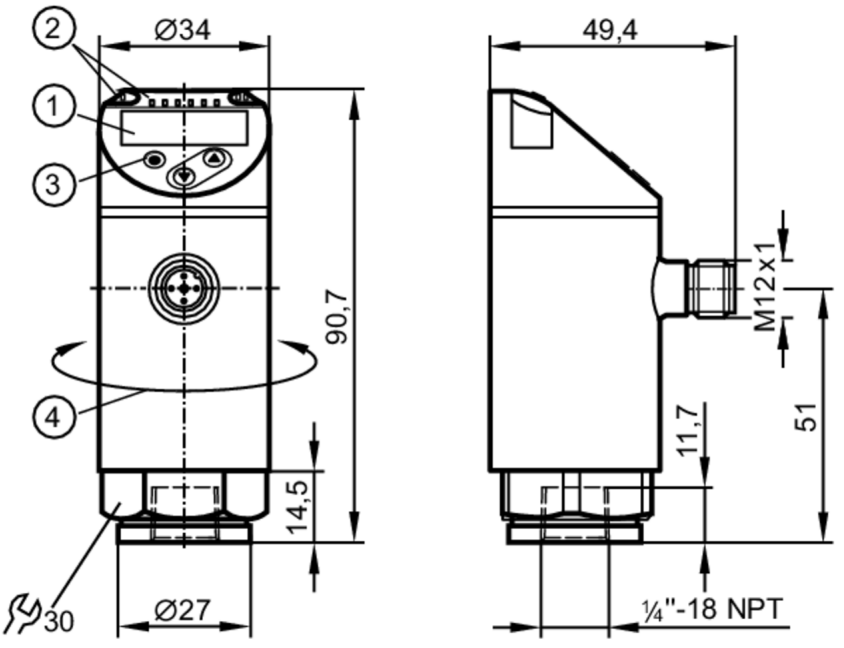
PN7294

Pressure sensor with display

PN-010-REN14-QFRKG/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: 2			
Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Process connection	threaded connection 1/4" NPT 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	
Type of pressure	relative pressure; vacuum			
MAWP (for applications according to CRN) [bar]	50			
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			

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Power-on delay time [s]	< 0.3			
Integrated watchdog	yes			
Inputs / outputs				
Number of inputs and outputs	Number of digital outputs: 2			
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	-100...1000 kPa	-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...9.995 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	< ± 0,2; (-0...80 °C)			

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[% of the span / 10 K]		
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 / 454 Status_B High Resolution / CMPT = 3 / 632
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]	222
Materials		stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)		stainless steel (316L/1.4404); ceramics; FKM
Min. pressure cycles		100 million
Tightening torque	[Nm]	2...3 turns after hand-fastening; recommended tightening torque; 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; coding: A; Contacts: gold-plated

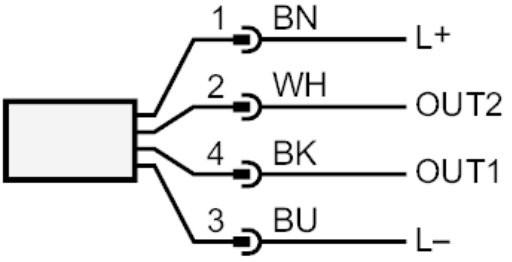


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Connection



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