



Product highlights

- High insulation resistance of 1.5 kV AC exceeding the standard according EN 50155
- Extended EMC immunity compared to EN 50121-3-2
- Traceability according GS1 standard

Application examples

- Pantograph pressure (closed-loop) control
- Converter/inverter cooling systems
- Railway brake systems

EN 50155

Technical data	
Housing	
Style	■ Compact design
Overall size	■ Refer to section "Dimensional drawings"
Material	■ AISI 304 (1.4301)
Electrical connection	
Connector	■ M12, 4-pin ■ DIN EN 175301-803 A (DIN 43650 A), 4-pin
Ambient conditions	
Operating temperature range	■ Voltage output: -40 ... 105 °C ■ Current output: -40 ... 125 °C (< 26.4 V) -40 ... 115 °C (26.4 ... 35 V)
Storage temperature range	■ -50 ... 125 °C
Degree of protection (EN 60529)	■ IP67 (with connector M12) ■ IP69K (with connector M12) ■ IP65 (with connector DIN EN)
Insulation resistance	■ > 100 MΩ (500 V DC)
Process connection	
Wetted parts material	■ AISI 304 (1.4301) ■ NBR (sealing, optional) ■ FKM (Viton®) (sealing, optional) ■ FVMQ (sealing, standard version) ■ EPDM (sealing, optional)
Process conditions	
Process temperature	■ Voltage output: -40 ... 105 °C ■ Current output: -40 ... 125 °C (< 26.4 V) -40 ... 115 °C (26.4 ... 35 V)
Process pressure	■ Refer to section "Operating conditions"
Power supply	
Voltage supply range	■ Voltage version: 14 ... 35 V DC (3-wire) ■ Current version: 11 ... 35 V DC (2-wire)
Output signal	
Current output	■ 4 ... 20 mA
Voltage output	■ 1 ... 5 V ■ 0 ... 2 V ■ 0 ... 10 V
Performance characteristics	
Measuring range	■ 0 ... 16 bar
Min. measuring span	■ 0.25 bar
Max. measuring span	■ 16 bar
Pressure type	■ Relative
Max. measuring error [1]	■ ± 0.3 % FS ■ ± 0.5 % FS ■ ± 1.0 % FS
Compensated temperature range	■ -10 ... 60 °C
Temperature coefficient	■ Zero point: ≤ ± 0.05 % FS / 10 K ■ Measuring span: ≤ ± 0.05 % FS / 10 K
Response time	■ < 3 ms
Compliance and approvals	
EMV	■ EAC ■ EN 61326-1:2013 ■ EN 50121-3-2:2016 ■ EN 55011:2009 (Class A)
Fire protection	■ EN 45545 HL 2 / HL 3
Railway applications	■ EN 50155
Shock and vibration tests (EN 61373: 1999, 2010)	■ Vibration: Category 2, ■ Shock: Category 1, 2, 3 [2]

[1] Including zero-point and span error, nonlinearity (by terminal base line), hysteresis and non-repeatability (EN 61298-2)

[2] The respective most depending severity levels of the issues 1999 and 2010 are applied in each Category 2

Note: Information on product characteristics may relate to defined product options.

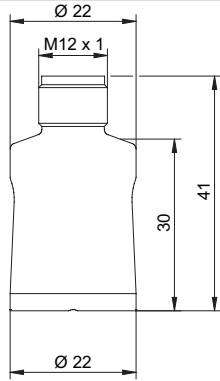
Operating conditions

Measuring range (bar)	Proof pressure (bar)	Burst pressure (bar)
0 ... 0.25	2	4
0 ... 2.5	4 or 20	7 or 35
0 ... 4	8 or 20	15 or 35
0 ... 6	10 or 20	15 or 35
0 ... 10	20	35
0 ... 16	32	50

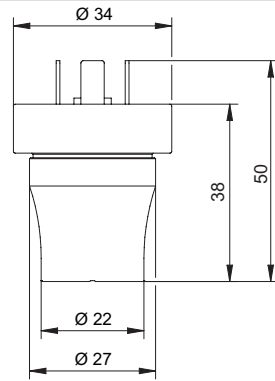
Note: Information in format AXX-X... relates to „Baumer Connection Identifier“ (BCID) and dedicated ordering code.

Dimensional drawings

Housing

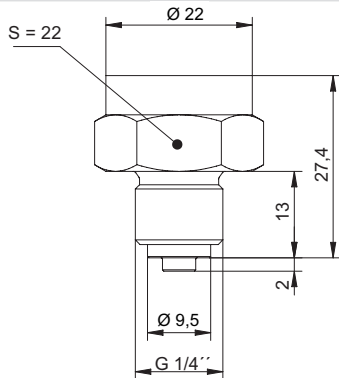


M12, 4-pin
X04-14

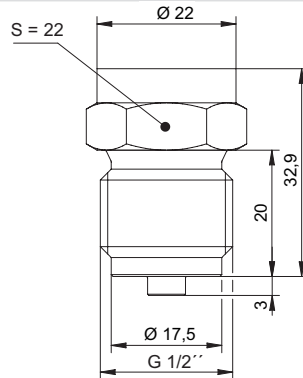


DIN EN 175301-803 A (DIN 43650 A), 4-pin
X14-44

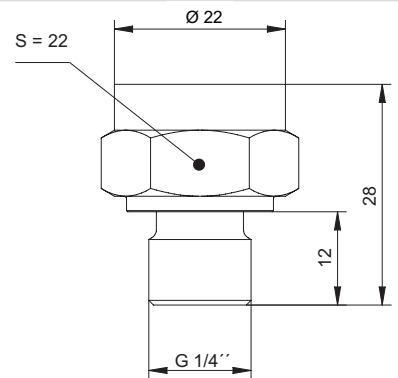
Process connection



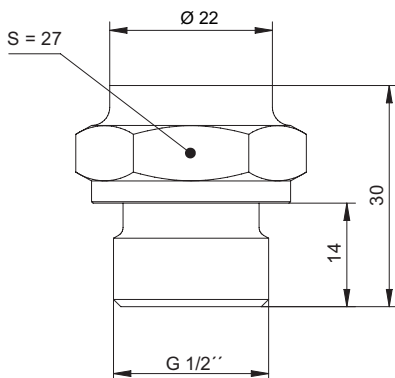
G 1/4 B EN 837
G30-02



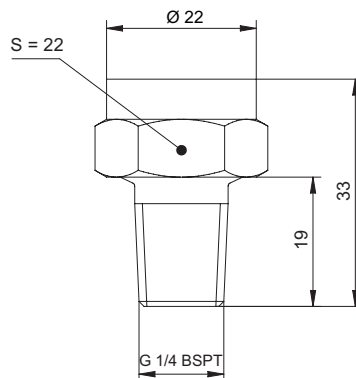
G 1/2 B EN 837
G31-03



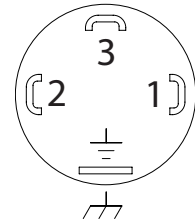
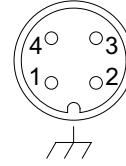
G 1/4 A DIN 3852-E
G50-06



G 1/2 A DIN 3852-E
G51-09



R1/4 BSP - Tr
R03-17

Electrical connection
Pin assignment


Output signal	Equivalent circuit	Function	M12, 4-pin X04-14	DIN EN 175301-803 A (DIN 43650 A), 4-pin X14-44
4 ... 20 mA (2-wire)		+Vs	1	1
		Iout	3	2
		Frame ground	Plug thread	Earth pin
		n.c.	2, 4	3
0 ... 10 V		+Vs	1	1
		Uout	2, 4	3
		GND (0 V)	3	2
		Frame ground	Plug thread	Earth pin

Ordering information

	PP20R	-	1	.	x	xxx	R	-	xx	xx	.	xx	4	x	0	.	0	0	5	0
Product line	PP20R																			
Housing Stainless steel 1.4301 AISI 304			1																	
Accuracy [1]																				
1 %																				1
0.5 %																				3
0.3 %																				B
Pressure range (bar)																				
0 ... 0.25 bar (accuracy 1%)																				B10
0 ... 2.5 bar (accuracy 0.3%)																				B18
0 ... 2.5 bar, strengthened (accuracy 1%)																				BA8
0 ... 4 bar (accuracy 0.3%)																				B19
0 ... 4 bar, strengthened (accuracy 0.5%)																				BA9
0 ... 6 bar (accuracy 0.3%)																				B20
0 ... 6 bar, strengthened (accuracy 0.5%)																				BA0
0 ... 10 bar (accuracy 0.3%)																				B22
0 ... 16 bar (accuracy 0.3%)																				B24
Pressure type Relative (gauged)							R													
Output signal																				
4 ... 20 mA																				A1
0 ... 10 V																				A2
1 ... 5 V																				A3
0 ... 2 V																				A9
Electrical connection																				
M12-A, 4-pin							X04													14
DIN EN 175301-803 A (DIN 43650 A), 4-pin							X14													44
Process connection																				
G 1/4 B EN 837-1							G30													02
G 1/2 B EN 837-1							G31													03
G 1/4 A DIN 3852-E							G50													06
G 1/2 A DIN 3852-E							G51													09
R 1/4 BSP - Tr							R03													17
Process connection material Stainless steel 1.4301																				4
Sensor internal sealing [2]																				
FVMQ																				6
NBR																				1
EPDM																				2
FKM (Viton®)																				3
Oil filling Without																				0
Display Without																				0
Explosion protection Without																				0
Compliance and approvals Railway (EN 50155)																				5
Turndown No configuration																				0

[1] Including zero-point and span error, nonlinearity (by terminal base line), hysteresis and non-repeatability (EN 61298-2)

[2] Outer sealing for process connections 06 and 09 made out of the sensor internal sealing material and for 02 and 03 of aluminium