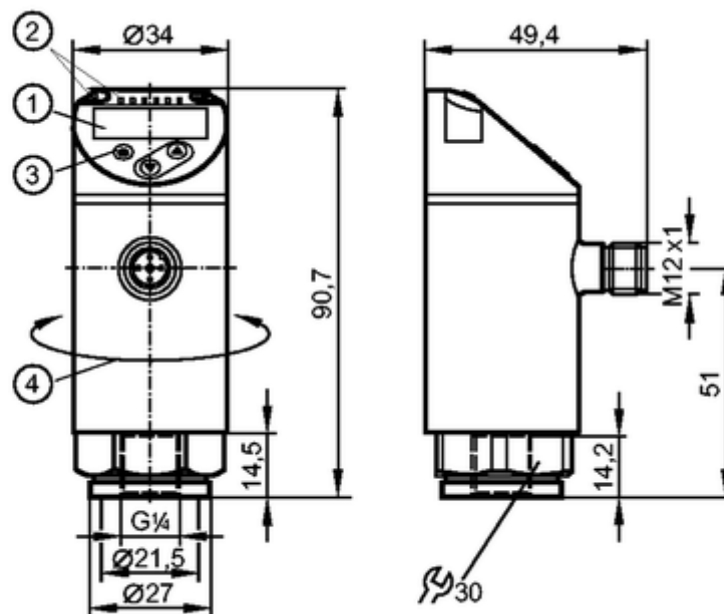


PN7094

PN-010-RER14-QFRKG/US/ /V

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 monitor

M12 connector

Function programmable

Measuring element: ceramic-capacitive pressure measuring cell

Process connection: G 1/4 I

2 outputs

OUT1 = switching output

OUT2 = switching output

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

Measuring range: -1...10 bar / -14.5...145 psi / -0.1...1.0 MPa

Application

Application

Type of pressure: relative pressure
 liquids and gases of the fluid group 2 according to Article 9 of the Pressure
 Equipment Directive (PED)
 For gas applications > 25 bar: select PN7x7x series

Pressure rating

75 bar

1087 psi

7.5 MPa

Bursting pressure min.

150 bar

2175 psi

15 MPa

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		
Output function	2 x normally open / closed programmable		
Current rating [mA]	150; 200 (...60 °C); 250 (...40 °C)		
Voltage drop [V]	< 2.5		
Short-circuit protection	pulsed		
Overload protection	yes		
Switching frequency [Hz]	≤ 170		
Measuring / setting range			
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1.0 MPa
Setting range			
Set point, SP	-0.90...10 bar	-13.5...145 psi	-0.09...1 MPa
Reset point, rP	-0.95...9.95 bar	-14...144.5 psi	-0.095...0.995 MPa
in steps of	0.05 bar	0.5 psi	0.005 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		
Integrated watchdog	yes		
Software / programming			
Programming options	hysteresis / window function; NO / NC; output polarity; on delay, off delay; damping; display unit		
Interfaces			
IO-Link device			
Transfer type	COM2 (38.4 kBaud)		
IO-Link revision	1.1		
SDCI standard	IEC 61131-9		
IO-Link device ID	403 d / 00 01 93 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	
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]	224.01	
UL approval number	J001	

Mechanical data

Process connection	G ¼ I	
Materials (wetted parts)	1.4404; ceramics; FKM	
Housing materials	1.4404; PBT+PC-GF 30; PBT-GF 20; PC	
Switching cycles min.	100 million	
Tightening torque [Nm]	25...35 (recommended tightening torque ²)	
Weight [kg]	0.232	

Displays / operating elements

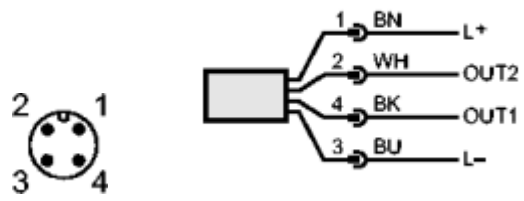
Display	Display unit	3 x LED green (bar, psi, MPa)
	Switching status	2 x LED yellow
	Measured values	4-digit alphanumeric display / alternating indication of red and green

Electrical connection

Connection	M12 connector; Gold-plated contacts
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Wiring

Core colours
 BK black
 BN brown
 BU blue
 WH white



OUT1: switching output or IO-Link
 OUT2: switching output
 Colours to DIN EN 60947-5-2

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 / 6 months 2) Depends on lubrication, seal and pressure rating
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Pack quantity [piece]	1
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