

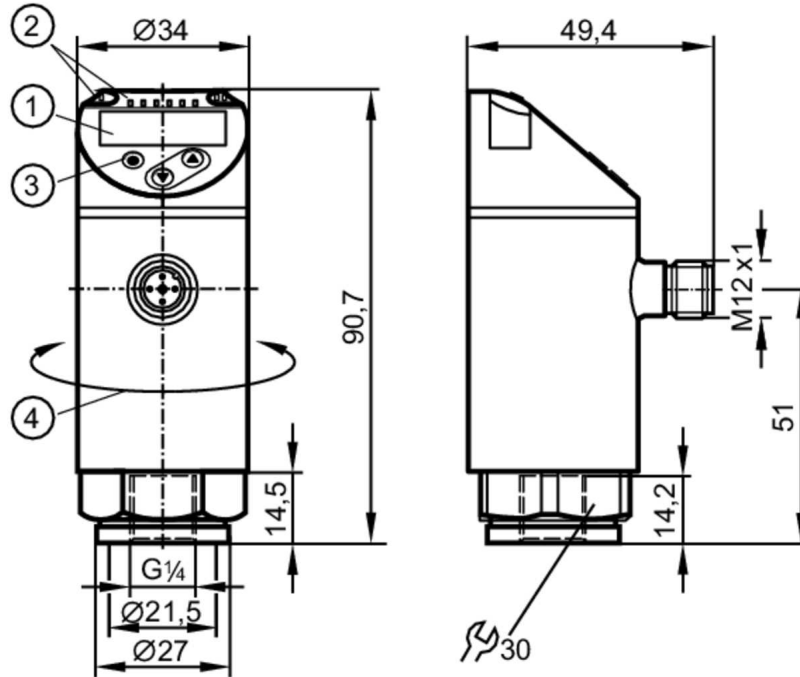
# PN2096



## Pressure sensor with display

PN-2,5-RER14-MFRKG/US/IV

When selecting an alternative article and accessories please note that technical data may differ!



- 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; Number of analog outputs: 1			
Measuring range	-0.125...2.5 bar	-125...2500 mbar	-1.8...36.25 psi	-12.5...250 kPa
Process connection	threaded connection G 1/4 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		
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		

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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
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### 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	-0.125...2.5 bar	-125...2500 mbar	-1.8...36.25 psi	-12.5...250 kPa
Set point SP	-0.11...2.5 bar		-1.6...36.25 psi	-11...250 kPa
Reset point rP	-0.12...2.49 bar		-1.75...36.1 psi	-12...249 kPa
Analog start point	-0.125...2 bar		-1.8...29 psi	-12.5...200 kPa
Analog end point	0.375...2.5 bar		5.45...36.25 psi	37.5...250 kPa
In steps of	0.005 bar		0.05 psi	0.5 kPa

### Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,4; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation [% of the span]	< ± 0,1; (Turn down 1:1)
Long-term stability [% of the span]	< ± 0,05; (Turn down 1:1; 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]					
Notes on the accuracy / deviation		switch point accuracy, linearity error under DNV GL: <math>\lt; \pm 1\%</math>: <math>\lt; \pm 1\%</math>				
<b>Reaction times</b>						
Response time	[ms]	<math>\lt; 1.5</math>				
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				
<b>Software / programming</b>						
Parameter setting options		hysteresis / window; normally open / closed; switch-on/switch-off delay; Damping; Display unit; current/voltage output				
<b>Interfaces</b>						
Communication interface		IO-Link				
Transmission type		COM2 (38,4 kBaud)				
IO-Link revision		1.1				
SDCI standard		IEC 61131-9				
Profiles		Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis				
SIO mode		yes				
Required master port class		A				
Process data analog		1				
Process data binary		2				
Min. process cycle time	[ms]	2.3				
Supported DeviceIDs		<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>464</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	464
Type of operation	DeviceID					
default	464					
<b>Operating conditions</b>						
Ambient temperature	[°C]	-25...80				
Storage temperature	[°C]	-40...100				
Protection		IP 65; IP 67				
<b>Tests / approvals</b>						
EMC		DIN EN 61000-6-2				
		DIN EN 61000-6-3				
Shock resistance		DIN EN 60068-2-27				
Vibration resistance		DIN EN 60068-2-6				
MTTF	[years]	138				
UL approval		UL approval number				
Pressure equipment directive		J012				
		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request				
<b>Mechanical data</b>						
Weight	[g]	273.5				
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				

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Tightening torque [Nm]	25...35; (recommended tightening torque; Depends on lubrication, seal and pressure rating)
Process connection	threaded connection G 1/4 Internal thread
Restrictor element integrated	no (can be retrofitted)

### Displays / operating elements

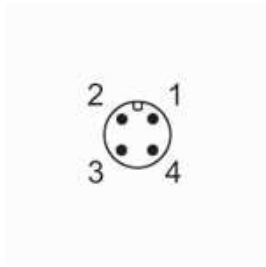
Display	Display unit	3 x LED, green (bar, psi, kPa)
	Switching status	2 x LED, yellow
	Measured values	alphanumeric display, red/green 4-digit

### Remarks

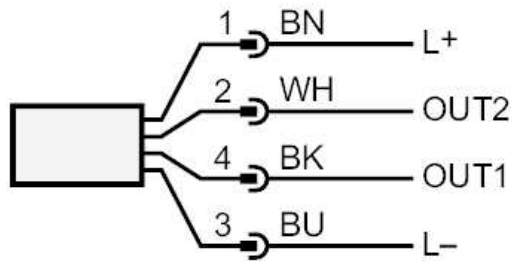
Pack quantity	1 pcs.
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### Electrical connection

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



### Connection



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