

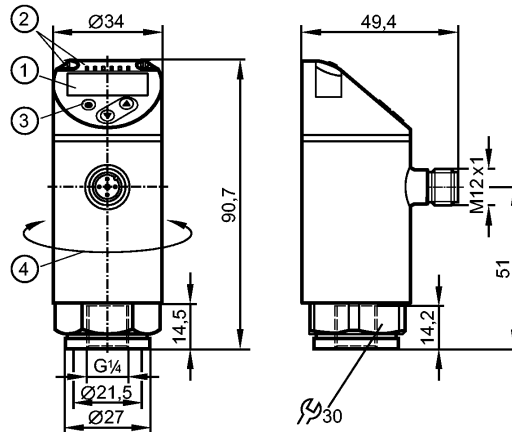


PN3129

PN-0-1BRER14-MFRKG/US/ /V



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

Application

Application

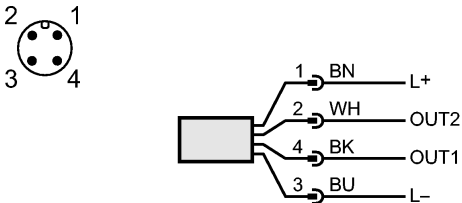
Type of pressure: relative pressure
Group 2 fluids according to the Pressure Equipment Directive (PED),
group 1 fluids on request

Pressure rating	20000 mbar	290 psi	2000 kPa	590 inHg
Bursting pressure min.	50000 mbar	725 psi	5000 kPa	1450 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	-1000...0 mbar	-14.5...0 psi	-100...0 kPa	-29.5...0 inHg
Setting range				
Set point, SP	-990...0 mbar	-14.40...0 psi	-99...0 kPa	-29.3...0 inHg
Reset point, rP	-995...-5 mbar	-14.45...-0.05 psi	-99.5...-0.5 kPa	-29.4...-0.1 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	434 d / 00 01 b2 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 (mbar, 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