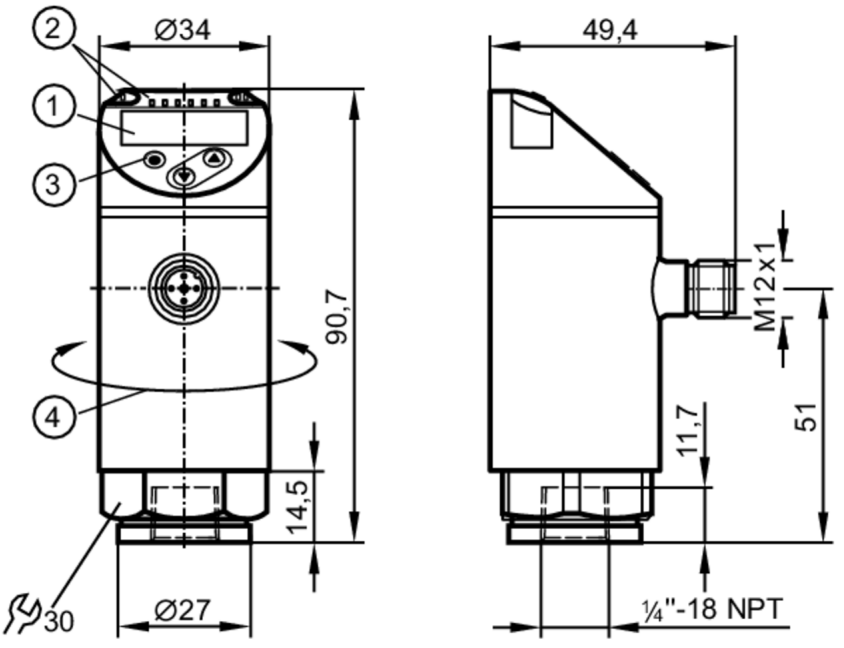
PN2271

Pressure sensor with display

PN-250-SEN14-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°

Application				
Measuring element		metallic thin film cell		
Application		for industrial applications		
Media		liquids and gases		
Medium temperature	[°C]	-25...80		
Pressure rating		7250 psi	500 bar	50 MPa
Min. bursting pressure		17400 psi	1200 bar	120 MPa
Vacuum resistance	[mbar]	-1000		
Type of pressure		relative pressure		
MAWP (for applications according to CRN)		7250 psi	500 bar	50 MPa
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: 2; Number of analogue outputs: 1		

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Outputs				
Total number of outputs		2		
Output signal		switching signal; analogue signal; IO-Link; (configurable)		
Electrical design		PNP/NPN		
Number of digital outputs		2		
Output function		normally open / normally closed; (parameterisable)		
Max. voltage drop switching output DC	[V]	2		
Permanent current rating of switching output DC	[mA]	250		
Switching frequency DC	[Hz]	< 500		
Number of analogue outputs		1		
Analogue current output	[mA]	4...20; (scalable 1:5)		
Max. load	[Ω]	500		
Analogue voltage output	[V]	0...10; (scalable 1:5)		
Min. load resistance	[Ω]	2000		
Short-circuit protection		yes		
Type of short-circuit protection		pulsed		
Overload protection		yes		
Measuring/setting range				
Measuring range		0...3625 psi	0...250 bar	0...25 MPa
Set point SP		25...3625 psi	1.5...250 bar	0.15...25 MPa
Reset point rP		10...3610 psi	0.5...249 bar	0.05...24.9 MPa
Analogue start point		0...2900 psi	0...200 bar	0...20 MPa
Analogue end point		725...3625 psi	50...250 bar	5...25 MPa
In steps of		5 psi	0.5 bar	0.05 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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Response times			
Response time	[ms]	< 1.5	
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	
IO-Link revision		1.1	
SDCI standard		IEC 61131-9	
IO-Link device ID		470 d / 00 01 d6 h	
Profiles		Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode		yes	
Required master port type		A	
Process data analogue		1	
Process data binary		2	
Min. process cycle time	[ms]	2.3	
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]	124	
UL approval		UL Approval no.	J014
Pressure Equipment Directive		Sound Engineering Practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	220.4	
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]	> 50; (depends on lubrication, seal and pressure rating)	
Process connection		threaded connection 1/4 NPT internal thread	
Restrictor element integrated		no (can be retrofitted)	

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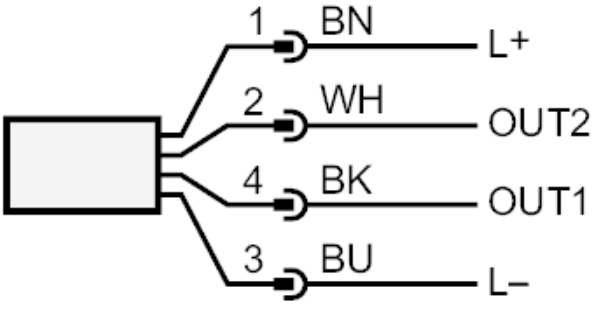
Displays / operating elements		
Display	Display unit	3 x LED, green (bar, psi, MPa)
	switching status	2 x LED, yellow
	measured values	alphanumeric display, red/green 4-digit

Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated

Connection



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