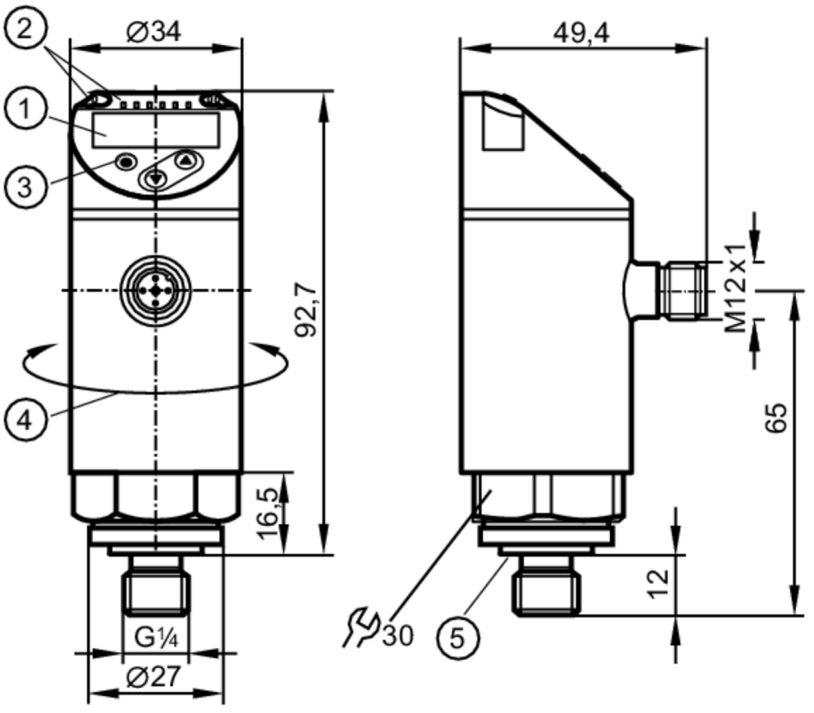
PN3571

Pressure sensor with display

PN-250-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				
Output signal		switching signal; analogue signal; IO-Link; (configurable)		
Measuring range		0...250 bar	0...3620 psi	0...25 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		metallic thin film cell		
Application		for industrial applications		
Media		liquids and gases		
Medium temperature	[°C]	-25...80		
Min. bursting pressure		1200 bar	17400 psi	120 MPa
Pressure rating		500 bar	7250 psi	50 Mpa
Vacuum resistance	[mbar]	-1000		
Type of pressure		relative pressure		

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Electrical data				
Operating voltage	[V]	18...30 DC; (according to EN 50178 SELV/PELV)		
Current consumption	[mA]	< 35		
Min. insulation resistance	[MΩ]	100; (500 V DC)		
Protection class		III		
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: 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...250 bar	0...3620 psi	0...25 MPa
Factory setting / CMPT = 2				
Set point SP		2...250 bar	40...3620 psi	0.2...25 MPa
Reset point rP		1...249 bar	20...3600 psi	0.1...24.9 MPa
Min. difference between SP and rP		2 bar	20 psi	0.2 MPa
In steps of		1 bar	20 psi	0.1 MPa
Status_B High Resolution / CMPT = 3				
Set point SP		2...250 bar	30...3626 psi	0.2...25 MPa
Reset point rP		1...249 bar	12...3608 psi	0.1...24.9 MPa
Min. difference between SP and rP		2 bar	19 psi	0.2 MPa
In steps of		1 bar	1 psi	0.1 MPa
Accuracy / deviations				
Switch point accuracy		< ± 0,5		

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[% of the span]		
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	
Long-term stability [% of the span]	< ± 0,05; (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)	
Response times		
Response time [ms]	< 3	
Delay time programmable dS, dr [s]	0...50	
Damping for the switching output 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	Type of operation	DeviceID
	Factory setting / CMPT = 2	428
	Status_B High Resolution / CMPT = 3	607
Note	For further information please see the IODD PDF file under "Downloads"	

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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]	1	
IO-Link resolution pressure	[MPa]	0.1	
IO-Link process data (cyclical)		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]	0.1	
IO-Link resolution pressure	[MPa]	0.01	
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]	190	
UL approval		UL Approval no.	J006
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	259	
Materials		1.4542 (17-4 PH / 630); stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)		1.4542 (17-4 PH / 630)	
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 (to DIN 3869)	
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

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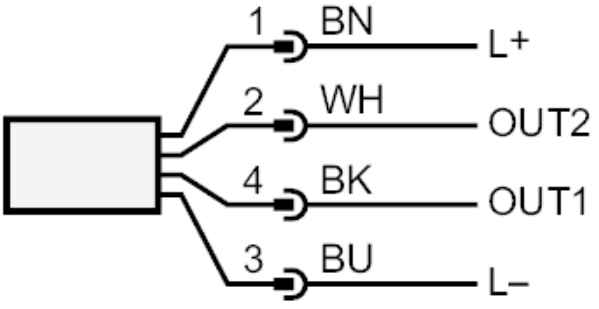
Remarks

Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated

Connection



OUT1	switching output
	IO-Link
OUT2	analogue output
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white