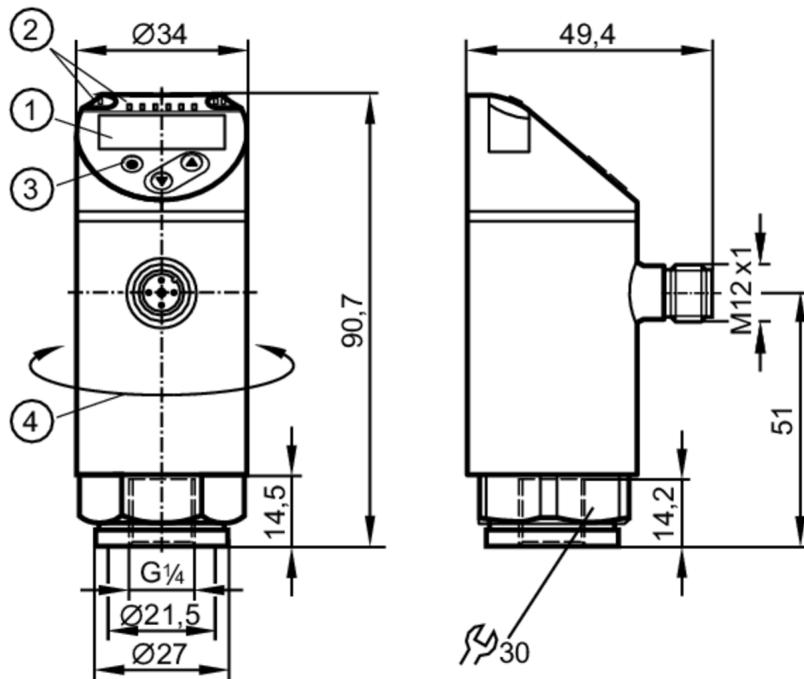


Pressure sensor with display

PN-010-RER14-MFRKG/US/ /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		
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		
Integrated watchdog	yes		

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Pressure sensor with display

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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	0.5 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	0.5 bar	0.8 psi	0.005 MPa
In steps of	0.01 bar	0.1 psi	0.001 MPa
Accuracy / deviations			
Switch point accuracy	< ± 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	[% of the span]	< ± 0,05; (per 6 months)	

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Pressure sensor with display

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Temperature coefficient zero point [% of the span / 10 K]	< ± 0,2; (-25...80 °C)						
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (-25...80 °C)						
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	<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>Factory setting / CMPT = 2</td> <td>431</td> </tr> <tr> <td>Status_B High Resolution / CMPT = 3</td> <td>615</td> </tr> </tbody> </table>	Type of operation	DeviceID	Factory setting / CMPT = 2	431	Status_B High Resolution / CMPT = 3	615
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)	<table border="1"> <thead> <tr> <th>function</th> <th>bit length</th> </tr> </thead> <tbody> <tr> <td>pressure</td> <td>14</td> </tr> <tr> <td>binary switching information</td> <td>1</td> </tr> </tbody> </table>	function	bit length	pressure	14	binary switching information	1
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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Pressure sensor with display

PN-010-RER14-MFRKG/US / V

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		
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.			
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