



Pressure sensor with display

PE-025-REG14-MFRKG/US/ /E



- 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...25 bar	-14.5...362.5 psi	-0.1...2.5 MPa
Process connection	threaded connection G 1/4 external thread Internal thread:M5; DIN EN ISO 1179-2		

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	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: 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...25 bar	-14.5...362.5 psi	-0.1...2.5 MPa
Set point SP	-0.85...25 bar	-12...362.5 psi	-0.085...2.5 MPa
Reset point rP	-0.95...24.9 bar	-13.5...361 psi	-0.095...2.49 MPa
Analog start point	-1...20 bar	-14.5...290 psi	-0.1...2 MPa
Analog end point	4...25 bar	58...362.5 psi	0.4...2.5 MPa
In steps of	0.05 bar	0.5 psi	0.005 MPa

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; (-25...80 °C)
Temperature coefficient span	[% of the span / 10 K] 0,2; (-25...80 °C)



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Notes on the accuracy / deviation	switch point accuracy, linearity error under DNV GL: $< \pm 1\%$; $< \pm 1\%$
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Reaction times

Response time	[ms]	< 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
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Interfaces

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> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>default</td><td>462</td></tr> </table>	Type of operation	DeviceID	default	462
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default	462				

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] 161	
UL approval	UL approval number	J012
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g] 261
Material	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC; EPDM
Materials (wetted parts)	stainless steel (1.4404 / 316L); Al2O3 (99.9 %; ceramics); EPDM
Min. pressure cycles	100 million
Tightening torque	[Nm] 25...35; (recommended tightening torque; Depends on lubrication, seal and pressure rating)

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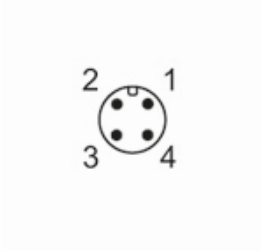
Process connection	threaded connection G 1/4 external thread Internal thread:M5; DIN EN ISO 1179-2
Process connection sealing	EPDM
Restrictor element integrated	no (can be retrofitted)

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

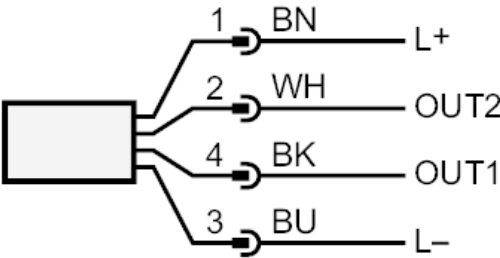
Remarks	
Pack quantity	1 pcs.

Electrical connection

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



Connection



OUT1	switching output or IO-Link
OUT2	switching output or analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white