

New generation available: PN2094

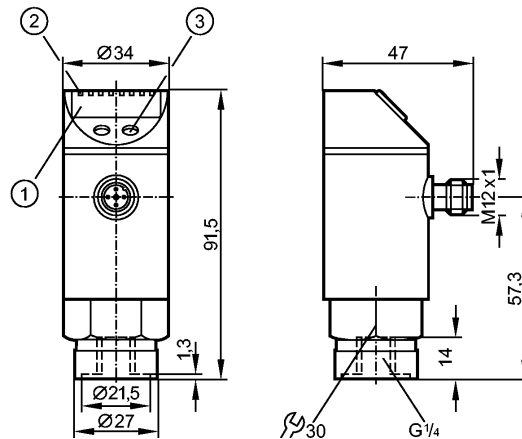
efectorsoo

PN2024



PN-010-RBR14-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: G 1/4 I

2 outputs

OUT1 = switching output

OUT2 = switching output or analog output

4-digit alphanumeric display

Measuring range: -1...10.00 bar / -0.100...1.000 MPa / -14.5...145.0 psi

Application

Application

Type of pressure: relative pressure

Liquids and gases

Pressure rating	75 bar	7.5 MPa	1088 psi
Bursting pressure min.	150 bar	15 MPa	2175 psi
Medium temperature [°C]	-25...80		
Electrical data	DC PNP/NPN		
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	2 outputs		
Output	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		

PN2024 - 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 _b - 10 V) x 50 / 0...10 V: min. 2000		
Measuring / setting range			
Measuring range	-1...10.00 bar	-0.100...1.000 MPa	-14.5...145.0 psi
Setting range			
Set point, SP	-0.88...10.00 bar	-0.088...1.000 MPa	-12.8...145.0 psi
Reset point, rP	-0.94...9.94 bar	-0.094...0.994 MPa	-13.6...144.2 psi
Analog start point, ASP	-1.00...7.26 bar	-0.100...0.726 MPa	-14.6...105.2 psi
Analog end point, AEP	1.76...10.00 bar	0.176...1.000 MPa	25.4...145.0 psi
in steps of	0.02 bar	0.002 MPa	0.29 psi
Factory setting	SP1 = 2.50 bar; rP1 = 2.30 bar SP2 = 7.50 bar; rP2 = 7.30 bar ASP = 0.00 bar; AEP = 10.00 bar		
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	< ± 0.1		
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		
IO-Link Device ID	60 d / 00 00 3C h		
Profiles	no profile		
SIO mode	yes		
Required master port class	A		
Process data analogue	1		
Process data binary	2		
Min. process cycle time [ms]	2.3		
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		

PN2024 - Combined pressure sensor - eclass: 27201302 / 27-20-13-02

Shock resistance	EN 61000-4-6 HF conducted: 10 V
Vibration resistance	DIN IEC 68-2-27: 50 g (11 ms)
MTTF [Years]	DIN IEC 68-2-6: 20 g (10...2000 Hz)
Mechanical data	162.52
Process connection	G ¼ I
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]	0.262
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:

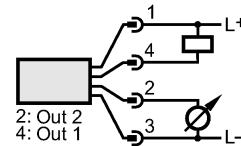
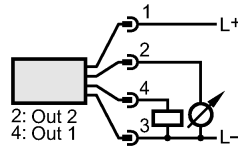
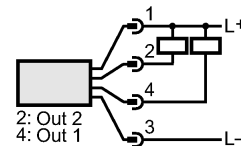
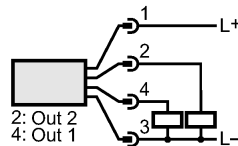
output 1: = Hno, output 2: = Hnc

(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]

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