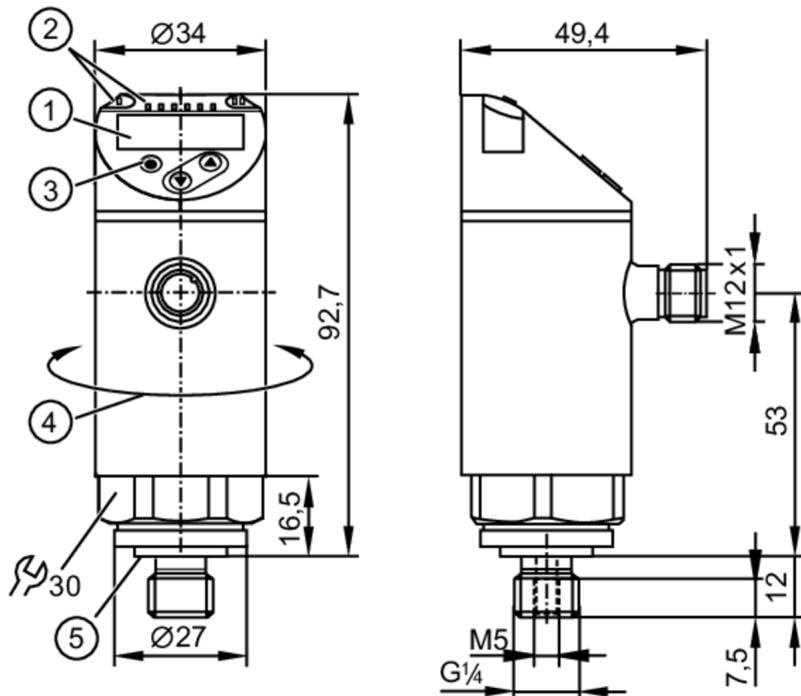


Pressure sensor with display

PN-025-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: 1; Number of analogue outputs: 1		
Measuring range	0...25 bar	0...362 psi	0...2.5 MPa
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); internal thread:M5		

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. bursting pressure	350 bar	5075 psi	35 MPa
Pressure rating	150 bar	2175 psi	15 MPa
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		

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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: 1; Number of analogue outputs: 1			
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	
Max. load	[Ω]	500	
Analogue voltage output	[V]	0...10	
Min. load resistance	[Ω]	2000	
Short-circuit protection		yes	
Type of short-circuit protection		pulsed	
Overload protection		yes	
Measuring/setting range			
Measuring range	0...25 bar	0...362 psi	0...2.5 MPa
Factory setting / CMPT = 2			
Set point SP	0.2...25 bar	4...362 psi	0.02...2.5 MPa
Reset point rP	0.1...24.9 bar	2...360 psi	0.01...2.49 MPa
Min. difference between SP and rP	0.2 bar	2 psi	0.02 MPa
In steps of	0.1 bar	2 psi	0.01 MPa
Status_B High Resolution / CMPT = 3			
Set point SP	0.2...25 bar	3...363 psi	0.02...2.5 MPa
Reset point rP	0.1...24.9 bar	1...361 psi	0.01...2.49 MPa
Min. difference between SP and rP	0.2 bar	2 psi	0.02 MPa
In steps of	0.1 bar	1 psi	0.01 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	

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Long-term stability	< ± 0,05; (per 6 months)						
Temperature coefficient zero point	< ± 0,2; (-0...80 °C)						
Temperature coefficient span	< ± 0,2; (-0...80 °C)						
Response times							
Response time [ms]	< 3						
Delay time programmable dS, dr [s]	0...50						
Damping process value 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 (38,4 kBaud)						
IO-Link revision	1.1						
SDCI standard	IEC 61131-9						
SIO mode	yes						
Required master port type	A						
Process data analogue	1						
Process data binary	1						
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>430</td> </tr> <tr> <td>Status_B High Resolution / CMPT = 3</td> <td>609</td> </tr> </tbody> </table>	Type of operation	DeviceID	Factory setting / CMPT = 2	430	Status_B High Resolution / CMPT = 3	609
Type of operation	DeviceID						
Factory setting / CMPT = 2	430						
Status_B High Resolution / CMPT = 3	609						
Note	For further information please see the IODD PDF file under "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]	0.1						
IO-Link resolution pressure [MPa]	0.01						
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>1</td> </tr> </tbody> </table>	function	bit length	pressure	14	binary switching information	1
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]	0.01						

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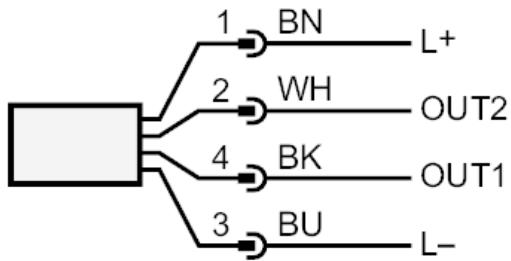
IO-Link resolution pressure [MPa]	0.001	
IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4
	binary switching information	1
IO-Link functions (acyclical)	application specific tag	
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
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 no.	J004
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	261	
Materials	stainless steel (316L/1.4404) stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)	stainless steel (316L/1.4404); 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	1 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		



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Connection



OUT1 switching output
IO-Link

OUT2 analogue output
Core colours :

BK = black

BN = brown

BU = blue

WH = white