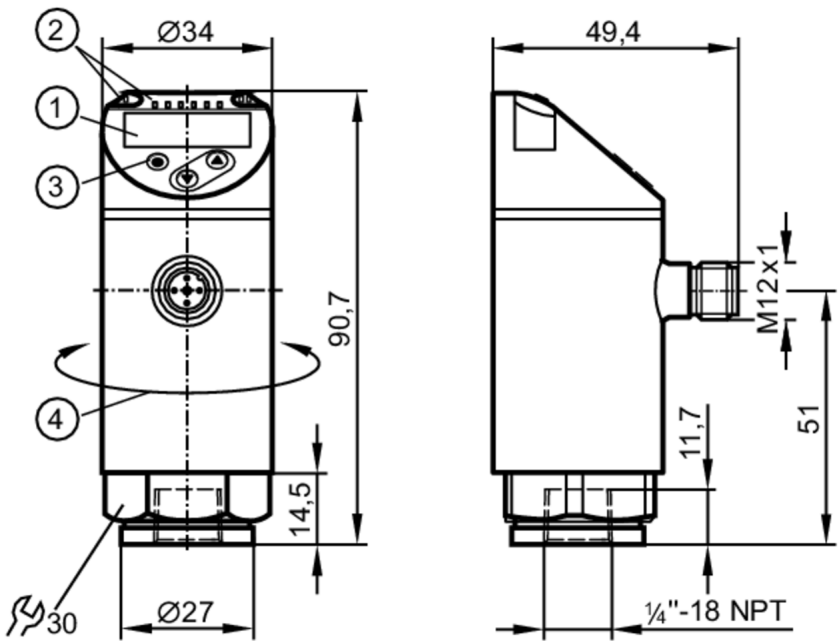


PN2294



Pressure sensor with display

PN-010-REN14-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				
Output signal	switching signal; analog signal; IO-Link; (configurable)			
Measuring range	-1...10 bar	-14.6...145 psi	-100...1000 kPa	-0.1...1 MPa
Process connection	threaded connection 1/4 NPT Internal thread			
Application				
System	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	75 bar	1087 psi	7.5 MPa	
Min. bursting pressure	150 bar	2175 psi	15 MPa	
Vacuum resistance [mbar]	-1000			
Type of pressure	relative pressure; vacuum			
MAWP (for applications according to CRN)	50 bar	725 psi	5 MPa	



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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 analog outputs: 1		
Outputs				
Total number of outputs		2		
Output signal		switching signal; analog signal; IO-Link; (configurable)		
Electrical design		PNP/NPN		
Number of digital outputs		2		
Output function		normally open / closed; (configurable)		
Max. voltage drop switching output DC	[V]	2		
Permanent current rating of switching output DC	[mA]	250		
Switching frequency DC	[Hz]	< 500		
Number of analog outputs		1		
Analog current output	[mA]	4...20; (scalable 1:5)		
Max. load	[Ω]	500		
Analog voltage output	[V]	0...10; (scalable 1:5)		
Min. load resistance	[Ω]	2000		
Short-circuit protection		yes		
Type of short-circuit protection		yes (non-latching)		
Overload protection		yes		
Measuring/setting range				
Measuring range		-1...10 bar	-14.6...145 psi	-100...1000 kPa -0.1...1 MPa
Set point SP		-0.94...10 bar	-13.6...145 psi	-0.094...1 MPa
Reset point rP		-0.98...9.96 bar	-14.2...144.4 psi	-0.098...0.996 MPa
Analog start point		-1...8 bar	-14.6...116 psi	-0.1...0.8 MPa
Analog end point		1...10 bar	14.6...145 psi	0.1...1 MPa
In steps of		0.02 bar	0.2 psi	0.002 MPa
Accuracy / deviations				
Switch point accuracy		< ± 0,4; (Turn down 1:1)		
	[% of the span]			
Repeatability		< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)		
	[% of the span]			
Characteristics deviation		< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)		
	[% of the span]			
Hysteresis deviation		< ± 0,1; (Turn down 1:1)		
	[% of the span]			
Long-term stability		< ± 0,05; (Turn down 1:1; per 6 months)		

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[% of the span]		
Temperature coefficient zero point		< ± 0,2; (-0...80 °C)
[% of the span / 10 K]		
Temperature coefficient span		< ± 0,2; (-0...80 °C)
[% of the span / 10 K]		
Reaction 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 analog output dAA	[s]	0...4
Max. response time analog output	[ms]	3
Software / programming		
Parameter setting options	hysteresis / window; normally open / 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	473 d / 00 01 d9 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
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 number	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]	221.5
Material	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]	> 50; (Depends on lubrication, seal and pressure rating)
Process connection	threaded connection 1/4 NPT Internal thread	
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		
		

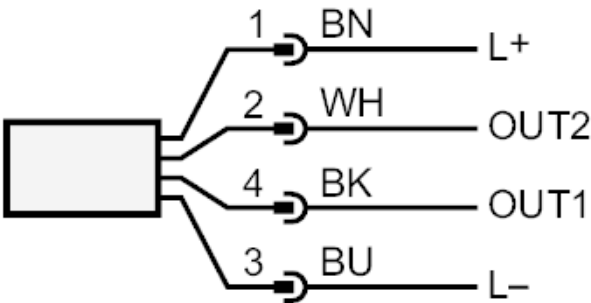
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Connection



OUT1 Switching output

OUT2 Switching output

analog output

Core colors :

- BK = black
- BN = brown
- BU = blue
- WH = white