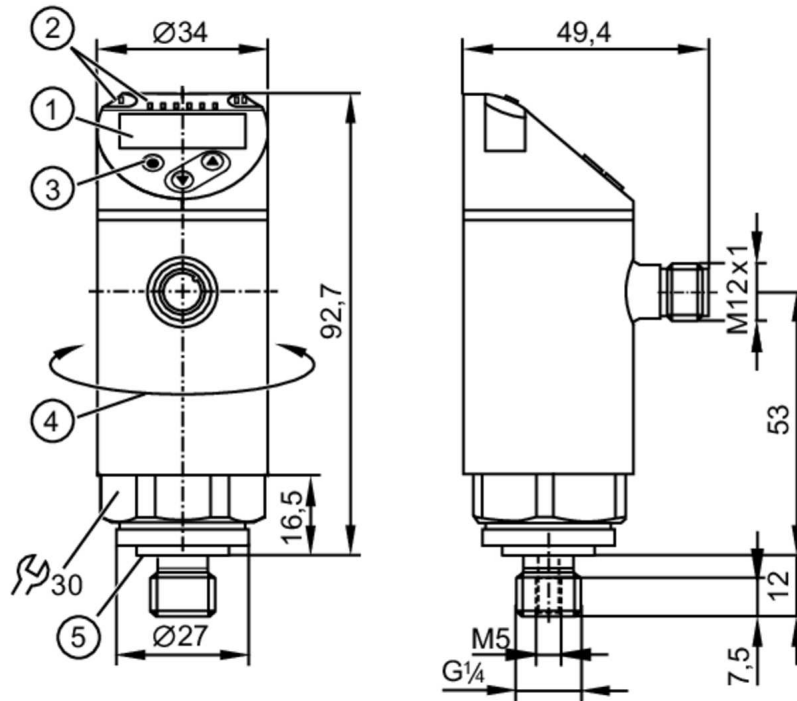


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Pressure sensor with display

PN-006-REG14-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°
- 5 sealing



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...6 bar	-14.5...87 psi	-100...600 kPa
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); Internal thread:M5		

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	100 bar	1500 psi	10000 kPa
Pressure rating	40 bar	600 psi	4000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		

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; 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	-1...6 bar	-14.5...87 psi	-100...600 kPa
Set point SP	-0.95...6 bar	-13.8...87 psi	-95...600 kPa
Reset point rP	-0.98...5.97 bar	-14.2...86.6 psi	-98...597 kPa
Analog start point	-1...4.8 bar	-14.5...69.6 psi	-100...480 kPa
Analog end point	0.2...6 bar	2.9...87 psi	20...600 kPa
Min. difference between SP and rP	0.03 bar	0.5 psi	3 kPa
In steps of	0.001 bar	0.1 psi	1 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: $\lt; \pm 1\%$: $\lt; \pm 1\%$								
Reaction times										
Response time	[ms]	$\lt; 1.5$								
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								
Profiles		Smart Sensor ED2: Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)								
SIO mode		yes								
Required master port class		A; (when pin 2 not connected: B)								
Min. process cycle time	[ms]	3								
IO-Link resolution pressure	[bar]	0.005								
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								
Supported DeviceIDs		<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>1203</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	1203				
Type of operation	DeviceID									
default	1203									
Note		For further information please see the IODD PDF file at "Downloads"								
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]	167								
UL approval		UL approval number: J012 File number UL: E174189								
Pressure equipment directive		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request								

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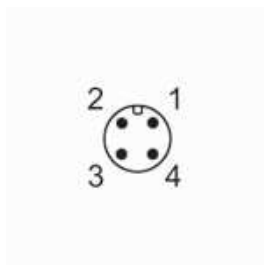
Mechanical data	
Weight [g]	272.5
Material	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)	stainless steel (1.4404 / 316L); Al2O3 (ceramics); FKM
Min. pressure cycles	100 million
Tightening torque [Nm]	25...35; (recommended tightening torque; Depends on lubrication, seal and pressure rating)
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); Internal thread:M5
Process connection sealing	FKM (DIN EN ISO 1179-2)
Restrictor element integrated	no (can be retrofitted)

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

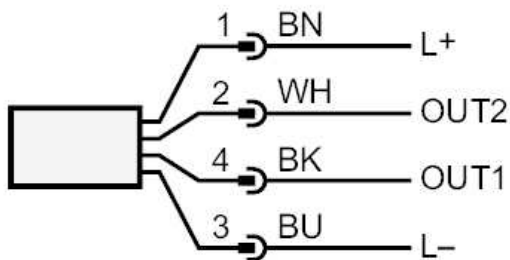
Remarks	
Pack quantity	1 pcs.

Electrical connection

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



Connection



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