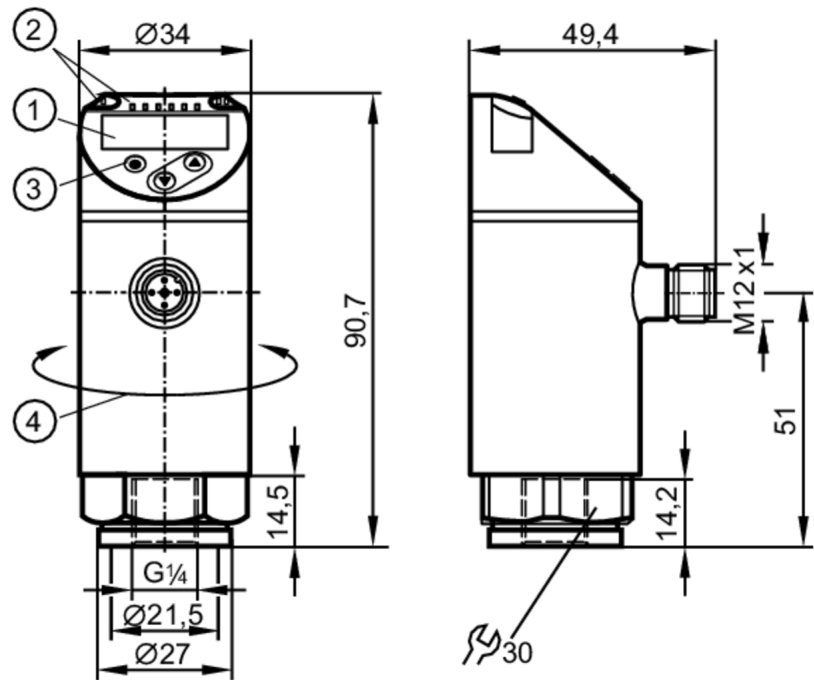


PN3096



Pressure sensor with display

PN-2,5-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°



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1			
Measuring range	0...2.5 bar	0...2500 mbar	0...36.2 psi	0...250 kPa
Process connection	threaded connection G 1/4 Internal thread M6 I			

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		
Min. bursting pressure	50 bar	725 psi	5000 kPa
Pressure rating	20 bar	290 psi	2000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		

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			
Inputs / outputs				
Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1			
Outputs				
Total number of outputs	2			
Output signal	switching signal; analog signal; IO-Link; (configurable)			
Electrical design	PNP			
Number of digital outputs	1			
Output function	normally open / closed; (configurable)			
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 analog outputs	1			
Analog current output [mA]	4...20			
Max. load [Ω]	500			
Analog voltage output [V]	0...10			
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	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	< ± 0,05; (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]	< 3
Delay time programmable dS, dr	[s]	0...50
Damping process value 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 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	1	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	432
	Status_B High Resolution / CMPT = 3	616
Note	For further information please see the IODD PDF file at "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	1
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]	0.001
IO-Link resolution pressure	[MPa]	0.0001

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IO-Link process data (cyclical)	Function	bit length
	pressure	16
	device status	4
	binary switching information	1
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)
MTTF	[years]	226
UL approval	UL approval number	J004
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data		
Weight	[g]	235
Material	stainless steel (1.4404 / 316L) 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)	

Displays / operating elements		
Display	Display unit	3 x LED, green (bar, psi, kPa)
	Switching status	1 x LED, yellow
	Measured values	alphanumeric display, red/green 4-digit

Remarks	
Pack quantity	1 pcs.

Electrical connection	
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Connector: 1 x M12; coding: A; Contacts: gold-plated



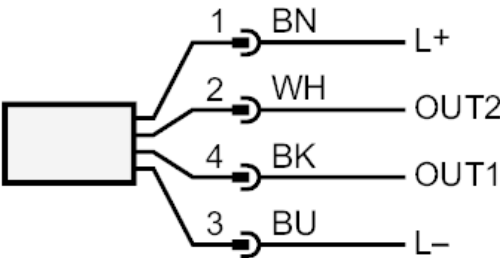
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Connection



OUT1	Switching output
	IO-Link
OUT2	analog output
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white