			Uout	3
			GND (0 V)	2
			Frame Ground	Grounding lug
0 ... 10 V (3-wire)			+Vs	1
			Uout	3
			GND (0 V)	2
			Frame Ground	Shield
0 ... 10 V (3-wire)			n.c.	4
			+Vs	RD
			Uout	WH
			GND (0 V)	BU
0 ... 10 V (3-wire)			Frame Ground	Shield

Ordering information

Ordering key - Configuration possibilities see website

	PBMN	-	2	#	###	#	##	##	##	2	#	#	0	#	#
Product	PBMN														
Housing material										2					
Accuracy															
±0.25 % FS															4
±0.10 % FS															5
Measuring range															
0...0,1 bar (EN)															B08

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Ordering information

Ordering key - Configuration possibilities see website

	PBMN	-	2	#	###	#	##	##	##	2	#	#	0	#	#
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
0...1.5 psi (ANSI)															H08
0...4 psi (ANSI)															H10
0...6 psi (ANSI)															H11
0...10 psi (ANSI)															H13
0...15 psi (ANSI)															H15
0...25 psi (ANSI)															H16
0...30 psi (ANSI)															H17
0...60 psi (ANSI)															H19
0...20 psi (ANSI)															H1C
0...500 psi (ANSI)															H1E
-30Hg...600 psi (ANSI)															H1L
0...100 psi (ANSI)															H21
0...160 psi (ANSI)															H22
0...200 psi (ANSI)															H23
0...250 psi (ANSI)															H24
0...300 psi (ANSI)															H25

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Ordering information

Ordering key - Configuration possibilities see website

	PBMN	-	2	#	###	#	##	##	##	2	#	#	0	#	#	
0...400 psi (ANSI)																H26
0...600 psi (ANSI)																H27
-30HG...60 psi (ANSI)																H2C
0...5 psi (ANSI)																H2N
0...2 psi (ANSI)																H2Y
0...1500 psi (ANSI)																H31
0...6000 psi (ANSI)																H38
-30HG...0 psi (ANSI)																H59
-30HG...15 psi (ANSI)																H73
-30HG...30 psi (ANSI)																H75
-30HG...100 psi (ANSI)																H78
-30HG...150 psi (ANSI)																H79
-30HG...220 psi (ANSI)																H81
-30HG...300 psi (ANSI)																H82
0...3 psi (ANSI)																H93
0...1 mH2O (EN)																J08
0...1,6 mH2O (EN)																J09
0...2,5 mH2O (EN)																J10
0...4 mH2O (EN)																J11
0...6 mH2O (EN)																J12
0...10 mH2O (EN)																J15
0...16 mH2O (EN)																J16
0...20 mH2O (EN)																J17
0...25 mH2O (EN)																J18
0...40 mH2O (EN)																J19
0...60 mH2O (EN)																J20
0...100 mH2O (EN)																J22
0...160 mH2O (EN)																J24
0...200 mH2O (EN)																J25
0...250 mH2O (EN)																J26
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
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

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Ordering information

Ordering key - Configuration possibilities see website

	PBMN	-	2	#	###	#	##	##	##	2	#	#	0	#	#
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					
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