

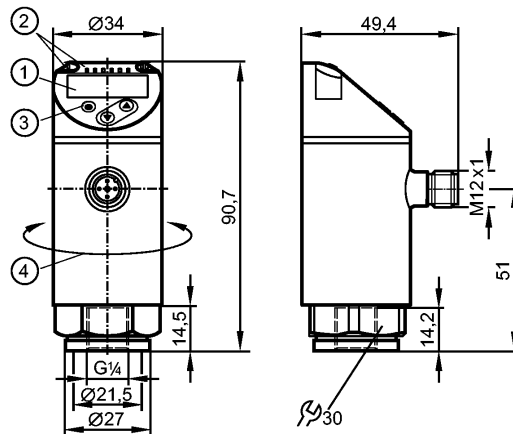


PN3097

PN-001BRER14-MFRKG/US/ IV



Pressure sensors



- 1: 4-digit alphanumeric display / alternating indication of red and green
2: LEDs (display unit / switching status)
3: Programming button
4: Upper part of the housing can be rotated by 345°



Product characteristics
Electronic pressure sensor

M12 connector

Function programmable

Measuring element: ceramic-capacitive pressure measuring cell

Process connection: G 1/4 I / M6 I

2 outputs

OUT1 = switching output

OUT2 = analogue output

4-digit alphanumeric display / alternating indication of red and green

Measuring range: 0...1000 mbar / 0...14.5 psi / 0...100 kPa / 0...29.5 inHg

Application

Application

Type of pressure: relative pressure
Group 2 fluids according to the Pressure Equipment Directive (PED),
group 1 fluids on request

Pressure rating	10000 mbar	145 psi	1000 kPa	290 inHg
Bursting pressure min.	30000 mbar	450 psi	3000 kPa	880 inHg
Vacuum resistance [mbar]	-1000			
Medium temperature [°C]	-25...80			

Electrical data

Electrical design

DC PNP

Operating voltage [V]

18...30 DC ¹⁾

Current consumption [mA]

< 35

Insulation resistance [MΩ]

> 100 (500 V DC)

Protection class

III

Reverse polarity protection

yes

Outputs

Output

2 outputs

OUT1 = switching output

OUT2 = analogue output

Output function

normally open / closed programmable; 4...20 mA or 0...10 V

Current rating [mA]

150; 200 (...60 °C); 250 (...40 °C)

Voltage drop [V]

< 2.5

Short-circuit protection

pulsed

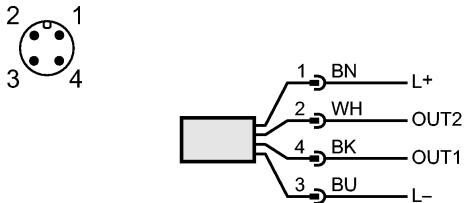
Overload protection

yes

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Switching frequency [Hz]	≤ 170			
Analogue output	4...20 mA; 0...10 V			
Max. load [Ω]	4...20 mA: max. 500			
Min. load resistance [Ω]	0...10 V: min. 2000			
Measuring / setting range				
Measuring range	0...1000 mbar	0...14.5 psi	0...100 kPa	0...29.5 inHg
Setting range				
Set point, SP	10...1000 mbar	0.1...14.5 psi	1...100 kPa	0.2...29.5 inHg
Reset point, rP	5...995 mbar	0.05...14.45 psi	0.5...99.5 kPa	0.1...29.4 inHg
in steps of	5 mbar	0.05 psi	0.5 kPa	0.1 inHg
Accuracy / deviations				
Accuracy / deviations (in % of the span)				
Switch point accuracy	< ± 0.5			
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)			
Hysteresis	< ± 0.25			
Repeatability **)	< ± 0.1			
Long-term stability ***)	< ± 0.05			
Temperature coefficients (TEMPCO) in the temperature range -25...80° C (in % of the span per 10 K)				
Greatest TEMPCO of the zero point	0.2			
Greatest TEMPCO of the span	0.2			
Reaction times				
Power-on delay time [s]	0.3			
Min. response time switching output [ms]	< 3			
Delay time programmable dS, dr [s]	0...50			
Damping for the switching output (dAP) [s]	0...4			
Damping for the analogue output (dAA) [s]	0...4			
Response time analogue output [ms]	< 3			
Integrated watchdog	yes			
Software / programming				
Programming options	hysteresis / window function; NO / NC; on delay, off delay; damping; display unit; current/ voltage output			
Interfaces				
IO-Link device				
Transfer type	COM2			
IO-Link revision	1.1			
SDCI standard	IEC 61131-9			
IO-Link device ID	433 d / 00 01 b1 h			
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis			
SIO mode	yes			
Required master port class	A			
Process data analogue	1			
Process data binary	1			
Min. process cycle time [ms]	2.3			
Environment				
Ambient temperature [°C]	-25...80			
Storage temperature [°C]	-40...100			
Protection	IP 65 / IP 67			
Tests / approvals				
Pressure equipment directive	Sound engineering practice			
EMC	DIN EN 61000-6-2 DIN EN 61000-6-3			
Shock resistance	DIN EN 60068-2-27 50 g (11 ms)			
Vibration resistance	DIN EN 60068-2-6 20 g (10...2000 Hz)			
MTTF [Years]	181			

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UL approval number	J004
Mechanical data	
Process connection	G ¼ I / M6 I
Materials (wetted parts)	stainless steel (316L / 1.4404); Al2O3 (ceramics); FKM
Housing materials	stainless steel (316L / 1.4404); PBT+PC-GF 30; PBT-GF 20; PC
Min. pressure cycles	100 million
Tightening torque [Nm]	25...35 (recommended tightening torque ²)
Restrictor element integrated	no (can be retrofitted)
Weight [kg]	0.231
Displays / operating elements	
Display	Display unit 4 x LED green (bar, psi, kPa, inHg) Switching status 1 x LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green
Electrical connection	
Connection	M12 connector; Gold-plated contacts
Wiring Core colours BK black BN brown BU blue WH white	
 OUT1: switching output or IO-Link OUT2: 4...20 mA / 0...10 V Colours to DIN EN 60947-5-2	
Remarks	
Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in% of the span / 6 months 1) to EN50178, SELV, PELV 2) Depends on lubrication, seal and pressure rating
Pack quantity [piece]	1