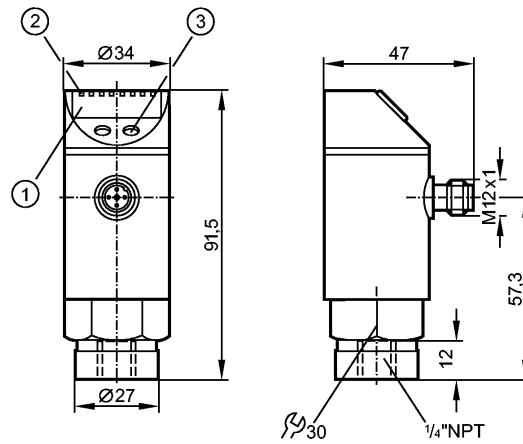


PN2223

PN-025-RBN14-MFRKG/US/ IV

Pressure sensors

New generation available: PN2293



- 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...362.5 psi / -1...25 bar / -0.1...2.5 MPa

Application

Application	Type of pressure: relative pressure Liquids and gases		
Pressure rating	1450 psi	100 bar	10 MPa
Bursting pressure min.	5075 psi	350 bar	35 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)

PN2223

PN-025-RBN14-MFRKG/US/ /V

Pressure sensors

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...362.5 psi	-1...25 bar	-0.1...2.5 MPa
Setting range			
Set point, SP	-11.5...362.5 psi	-0.80...25.00 bar	-0.08...2.50 MPa
Reset point, rP	-13.0...361.0 psi	-0.90...24.90 bar	-0.09...2.49 MPa
Analog start point, ASP	-14.5...272.0 psi	-1.00...18.75 bar	-0.10...1.88 MPa
Analog end point, AEP	76.0...362.5 psi	5.25...25.00 bar	0.53...2.50 MPa
in steps of	0.5 psi	0.05 bar	0.01 MPa
Factory setting	SP1 = 90.5 psi; rP1 = 83.5 psi SP2 = 272.0 psi; rP2 = 264.5 psi ASP = 0.0 psi; AEP = 362.5 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 0...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	
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PN2223

PN-025-RBN14-MFRKG/US/ /V

Pressure sensors

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)
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] 0.268

Displays / operating elements

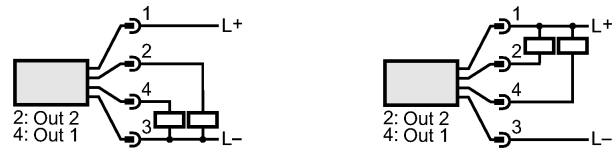
Display	Display unit 3 x LED green Switching status 2 x LED yellow Function display 4-digit alphanumeric display Measured values 4-digit alphanumeric display
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Electrical connection

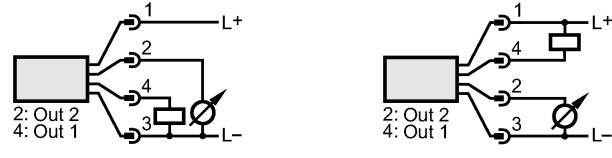
Connection	M12 connector; gold-plated contacts
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Wiring

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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