

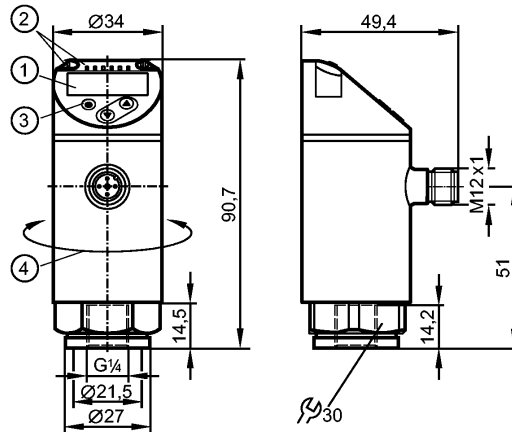


# PN3129

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



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  $\frac{1}{4}$  I / M6 I

2 Output

OUT1 = Switching output

OUT2 = Analog 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 <sup>1)</sup>
Current consumption [mA]	< 35
Insulation resistance [M $\Omega$ ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes

## Outputs

Output	2 Output OUT1 = Switching output OUT2 = Analog output
Output function	normally open / closed programmable; 4...20 mA or 0...10 V



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



Pressure sensors

Current rating	[mA]	150; 200 (...60 °C); 250 (...40 °C)
Voltage drop	[V]	< 2.5
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 170
Analog 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 analog output (dAA)	[s]	0...4
Response time analog 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



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

Pressure sensors

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
UL approval number	J004

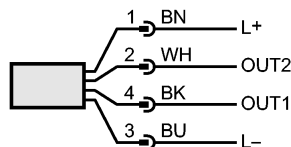
Mechanical data	
Process connection	G ¼ I / M6 I
Materials (wetted parts)	stainless steel (316L / 1.4404); Al2O3 (ceramics); FKM
Housing materials	stainless steel (316L / 1.4404); PBT+PC-GF 30; PBT-GF 20; PC
Min. pressure cycles	100 million
Tightening torque [Nm]	25...35 (recommended tightening torque <sup>2</sup> )
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 colors
- 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



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**Pressure sensors**

Pack quantity [piece] 1

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