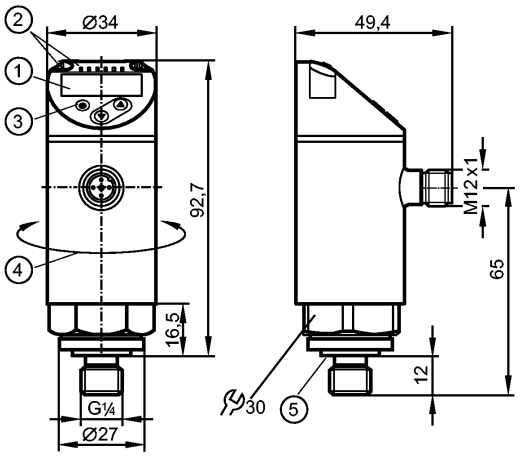
PN7597
PN-001BREG14-QFRKG/US/ /V

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°
5: sealing FKM / DIN 3869

Product characteristics

Electronic pressure monitor
M12 connector
Function programmable
Measuring element: ceramic-capacitive pressure measuring cell
Process connection: G ¼ A / M5 I
2 outputs OUT1 = switching output OUT2 = switching 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 liquids and gases of the fluid group 2 according to Article 9 of the Pressure Equipment Directive (PED)			
Pressure rating		10000 mbar	145 psi	1000 kPa	290 inHg
Bursting pressure min.		30000 mbar	450 psi	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

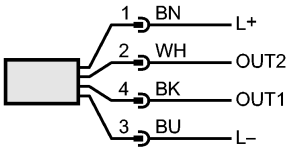
Outputs

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)
Voltage drop	[V]	< 2.5
Short-circuit protection		pulsed
Overload protection		yes

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Switching frequency	[Hz]	≤ 170			
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	1.0...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...24.9 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			
Integrated watchdog		yes			
Software / programming					
Programming options		hysteresis / window function; NO / NC; output polarity; on delay, off delay; damping; display unit			
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			
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		G ¼ A / M5 I			
Materials (wetted parts)		1.4404; ceramics; FKM			
Housing materials		1.4404; PBT+PC-GF 30; PBT-GF 20; PC			
Switching cycles min.		100 million			
Tightening torque	[Nm]	25...35 (recommended tightening torque²)			
Weight	[kg]	0.259			

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