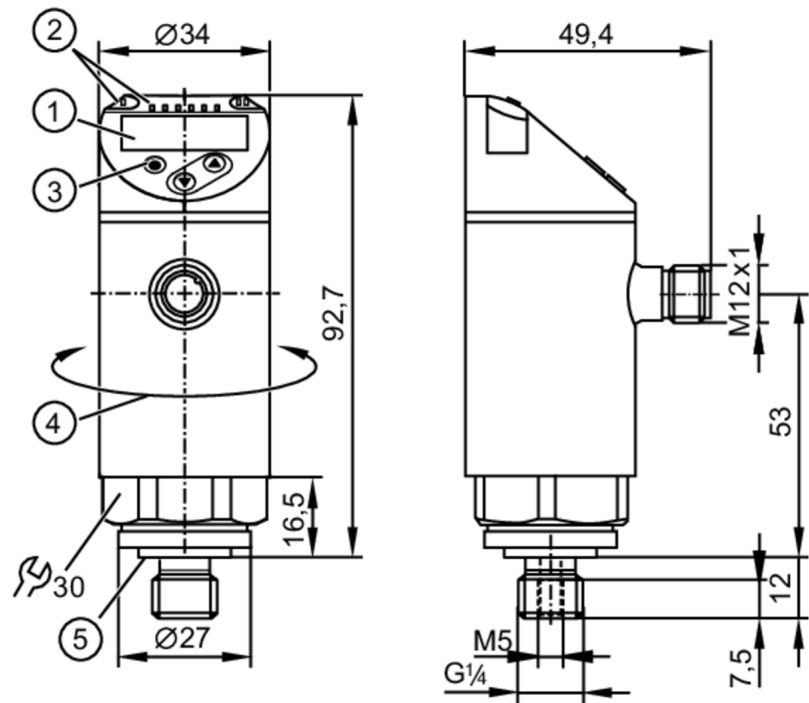


PN2543



Pressure sensor with display

PN-040-SEG14-MFRKG/US/ /V



- 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	0...40 bar	0...580 psi	0...4 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		
Conditionally suitable for	use in gases at pressures > 25 bar only on request		
Medium temperature	-25...80		
Min. burst pressure	500 bar	7200 psi	50 MPa
Pressure rating	200 bar	3000 psi	20 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
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	



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Reverse polarity protection	yes
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	0...40 bar	0...580 psi	0...4 MPa
Set point SP	0.3...40 bar	5...580 psi	0.032...4 MPa
Reset point rP	0.1...39.8 bar	2...577 psi	0.012...3.98 MPa
Analog start point	0...32 bar	0...464 psi	0...3.2 MPa
Analog end point	8...40 bar	116...580 psi	0.8...4 MPa
Min. difference between SP and rP	0.2 bar	3 psi	0.02 MPa
In steps of	0.1 bar	1 psi	0.001 MPa

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,8; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,4 (BFSL) / < ± 0,8 (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)



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Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (-0...80 °C)	
Notes on the accuracy / deviation	switch point accuracy, linearity error under DNV GL: < ± 1%: < ± 1%	
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	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor - SSP 3.1	Measuring Sensor
	Common - I&D	Identification and Diagnosis
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]	0.02	
IO-Link process data (cyclical)	Function	bit length
	pressure	16
	device status	4
	binary switching information	2
IO-Link functions (acyclical)	application specific tag	
Supported DeviceIDs	Type of operation	DeviceID
	default	1201
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]	166	
UL approval	UL approval number	J013
	File number UL	E174189

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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]	280.15
Housing		tubular
Dimensions	[mm]	Ø 34 / L = 92.7
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: 4, gold-plated	

Connection	
OUT1	Switching output IO-Link
OUT2	Switching output analog output