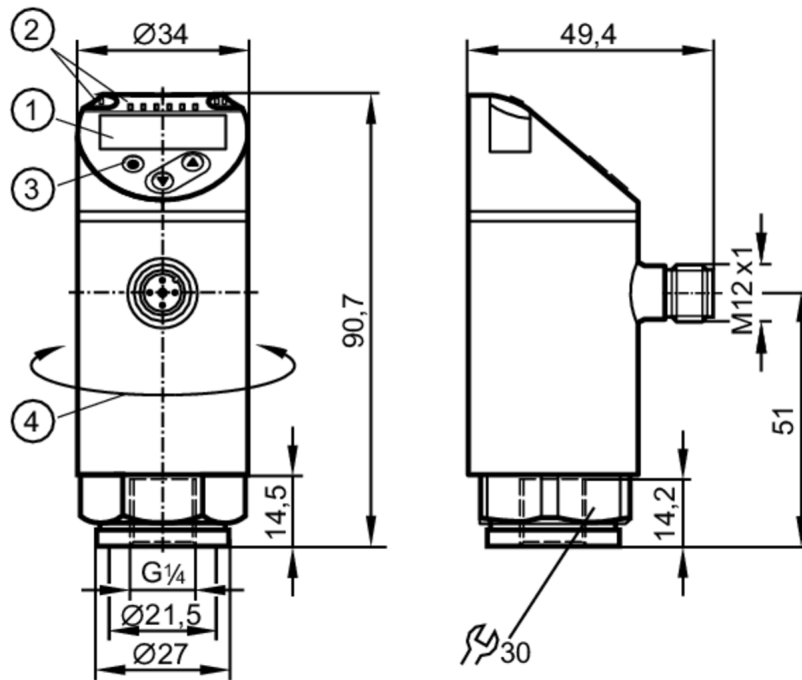


PN2093



Pressure sensor with display

PN-025-RER14-MFRKG/US/ IV



- 1 alphanumeric display 4-digit red/green
- 2 LEDs Display unit / switching status
- 3 programming button
- 4 upper part of the housing can be rotated 345°



Product characteristics

Output signal	switching signal; analogue signal; IO-Link; (configurable)		
Measuring range	-1...25 bar	-14.5...362.5 psi	-0.1...2.5 MPa
Process connection	threaded connection G 1/4 internal thread (DIN EN ISO 1179-2)		

Application

Special feature	Gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Pressure rating	150 bar	2175 psi	15 MPa
Min. bursting pressure	350 bar	5075 psi	35 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		



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Electrical data				
Operating voltage	[V]	18...30 DC; (according to EN 50178 SELV/PELV)		
Current consumption	[mA]	< 35		
Min. insulation resistance	[MΩ]	100; (500 V DC)		
Protection class		III		
Reverse polarity protection		yes		
Power-on delay time	[s]	0.3		
Integrated watchdog		yes		
Inputs / outputs				
Number of inputs and outputs		Number of digital outputs: 2; Number of analogue outputs: 1		
Outputs				
Total number of outputs		2		
Output signal		switching signal; analogue signal; IO-Link; (configurable)		
Electrical design		PNP/NPN		
Number of digital outputs		2		
Output function		normally open / normally closed; (parameterisable)		
Max. voltage drop switching output DC	[V]	2		
Permanent current rating of switching output DC	[mA]	250		
Switching frequency DC	[Hz]	< 500		
Number of analogue outputs		1		
Analogue current output	[mA]	4...20; (scalable 1:5)		
Max. load	[Ω]	500		
Analogue voltage output	[V]	0...10; (scalable 1:5)		
Min. load resistance	[Ω]	2000		
Short-circuit protection		yes		
Type of short-circuit protection		pulsed		
Overload protection		yes		
Measuring/setting range				
Measuring range		-1...25 bar	-14.5...362.5 psi	-0.1...2.5 MPa
Set point SP		-0.9...25 bar	-13...362.5 psi	-0.09...2.5 MPa
Reset point rP		-0.95...24.95 bar	-13.5...362 psi	-0.095...2.495 MPa
Analogue start point		-1...20 bar	-14.5...290 psi	-0.1...2 MPa
Analogue end point		4...25 bar	58...362.5 psi	0.4...2.5 MPa
In steps of		0.05 bar	0.5 psi	0.005 MPa
Accuracy / deviations				
Switch point accuracy	[% of the span]	< ± 0,4; (Turn down 1:1)		
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)		
Characteristics deviation	[% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)		
Hysteresis deviation	[% of the span]	< ± 0,1; (Turn down 1:1)		
Long-term stability		< ± 0,05; (Turn down 1:1; per 6 months)		

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	[% of the span]	
Temperature coefficient zero point	[% of the span / 10 K]	$< \pm 0,2; (-0...80 \text{ } ^\circ\text{C})$
Temperature coefficient span	[% of the span / 10 K]	$< \pm 0,2; (-0...80 \text{ } ^\circ\text{C})$

Response times		
Response time	[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
Max. response time analogue output	[ms]	3

Software / programming	
Parameter setting options	hysteresis / window; normally open / normally closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output

Interfaces	
Communication interface	IO-Link
Transmission type	COM2
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link device ID	462 d / 00 01 ce h
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis
SIO mode	yes
Required master port type	A
Process data analogue	1
Process data binary	2
Min. process cycle time	[ms] 2.3

Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 65; IP 67

Tests / approvals		
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]	138
UL approval	UL Approval no.	J012
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

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Mechanical data	
Weight [g]	238.5
Materials	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)	stainless steel (1.4404 / 316L); Al2O3 (ceramics); FKM
Min. pressure cycles	100 million
Tightening torque [Nm]	25...35; (recommended tightening torque; depends on lubrication, seal and pressure rating)
Process connection	threaded connection G 1/4 internal thread (DIN EN ISO 1179-2)
Restrictor element integrated	no (can be retrofitted)

Displays / operating elements		
Display	Display unit	3 x LED, green (bar, psi, MPa)
	switching status	2 x LED, yellow
	measured values	alphanumeric display, red/green 4-digit

Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



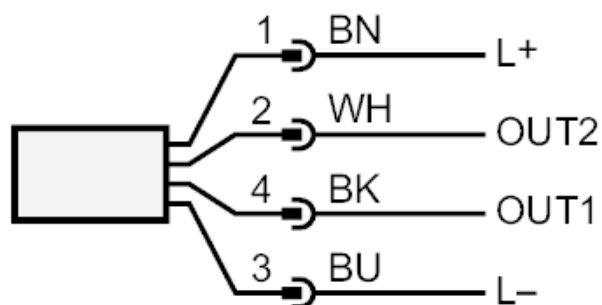
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Connection



OUT1 switching output

OUT2 switching output

analogue output

Core colours :

BK = black

BN = brown

BU = blue

WH = white