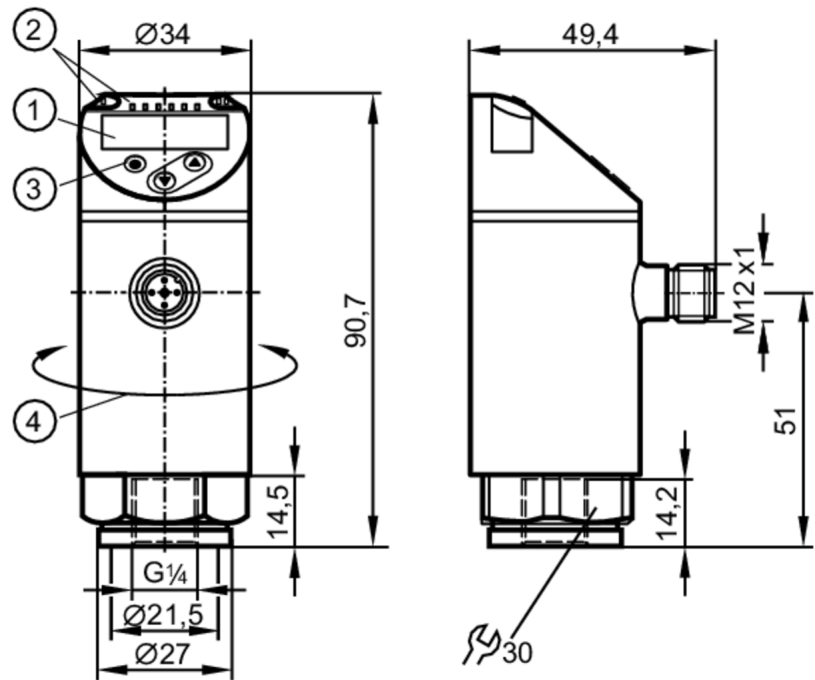




Pressure sensor with display

PN-010-RER14-MFRKG/US/ I/V



- 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

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	threaded connection G 1/4 internal thread M6 I		

Application

Special feature	Gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Min. bursting pressure	150 bar	2175 psi	15 MPa
Pressure rating	75 bar	1087 psi	7.5 MPa
Vacuum resistance [mbar]	-1000		
Vacuum resistance [MPa]	-0.1		
Type of pressure	relative pressure; vacuum		

Electrical data

Operating voltage [V]	18...30 DC; (to 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		



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Integrated watchdog	yes		
Inputs / outputs			
Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1		
Outputs			
Total number of outputs	2		
Output signal	switching signal; analogue signal; IO-Link; (configurable)		
Electrical design	PNP		
Number of digital outputs	1		
Output function	normally open / normally closed; (parameterisable)		
Max. voltage drop switching output DC [V]	2.5		
Permanent current rating of switching output DC [mA]	150; (200 (...60 °C) 250 (...40 °C))		
Switching frequency DC [Hz]	< 170		
Number of analogue outputs	1		
Analogue current output [mA]	4...20; (0 bar = 4 mA; 10 bar = 20 mA)		
Max. load [Ω]	500		
Analogue voltage output [V]	0...10; (0 bar = 0 V; 10 bar = 10 V)		
Min. load resistance [Ω]	2000		
Short-circuit protection	yes		
Type of short-circuit protection	pulsed		
Overload protection	yes		
Measuring/setting range			
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Factory setting / CMPT = 2			
Set point SP	-0.9...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
Min. difference between SP and rP	0.05 bar	1 psi	0.005 MPa
In steps of	0.05 bar	0.5 psi	0.005 MPa
Status_B High Resolution / CMPT = 3			
Set point SP	-0.92...10 bar	-13.3...145 psi	-0.092...1 MPa
Reset point rP	-0.97...9.95 bar	-14...144.3 psi	-0.097...0.995 MPa
Min. difference between SP and rP	0.05 bar	0.8 psi	0.005 MPa
In steps of	0.01 bar	0.1 psi	0.001 MPa
Accuracy / deviations			
Switch point accuracy [% of the span]	< ± 0,5		
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K)		
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)		
Hysteresis deviation [% of the span]	< ± 0,25		
Long-term stability	< ± 0,05; (per 6 months)		



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[% of the span]		
Temperature coefficient zero point		< ± 0,2; (-25...80 °C)
[% of the span / 10 K]		
Temperature coefficient span		< ± 0,2; (-25...80 °C)
[% of the span / 10 K]		
Response times		
Response time	[ms]	< 3
Delay time programmable dS, dr	[s]	0...50
Damping process value 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 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
SIO mode	yes	
Required master port type	A	
Process data analogue	1	
Process data binary	1	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	431
	Status_B High Resolution / CMPT = 3	615
Note	For further information please see the IODD PDF file under "Downloads"	
Factory setting / CMPT = 2		
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
Min. process cycle time	[ms]	2.3
IO-Link resolution pressure	[bar]	0.01
IO-Link resolution pressure	[MPa]	0.001
IO-Link process data (cyclical)	function	bit length
	pressure	14
	binary switching information	1
IO-Link functions (acyclical)	application specific tag	
Status_B High Resolution / CMPT = 3		
Profiles	Smart Sensor ED2: Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)	
Min. process cycle time	[ms]	3
IO-Link resolution pressure	[bar]	0.005
IO-Link resolution pressure	[MPa]	0.0005



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IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4
	binary switching information	1
IO-Link functions (acyclical)	application specific tag	

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]	226
UL approval	UL Approval no.	J004
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g]	235.5
Housing		cylindrical
Dimensions	[mm]	Ø 34 / L = 90.7
Materials		stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)		stainless steel (316L/1.4404); 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 M6 I
Restrictor element integrated		no (can be retrofitted)

Displays / operating elements

Display	Display unit	3 x LED, green (bar, psi, MPa)
	switching status	1 x LED, yellow
	measured values	alphanumeric display, red/green 4-digit

Remarks

Pack quantity	1 pcs.
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Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



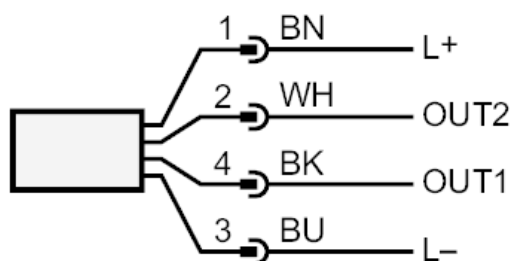
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Connection



OUT1 switching output

IO-Link

OUT2 analogue output

colours to DIN EN 60947-5-2

Core colours :

BK = black

BN = brown

BU = blue

WH = white