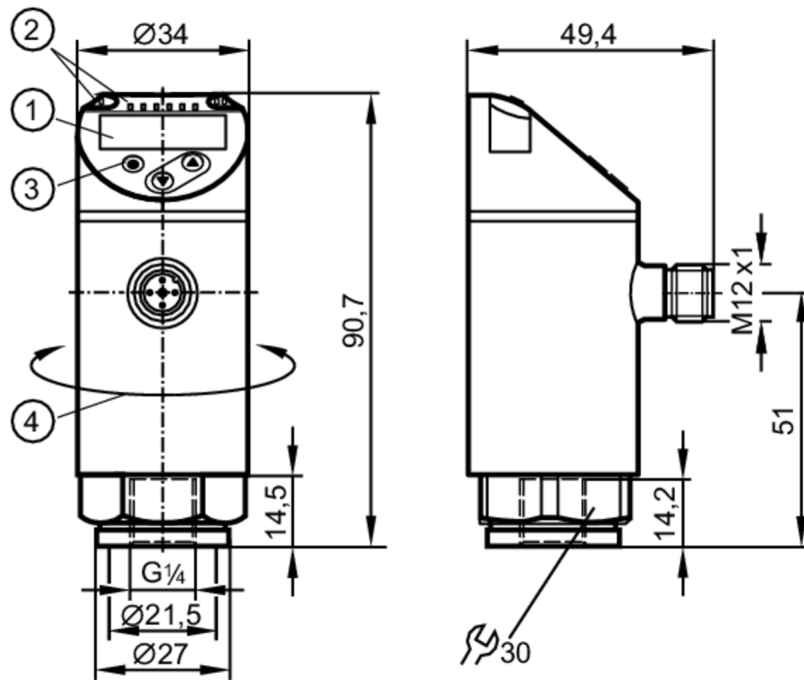


PN3094



Pressure sensor with display

PN-010-RER14-MFRKG/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°



Application

Measuring element	ceramic-capacitive pressure measuring cell		
Media	group 2 fluids according to the Pressure Equipment Directive (PED)		
Conditionally suitable for	group 1 fluids on request		
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		

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		

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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
Set point SP		-0.9...10 bar	-13.5...145 psi
Reset point rP		0.95...9.95 bar	-14...144.5 psi
In steps of		0.05 bar	0.5 psi
			> 0.095 MPa
			0.005 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; (-25...80 °C)	
Temperature coefficient span	[% of the span / 10 K]	0,2; (-25...80 °C)	



Pressure sensor with display

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Response times	
Response time [ms]	< 3
Delay time programmable dS, dr [s]	0...50
Damping for the switching output 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
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link device ID	431 d / 00 01 af h
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis
SIO mode	yes
Required master port type	A
Process data analogue	1
Process data binary	1
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]	181
UL approval	UL Approval no. J004
Pressure Equipment Directive	Sound Engineering Practice
Mechanical data	
Weight [g]	231.6
Materials	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]	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)

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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

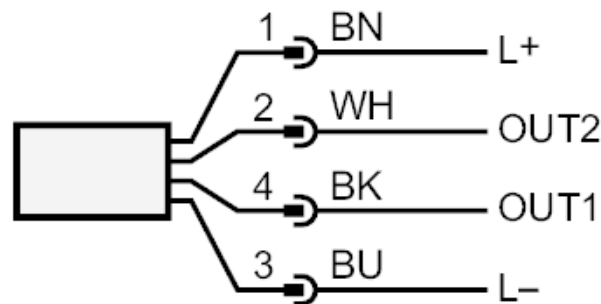
Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



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