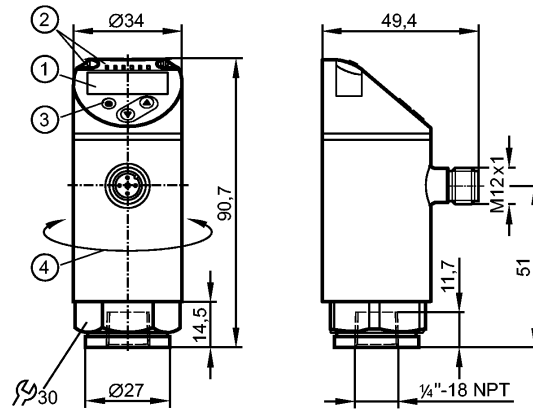


PN7297

PN-001BREN14-QFRKG/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 monitor
M12 connector
Function programmable
Measuring element: ceramic-capacitive pressure measuring cell
Process connection: 1/4" NPT
2 outputs OUT1 = switching output OUT2 = switching output
4-digit alphanumeric display / alternating indication of red and green
Measuring range: 0...14.5 psi / 0...1000 mbar / 0...100 kPa / 0...29.5 inHg

Application

Application	Type of pressure: relative pressure liquids and gases of the fluid group 2 according to Article 9 of the Pressure Equipment Directive (PED)			
Pressure rating	145 psi	10000 mbar	1000 kPa	290 inHg
Bursting pressure min.	450 psi	30000 mbar	3000 kPa	880 inHg
Medium temperature [°C]	-25...80			

Electrical data

Electrical design	DC PNP/NPN
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 = switching output
Output function	2 x normally open / closed programmable
Current rating [mA]	150; 200 (...60 °C); 250 (...40 °C)

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Pressure sensors

Voltage drop	[V]	< 2.5
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 170

Measuring / setting range

Measuring range	0...14.5 psi	0...1000 mbar	0...100 kPa	0...29.5 inHg
Setting range				
Set point, SP	0.1...14.5 psi	10...1000 mbar	1.0...100 kPa	0.2...29.5 inHg
Reset point, rP	0.05...14.45 psi	5...995 mbar	0.5...99.5 kPa	0.1...29.4 inHg
in steps of	0.05 psi	5 mbar	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
Integrated watchdog		yes

Software / programming

Programming options	hysteresis / window function; N.O. / N.C; output polarity; on delay, off delay; damping; display unit
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Interfaces

IO-Link Device	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link Device ID	405 d / 00 01 95 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	2
Min. process cycle time	[ms] 2.3

Environment

Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 65 / IP 67

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Pressure sensors

Tests / approvals	
Pressure equipment directive	article 3, section 3 - 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]	224.01
UL approval number	J001

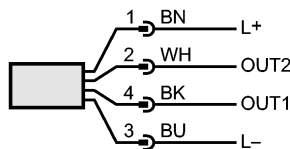
Mechanical data	
Process connection	¼" NPT
Materials (wetted parts)	316L stainless steel / 1.4404; ceramics; FKM
Housing materials	316L stainless steel / 1.4404; PBT+PC-GF 30; PBT-GF 20; PC
Switching cycles min.	100 million
Tightening torque [Nm]	(2...3 turns after finger tightened (recommended tightening torque ²⁾)
Weight [kg]	0.222

Displays / operating elements	
Display	Display unit 4 x LED green (mbar, psi, kPa, inHg) Switching status 2 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: switching output
 Colours to DIN EN 60947-5-2

Remarks	
Remarks	1) to EN50178, SELV, PELV 2) Depends on lubrication, seal and pressure rating *) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in% of the span / 6 months
Pack quantity [piece]	1