

New generation available: PN2299

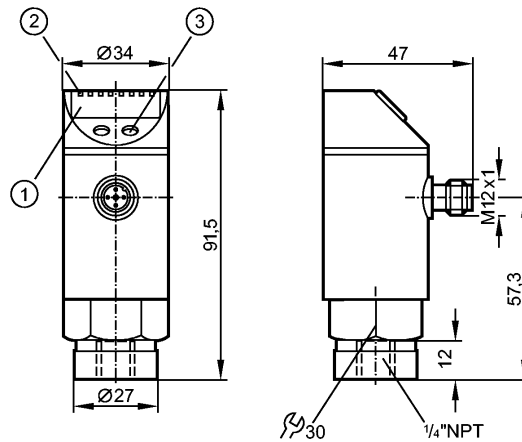
**efectorsoo**

PN2209



PN-1-1BRBN14-MFRKG/US/ IV

Pressure sensors



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



Product characteristics

Combined pressure sensor

Quick disconnect

Zero and span adjustable

Function programmable

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]
Bursting pressure min.	[psi]
Medium temperature	[°C]

290
725
-25...80

Electrical data

Electrical design

DC PNP/NPN

Operating voltage	[V]
Current consumption	[mA]
Insulation resistance	[MΩ]

18...32 DC 1)
< 35
> 100 (500 V DC)

Protection class

III

Reverse polarity protection

yes

Outputs

Output

2 outputs  
OUT1 = switching output  
OUT2 = switching output or analog output

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

**PN2209 - Combined pressure sensor - eclass: 27201302 / 27-20-13-02**

Switching frequency [Hz]	≤ 500
Analog output	4...20 mA / 0...10 V
Max. load [Ω]	4...20 mA: max. (U <sub>b</sub> - 10 V) x 50 / 0...10 V: min. 2000
Measuring / setting range	
Display unit	mbar, kPa, psi, inH <sub>2</sub> O, inHg
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
Interfaces	
IO-Link Device	
Transfer type	COM2-Slave (38.4 kBaud)
IO-Link revision	1.0
Environment	
Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100
Protection	IP 65
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)

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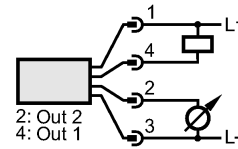
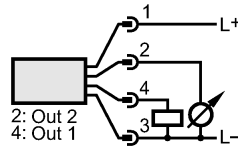
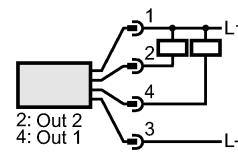
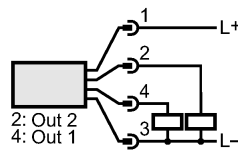
Housing materials	stainless steel (304S15); stainless steel 316L / 1.4404; PC (Makrolon); PBT (Pocan); PEI; FPM (Viton); PTFE
Switching cycles min.	100 million
Weight [kg]	0.265
Displays / operating elements	
Display	Display unit 3 x LED green Switching status 2 x LED yellow Function display 4-digit alphanumeric display Measured values 4-digit alphanumeric display

Electrical connection	
Connection	M12 connector; gold-plated contacts

## 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

- <sup>1)</sup> to EN50178, SELV, PELV
- <sup>\*</sup>) BFSL = Best Fit Straight Line / LS = Limit Value Setting
- <sup>\*\*)</sup> with temperature fluctuations < 10 K
- <sup>\*\*\*)</sup> in % of the span per year

Pack quantity [piece]	1
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