

**PN7093**

PN-025-RER14-QFRKG/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 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: 0...25 bar / 0...363 psi / 0...2.5 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	150 bar	2175 psi	15 MPa
Bursting pressure min.	350 bar	5075 psi	35 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		

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Current rating	[mA]	150; 200 (...60 °C); 250 (...40 °C)
Voltage drop	[V]	< 2.5
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 170

**Measuring / setting range**

Measuring range	0...25 bar	0...363 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
Integrated watchdog		yes

**Software / programming**

Programming options	hysteresis / window function; NO / NC; output polarity; on delay, off delay; damping; display unit
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**Interfaces**

IO-Link Device	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link Device ID	402 d / 00 01 92 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

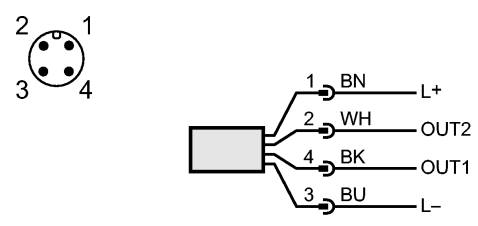
**Environment**

Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100

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Protection	IP 65 / IP 67	
<b>Tests / approvals</b>		
Pressure equipment directive	article 3, section 3 - 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	
<b>Mechanical data</b>		
Process connection	G ¼ I	
Materials (wetted parts)	316L stainless steel / 1.4404; ceramics; FKM	
Housing materials	316L stainless steel / 1.4404; PBT+PC-GF 30; PBT-GF 20; PC	
Switching cycles min.	100 million	
Tightening torque [Nm]	25...35 (recommended tightening torque <sup>2</sup> )	
Weight [kg]	0.234	
<b>Displays / operating elements</b>		
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	
<b>Electrical connection</b>		
Connection	M12 connector; gold-plated contacts	
<b>Wiring</b>		
Core colors	BK black BN brown BU blue WH white	
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	
Pack quantity [piece]	1	