

New generation available: PN2294

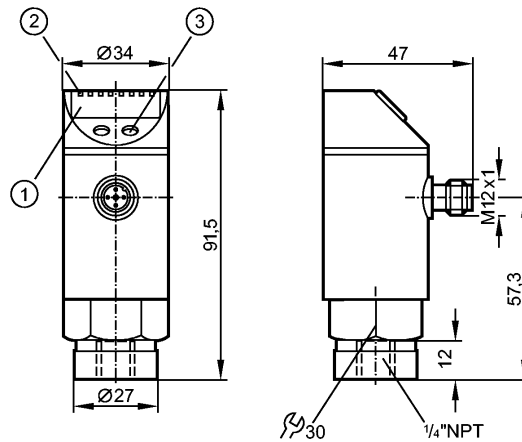
efectorsoo

PN2224



PN-010-RBN14-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...145.0 psi / -1...10.00 bar / -0.100...1.000 MPa

Application

Application

Type of pressure: relative pressure
Liquids and gases

Pressure rating	1088 psi	75 bar	7.5 MPa
Bursting pressure min.	2175 psi	150 bar	15 MPa
MAWP (for applications according to CRN)	565 psi	39 bar	3.9 MPa
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

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

PN2224 - Combined pressure sensor - eclass: 27201302 / 27-20-13-02

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	-14.5...145.0 psi	-1...10.00 bar	-0.100...1.000 MPa
Setting range			
Set point, SP	-12.8...145.0 psi	-0.88...10.00 bar	-0.088...1.000 MPa
Reset point, rP	-13.6...144.2 psi	-0.94...9.94 bar	-0.094...0.994 MPa
Analog start point, ASP	-14.6...105.2 psi	-1.00...7.26 bar	-0.100...0.726 MPa
Analog end point, AEP	21.8...145.0 psi	1.50...10.00 bar	0.150...1.000 MPa
in steps of	0.29 psi	0.02 bar	0.002 MPa
Factory setting	SP1 = 36.2 psi; rP1 = 33.4 psi SP2 = 108.8 psi; rP2 = 105.8 psi ASP = 0.0 psi; AEP = 145.0 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 (38.4 kBaud)		
IO-Link revision	1.0		
Environment			
Ambient temperature [°C]	-25...80		
Storage temperature [°C]	-40...100		
Protection	IP 65		
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]	131		
Mechanical data			
Process connection	¼" NPT		

PN2224 - Combined pressure sensor - eclass: 27201302 / 27-20-13-02

Materials (wetted parts)	stainless steel (303S22); ceramics; FPM
Housing materials	stainless steel (304S15); stainless steel 316L / 1.4404; PC; PBT; PEI; FPM; 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

Electrical connection	
Connection	M12 connector; gold-plated contacts

Wiring

Programming of the output function (OUT1 / OUT2):

Hno = hysteresis / normally open

Hnc = hysteresis / normally closed

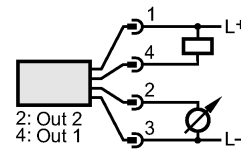
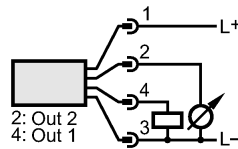
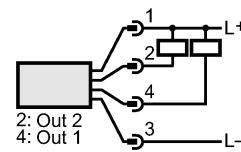
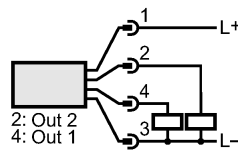
Fno = window function / normally open

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

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

Pack quantity [piece]	1
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