

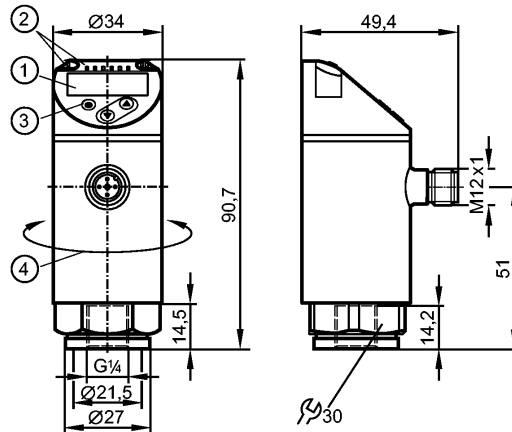


PN3093

PN-025-RER14-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: ceramic-capacitive pressure measuring cell

Process connection: G 1/4 I / M6 I

2 outputs

OUT1 = switching output

OUT2 = analogue output

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

Measuring range: 0...25 bar / 0...362 psi / 0...2.5 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	150 bar	2175 psi	15 MPa
Bursting pressure min.	350 bar	5075 psi	35 MPa
Vacuum resistance [mbar]	-1000		
Medium temperature [°C]	-25...80		

Electrical data

Electrical design

DC PNP

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 = analogue output

Output function

normally open / closed programmable; 4...20 mA or 0...10 V

Current rating [mA]

150; 200 (...60 °C); 250 (...40 °C)

Voltage drop [V]

< 2.5

Short-circuit protection

pulsed

Overload protection

yes

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Switching frequency [Hz]	≤ 170		
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...25 bar	0...362 psi	0...2.5 MPa
Setting range			
Set point, SP	0.2...25 bar	4...362 psi	0.02...2.5 MPa
Reset point, rP	0.1...24.9 bar	2...360 psi	0.01...2.49 MPa
in steps of	0.1 bar	2 psi	0.01 MPa
Accuracy / deviations			
Accuracy / deviations (in % of the span)			
Switch point accuracy	< ± 0.5		
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)		
Hysteresis	< ± 0.25		
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]	< 3		
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	430 d / 00 01 ae 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	1		
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		
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]	187		

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UL approval number	J004
Mechanical data	
Process connection	G ¼ I / M6 I
Materials (wetted parts)	stainless steel (316L / 1.4404); Al2O3 (ceramics); FKM
Housing materials	1.4404 (V4A / 316L); PBT+PC-GF 30; PBT-GF 20; PC
Min. pressure cycles	100 million
Tightening torque [Nm]	25...35 (recommended tightening torque ²)
Restrictor element integrated	no (can be retrofitted)
Weight [kg]	0.232
Displays / operating elements	
Display	Display unit 3 x LED green (bar, psi, MPa) Switching status 1 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: 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) Depends on lubrication, seal and pressure rating
Pack quantity [piece]	1