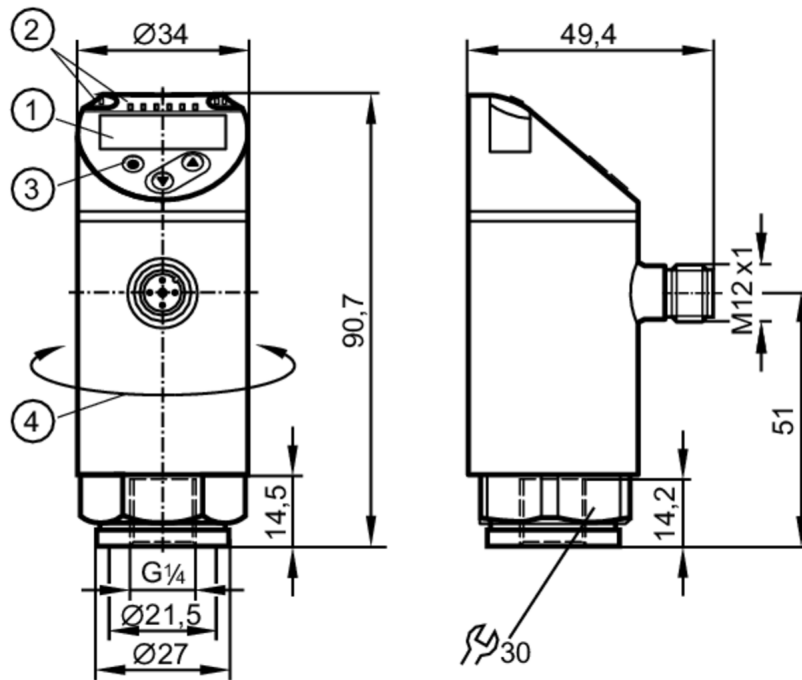


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Pressure sensor with display

PN-010-RER14-QFRKG/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

Number of inputs and outputs	Number of digital outputs: 2		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	threaded connection G 1/4 internal thread		

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		
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		

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Integrated watchdog	yes
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Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2
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Outputs

Total number of outputs	2
Output signal	switching 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]	2.5
Permanent current rating of switching output DC [mA]	150; (200 (...60 °C) 250 (...40 °C))
Switching frequency DC [Hz]	< 170
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 [% of the span]	< ± 0,05; (per 6 months)
Temperature coefficient zero point [% of the span / 10 K]	< ± 0,2; (0...80 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (0...80 °C)



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Response times		
Response time [ms]	< 3	
Delay time programmable dS, dr [s]	0...50	
Software / programming		
Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; switch-on/switch-off delay; Damping; Display unit	
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; (when pin 2 not connected: B)	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	403
	Status_B High Resolution / CMPT = 3	601
	PN7004	311
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	2
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	
IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4
	binary switching information	2
IO-Link functions (acyclical)	application specific tag	
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 65; IP 67	

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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]	260	
UL approval	UL Approval no.	J001
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data		
Weight [g]	241.7	
Materials	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)	stainless steel (1.4404 / 316L); 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	

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; coding: A; Contacts: gold-plated



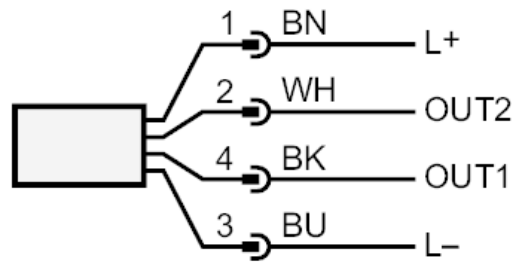
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Connection



OUT1 switching output

IO-Link

OUT2 switching output

colours to DIN EN 60947-5-2

Core colours :

BK = black

BN = brown

BU = blue

WH = white