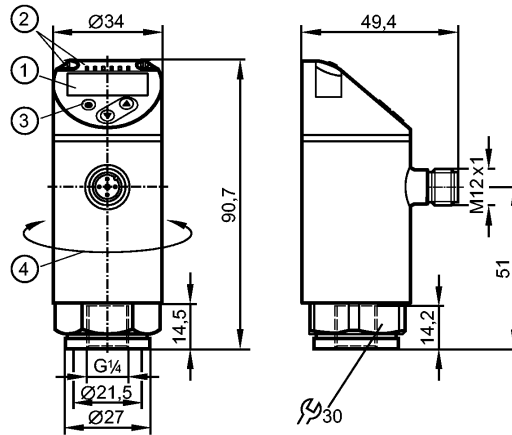




PN2071
PN-250-SER14-MFRKG/US/ IV

Pressure sensors



- 1: 4-digit alphanumeric display / alternating indication of red and green
- 2: LEDs (display unit / switching status)
- 3: Programming button
- 4: Upper part of the housing can be rotated by 345°



Product characteristics
Electronic pressure sensor

M12 connector

Function programmable

Measuring element: metal thin film cell

Process connection: G 1/4 I (according to DIN EN ISO 1179-2)

2 outputs

OUT1 = switching output

OUT2 = switching output or analogue output

4-digit alphanumeric display / alternating indication of red and green

Measuring range: 0...250 bar / 0...3625 psi / 0...25 MPa

Application

Application

Type of pressure: relative pressure
Group 2 fluids according to the Pressure Equipment Directive (PED),
group 1 fluids on request

Pressure rating

500 bar

7250 psi

50 MPa

Bursting pressure min.

1200 bar

17400 psi

120 MPa

Vacuum resistance [mbar]

-1000

Medium temperature [°C]

-25...80

Electrical data

Electrical design

DC PNP/NPN

Operating voltage [V]

18...30 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 analogue output

Output function

2 x normally open / closed programmable or 1 x normally open / closed programmable
+ 1 x analogue (4...20 mA / 0...10 V; scaleable 1:5)

Current rating [mA]

250

Voltage drop [V]

< 2


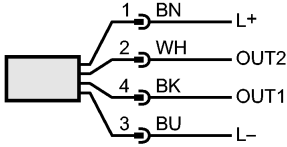
Short-circuit protection

pulsed

PN2071 - Electronic pressure sensor - eclass: 27201302 / 27-20-13-02

Overload protection	yes		
Switching frequency [Hz]	≤ 500		
Analogue output	4...20 mA; 0...10 V		
Max. load [Ω]	4...20 mA: max. 500		
Min. load resistance [Ω]	0...10 V: min. 2000		
Measuring / setting range			
Measuring range	0...250 bar	0...3625 psi	0...25 MPa
Setting range			
Set point, SP	1...250 bar	15...3625 psi	0.1...25 MPa
Reset point, rP	0.5...249.5 bar	10...3620 psi	0.05...24.95 MPa
Analogue start point, ASP	0...200 bar	0...2900 psi	0...20 MPa
Analogue end point, AEP	50...250 bar	725...3625 psi	5...25 MPa
in steps of	0.5 bar	5 psi	0.05 MPa
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 ***)	< ± 0.05		
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		
Delay time programmable dS, dr [s]	0...50		
Damping for the switching output (dAP) [s]	0...4		
Damping for the analogue output (dAA) [s]	0...4		
Response time analogue output [ms]	< 3		
Integrated watchdog	yes		
Software / programming			
Programming options	hysteresis / window function; NO / NC; on delay, off delay; damping; display unit; current/ voltage output		
Interfaces			
IO-Link device			
Transfer type	COM2		
IO-Link revision	1.1		
SDCI standard	IEC 61131-9		
IO-Link device ID	460 d / 00 01 cc h		
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis		
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 / IP 67		
Tests / approvals			
Pressure equipment directive	Sound engineering practice		
EMC	DIN EN 61000-6-2 DIN EN 61000-6-3		

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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]		129
UL approval number		J014
Mechanical data		
Process connection	G ¼ I (according to DIN EN ISO 1179-2)	
Materials (wetted parts)	1.4542 (17-4 PH / 630) ²	
Housing materials	1.4542 (17-4 PH / 630) ² ; stainless steel (316L / 1.4404); PBT+PC-GF 30; PBT-GF 20; PC	
Min. pressure cycles	100 million	
Tightening torque [Nm]	25...35 (recommended tightening torque ³)	
Weight [kg]	0.217	
Displays / operating elements		
Display	Display unit 3 x LED green (bar, psi, MPa) Switching status 2 x LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green	
Electrical connection		
Connection	M12 connector; Gold-plated contacts	
Wiring		
Core colours		
BK black		
BN brown		
BU blue		
WH white		
		
		OUT1: switching output or IO-Link OUT2: switching output or 4...20 mA / 0...10 V Colours to DIN EN 60947-5-2
Remarks		
Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in% of the span / 6 months 1) to EN50178, SELV, PELV 2) Characteristics similar to stainless steel (e.g. 304/1.4301) but higher strength. 3) Depends on lubrication, seal and pressure rating	
Pack quantity [piece]	1	