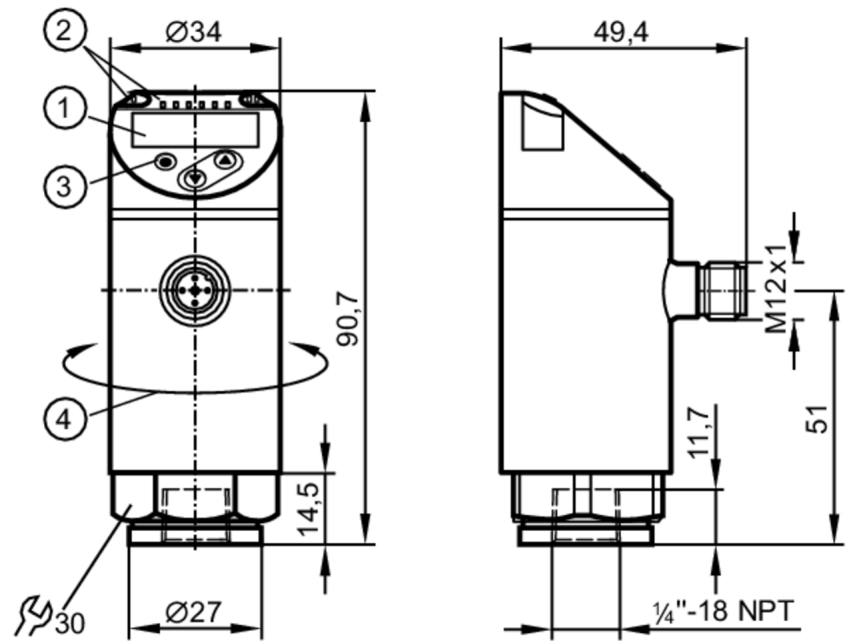




Pressure sensor with display

PN-2,5-REN14-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	0...2.5 bar	0...2500 mbar	0...36.2 psi	0...250 kPa
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	50 bar	725 psi	5000 kPa	
Pressure rating	20 bar	290 psi	2000 kPa	
Type of pressure	relative pressure			
MAWP (for applications according to CRN)	20 bar	290 psi	2000 kPa	
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		0...2.5 bar	0...2500 mbar	0...36.2 psi	0...250 kPa
Factory setting / CMPT = 2					
Set point SP		0.02...2.5 bar	0.4...36.2 psi	2...250 kPa	
Reset point rP		0.01...2.49 bar	0.2...36 psi	1...249 kPa	
Min. difference between SP and rP		0.02 bar	0.2 psi	2 kPa	
In steps of		0.01 bar	0.2 psi	1 kPa	
Status_B High Resolution / CMPT = 3					
Set point SP		0.02...2.5 bar	0.3...36.3 psi	2...250 kPa	
Reset point rP		0.01...2.49 bar	0.1...36.1 psi	1...249 kPa	
Min. difference between SP and rP		0.02 bar	0.2 psi	2 kPa	
In steps of		0.01 bar	0.1 psi	1 kPa	
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	455
	Status_B High Resolution / CMPT = 3	634
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	0.01 bar	0.001 MPa
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	0.001 bar	0.0001 MPa
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	
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)

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Pressure sensor with display

PN-2,5-REN14-QFRKG/US/ IV

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]	221
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); 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, kPa)
	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



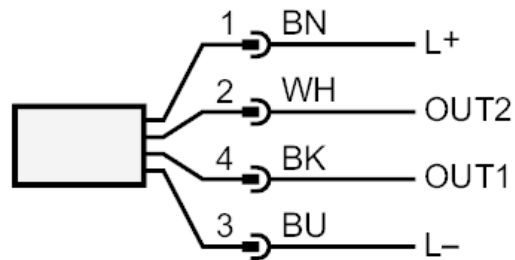
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Pressure sensor with display

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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