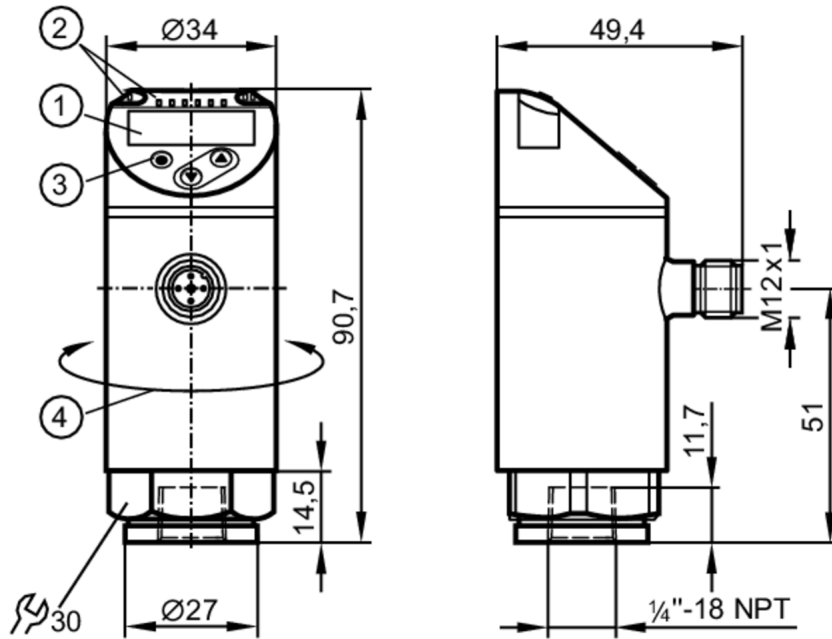


PN7296



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. burst 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
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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
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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	<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>Factory setting / CMPT = 2</td> <td>455</td> </tr> <tr> <td>Status_B High Resolution / CMPT = 3</td> <td>634</td> </tr> </tbody> </table>	Type of operation	DeviceID	Factory setting / CMPT = 2	455	Status_B High Resolution / CMPT = 3	634		
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	<table border="1"> <thead> <tr> <th>Smart Sensor - SSP 0</th> <th>Generic Profiled Sensor</th> </tr> </thead> <tbody> <tr> <td>Function</td> <td>Device identification</td> </tr> <tr> <td>Function</td> <td>Process data variable</td> </tr> <tr> <td>Function</td> <td>Device diagnosis</td> </tr> </tbody> </table>	Smart Sensor - SSP 0	Generic Profiled Sensor	Function	Device identification	Function	Process data variable	Function	Device diagnosis
Smart Sensor - SSP 0	Generic Profiled Sensor								
Function	Device identification								
Function	Process data variable								
Function	Device diagnosis								
Min. process cycle time [ms]	2.3								
IO-Link resolution pressure	0.01 bar / 0.001 MPa								
IO-Link process data (cyclical)	<table border="1"> <thead> <tr> <th>function</th> <th>bit length</th> </tr> </thead> <tbody> <tr> <td>pressure</td> <td>14</td> </tr> <tr> <td>binary switching information</td> <td>2</td> </tr> </tbody> </table>	function	bit length	pressure	14	binary switching information	2		
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pressure	14								
binary switching information	2								
IO-Link functions (acyclical)	application specific tag								
Status_B High Resolution / CMPT = 3									
Profiles	<table border="1"> <thead> <tr> <th>Smart Sensor - SSP 3.1</th> <th>Measuring Sensor</th> </tr> </thead> <tbody> <tr> <td>Common - I&D</td> <td>Identification and Diagnosis</td> </tr> </tbody> </table>	Smart Sensor - SSP 3.1	Measuring Sensor	Common - I&D	Identification and Diagnosis				
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Common - I&D	Identification and Diagnosis								
Min. process cycle time [ms]	3								
IO-Link resolution pressure	0.001 bar / 0.0001 MPa								
IO-Link process data (cyclical)	<table border="1"> <thead> <tr> <th>function</th> <th>bit length</th> </tr> </thead> <tbody> <tr> <td>pressure</td> <td>16</td> </tr> <tr> <td>device status</td> <td>4</td> </tr> <tr> <td>binary switching information</td> <td>2</td> </tr> </tbody> </table>	function	bit length	pressure	16	device status	4	binary switching information	2
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]		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 the lubrication, the seal and the pressure load	
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: 4, gold-plated		
		

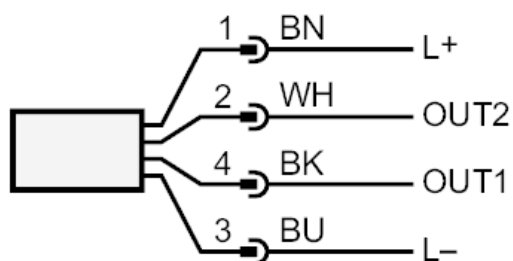
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Connection



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