

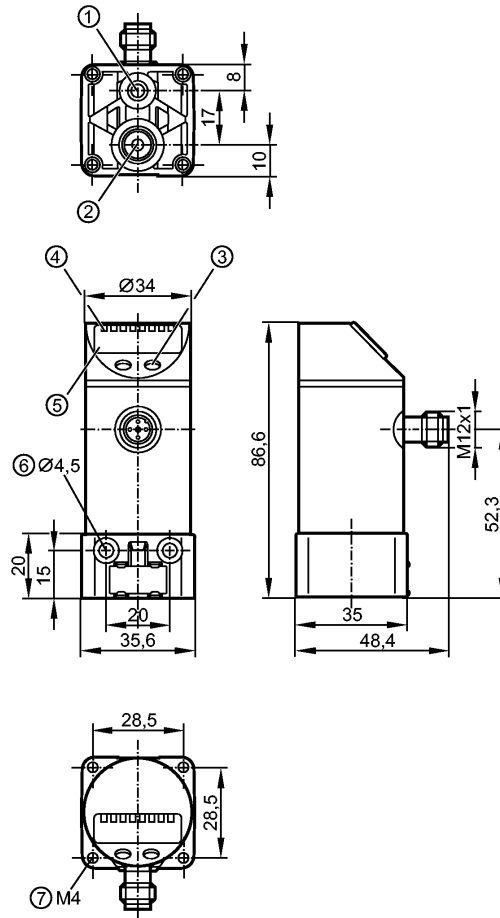


# PN7809

PN-001BRBR18-QFRKG/US/ IV



Pressure sensors



- 1: ventilation connection M5; max. tightening torque 2.5 Nm
- 2: main pressure connection G 1/8; tightening torque max. 8 Nm
- 3: Programming button
- 4: LEDs (display unit / switching status)
- 5: 4-digit alphanumeric display
- 6: for mounting screw M4; max. tightening torque 2.5 Nm
- 7: for mounting screw M4; max. tightening torque 2.5 Nm



## Product characteristics

Electronic pressure monitor

Quick disconnect

Function programmable

Process connection: G 1/8 I

2 outputs

OUT1 = switching output

OUT2 = switching output or diagnostic output

4-digit alphanumeric display

Measuring range: -1000...1000 mbar / -14.5...14.5 psi / -100...100 kPa

## Application

Application	Type of pressure: relative pressure Compressed air ****)		
Pressure rating	20000 mbar	290 psi	2000 kPa
Bursting pressure min.	30000 mbar	435 psi	3000 kPa
Medium temperature	[°C] 0...60		

## Electrical data



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Pressure sensors

Electrical design		DC PNP/NPN
Operating voltage	[V]	18...36 DC <sup>1)</sup>
Current consumption	[mA]	< 50
Insulation resistance	[MΩ]	> 100 (500 V DC)
Protection class		III
Reverse polarity protection		yes
Overvoltage protection	[V]	up to 40 V

Outputs		
Output		2 outputs OUT1 = switching output OUT2 = switching output or diagnostic output
Output function		2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x normally closed (diagnostic function)
Current rating	[mA]	250
Voltage drop	[V]	< 2
Short-circuit protection		yes (non-latching)
Switching frequency	[Hz]	≤ 170

Measuring / setting range			
Measuring range	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Setting range			
Set point, SP	-975...1000 mbar	-14.1...14.5 psi	-97.5...100.0 kPa
Reset point, rP	-980...995 mbar	14.2...14.4 psi	-98.0...99.5 kPa
in steps of	5 mbar	0.1 psi	0.5 kPa
Factory setting	SP1 = -500 mbar; rP1 = -540 mbar SP2 = 500 mbar; rP2 = 460 mbar		

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 0...60° 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
Delay time programmable dS, dr	[s]	0; 0.2...50
Integrated watchdog		yes

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

Environment		
Ambient temperature	[°C]	-25...85
Storage temperature	[°C]	-25...85
Protection		IP 67



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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]	284

## Mechanical data

Process connection	G 1/8 I
Materials (wetted parts)	high-grade st. steel (304 Cu); brass; FPM (Viton); PPS; silicon (coated)
Housing materials	stainless steel (304S15); PPS; PC (Makrolon); PBT (Pocan); PEI; FPM (Viton)
Switching cycles min.	50 million
Weight [kg]	0.171

## 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

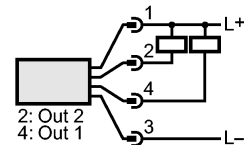
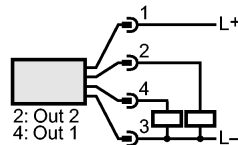
Programming of the output function

-----OUT1-----

Hno = hysteresis / normally open  
Hnc = hysteresis / normally closed  
Fno = window function / normally open  
Fnc = window function / normally closed

-----OUT2-----

Hno = hysteresis / normally open  
Hnc = hysteresis / normally closed  
Fno = window function / normally open  
Fnc = window function / normally closed  
dESI = diagnostic function (normally closed)



## Accessories

Accessories (optional)	Mounting set for DIN rail TH 35-7.5 to EN60715 (order no. E37340); Adapter R1/8 to R1/8 (order no. E37350); T-pipe mounting set (order no. E37360); thread extension G1/8 BSPP (order no. E30075) push-in air fitting for tubes Ø 6 mm (order no. E30076) push-in air fitting for tubes Ø 8 mm (order no. E30077)
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## Remarks

Remarks	1) to EN50178, SELV, PELV *) BFSL = Best Fit Straight Line / LS = Limit Value Setting
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**Pressure sensors**

\*\* ) with temperature fluctuations < 10 K  
\*\*\* ) in% of the span / 6 months  
\*\*\*\* ) other media on request

Pack quantity	[piece]	1
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