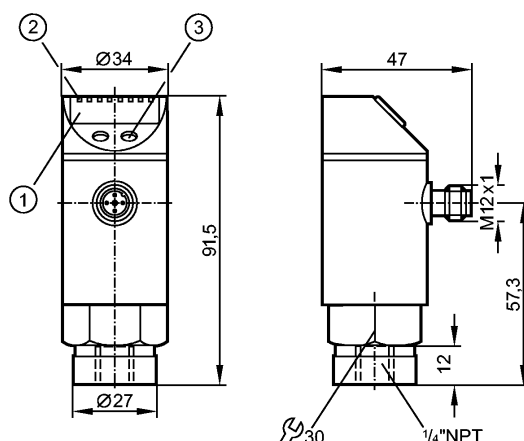


PN2224

PN-010-RBN14-MFRKG/US/ /V

Pressure sensors



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

CE  CRN  IO-Link

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

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
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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	-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 (BFS) / < ± 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


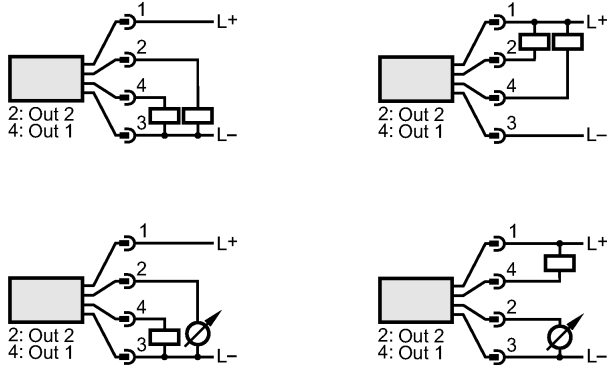
Software / programming	
Programming options	hysteresis / window function; N.O. / N.C.; output polarity; current / voltage outputs; damping; calibration of displayed values; display can be rotated / deactivated; display unit

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

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Pressure sensors

Protection	IP 65
Tests / approvals	
EC pressure equipment directive 97/23/EC	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	1/4" NPT
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