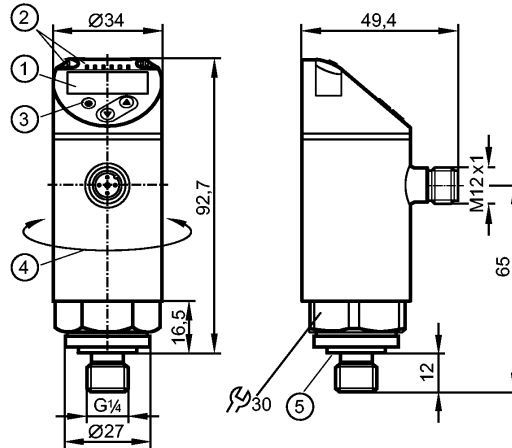


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PN-025-REG14-MFRKG/US/ IV

Pressure sensors



- 1: 4-digit alphanumeric display / alternating indication of red and green
- 2: LEDs (display unit / switching status)
- 3: Programming button
- 4: Upper part of the housing can be rotated by 345°
- 5: Process connection sealing FKM / DIN 3869



Product characteristics

Electronic pressure sensor
M12 connector
Function programmable
Measuring element: ceramic-capacitive pressure measuring cell
Process connection: G 1/4 A / M5 I (according to DIN EN ISO 1179-2)
2 Output OUT1 = Switching output OUT2 = Analog output
4-digit alphanumeric display / alternating indication of red and green
Measuring range: 0...25 bar / 0...362 psi / 0...2.5 MPa

Application

Application	Type of pressure: relative pressure Group 2 fluids according to the Pressure Equipment Directive (PED), group 1 fluids on request		
Pressure rating	150 bar	2175 psi	15 MPa
Bursting pressure min.	350 bar	5075 psi	35 MPa
Vacuum resistance [mbar]	-1000		
Medium temperature [°C]	-25...80		

Electrical data

Electrical design	DC PNP
Operating voltage [V]	18...30 DC ¹⁾
Current consumption [mA]	< 35
Insulation resistance [MΩ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes

Outputs

Output	2 Output OUT1 = Switching output OUT2 = Analog output
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Pressure sensors

Output function		normally open / closed programmable; 4...20 mA or 0...10 V
Current rating	[mA]	150; 200 (...60 °C); 250 (...40 °C)
Voltage drop	[V]	< 2.5
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 170
Analog output		4...20 mA; 0...10 V
Max. load	[Ω]	4...20 mA: max. 500
Min. load resistance	[Ω]	0...10 V: min. 2000

Measuring / setting range			
Measuring range	0...25 bar	0...362 psi	0...2.5 MPa
Setting range			
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
in steps of	0.1 bar	2 psi	0.01 MPa

Accuracy / deviations	
Accuracy / deviations (in % of the span)	
Switch point accuracy	< ± 0.5
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Hysteresis	< ± 0.25
Repeatability **)	< ± 0.1
Long-term stability ***)	< ± 0.05
Temperature coefficients (TEMPCO) in the temperature range -25...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.2
Greatest TEMPCO of the span	0.2

Reaction times	
Power-on delay time	[s] 0.3
Min. response time switching output	[ms] < 3
Delay time programmable dS, dr	[s] 0...50
Damping for the switching output (dAP)	[s] 0...4
Damping for the analog output (dAA)	[s] 0...4
Response time analog output	[ms] < 3
Integrated watchdog	yes

Software / programming	
Programming options	hysteresis / window function; NO / NC; on delay, off delay; damping; display unit; current/ voltage output

Interfaces	
IO-Link Device	
Transfer type	COM2
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link Device ID	430 d / 00 01 ae h
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis

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Pressure sensors

SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	1
Min. process cycle time [ms]	2.3

Environment	
Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100
Protection	IP 65 / IP 67

Tests / approvals	
Pressure equipment directive	sound engineering practice
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]	181
UL approval number	J004

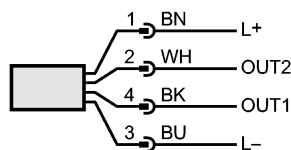
Mechanical data	
Process connection	G ¼ A / M5 I (according to DIN EN ISO 1179-2)
Process connection sealing	FKM (to DIN 3869)
Materials (wetted parts)	stainless steel (316L / 1.4404); Al2O3 (ceramics); FKM
Housing materials	316L stainless steel / 1.4404 (V4A / 316L); PBT+PC-GF 30; PBT-GF 20; PC
Switching cycles min.	100 million
Tightening torque [Nm]	25...35 (recommended tightening torque ²)
Restrictor element integrated	no (can be retrofitted)
Weight [kg]	0.257

Displays / operating elements	
Display	Display unit 3 x LED green (bar, psi, MPa) Switching status 1 x LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green

Electrical connection	
Connection	M12 connector; gold-plated contacts

Wiring

- Core colors
- BK black
 - BN brown
 - BU blue
 - WH white



OUT1: switching output or IO-Link
 OUT2: 4...20 mA / 0...10 V
 Colours to DIN EN 60947-5-2

Remarks	
Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K



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Pressure sensors

***) in% of the span / 6 months
1) to EN50178, SELV, PELV
2) Depends on lubrication, seal and pressure rating

Pack quantity	[piece]	1
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