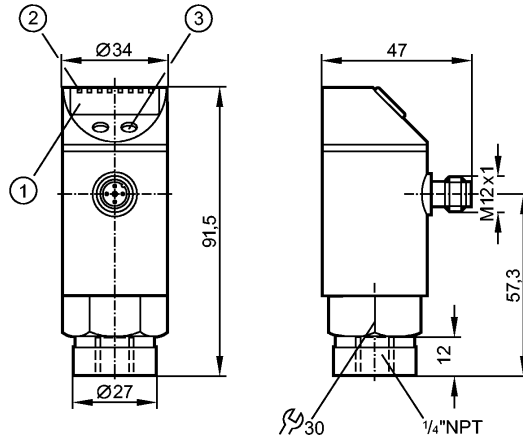


PN2209

PN-1-1BRBN14-MFRKG/US/ N

Pressure sensors



- 1: 4-digit alphanumeric display
- 2: LEDs (display unit / switching status)
- 3: Programming button



Made in Germany

Product characteristics

Combined pressure sensor
Quick disconnect
Communication interface: IO-Link 1.0 (COM2 slave, 38.4 kBaud)
Zero and span adjustable
Function programmable
Display units: mbar, kPa, psi, inH2O, inHg
Process connection: 1/4" NPT
2 outputs OUT1 = switching output OUT2 = switching output or analog output
4-digit alphanumeric display
Measuring range: -14.5...14.5 psi

Application

Application	Type of pressure: relative pressure Liquids and gases
Pressure rating [psi]	290
Bursting pressure min. [psi]	725
Medium temperature [°C]	-25...80

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	18...32 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 or analog output
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Pressure sensors

Output function		2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x analog (4...20 mA / 0...10 V; programmable 1:4)
Current rating	[mA]	2 x 250
Voltage drop	[V]	< 2
Short-circuit protection		Yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 500
Analog output		4...20 mA / 0...10 V
Max. load	[Ω]	4...20 mA: max. (U _b - 10 V) x 50 / 0...10 V: min. 2000

Measuring / setting range		
Measuring range	[psi]	-14.5...14.5
Setting range		
Set point, SP	[psi]	-14.3...14.5
Reset point, rP	[psi]	-14.4...14.4
Analog start point, ASP	[psi]	-14.4...7.3
Analog end point, AEP	[psi]	-7.2...14.5
in steps of	[psi]	0.1
Factory setting		SP1 = -7.3 psi; rP1 = -7.8 psi SP2 = 7.3 psi; rP2 = 6.7 psi ASP = -14.4 psi; AEP = 14.5 psi

Accuracy / deviations		
Accuracy / deviations (in % of the span) Turn down 1:1		
Switch point accuracy		< ± 0.4
Characteristics deviation *)		< ± 0.25 (BFSL) / < ± 0.5 (LS)
Hysteresis		< ± 0.1
Repeatability **)		< ± 0.1
Long-term stability ***)		< ± 0.1
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]	1.5
Damping for the switching output (dAP)	[s]	0; 0.01...4.00
Damping for the analog output (dAA)	[s]	0; 0.01...4.00
Response time analog output	[ms]	3
Integrated watchdog		yes

Software / programming		
Programming options		hysteresis / window function; N.O. / N.C.; output polarity; current / voltage outputs; damping; calibration of displayed values; display can be rotated / deactivated; display unit

Environment		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100

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Pressure sensors

Protection	IP 65
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Tests / approvals

EMC	EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m EN 61000-4-4 Burst: 2 kV EN 61000-4-5 Surge: 0.5/1 kV EN 61000-4-6 HF conducted: 10 V
Shock resistance	DIN IEC 68-2-27: 50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6: 20 g (10...2000 Hz)
MTTF [Years]	131

Mechanical data

Process connection	¼" NPT
Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)
Housing materials	stainless steel (304S15); stainless steel 316L / 1.4404; PC (Makrolon); PBT (Pocan); PEI; FPM (Viton); PTFE
Switching cycles min.	100 million
Weight [kg]	0.267

Displays / operating elements

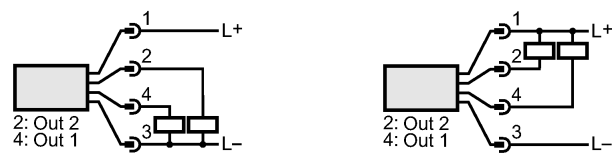
Display	Display unit 3 x LED green Switching status 2 x LED yellow Function display 4-digit alphanumeric display Measured values 4-digit alphanumeric display
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Electrical connection

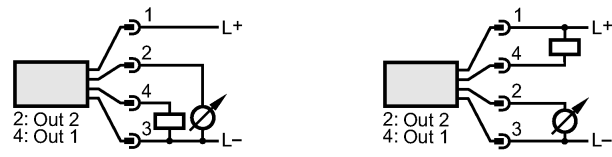
Connection	M12 connector; gold-plated contacts
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Wiring

Programming of the output function (OUT1 / OUT2):
 Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed
 Complementary outputs:
 output 1: = Hno, output 2: = Hnc
 (with the same SP / rP)



Programming of the analog output (OUT2):
 I = current output (4...20 mA)
 U = voltage output (0...10 V)



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 per year
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Pack quantity [piece]	1
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