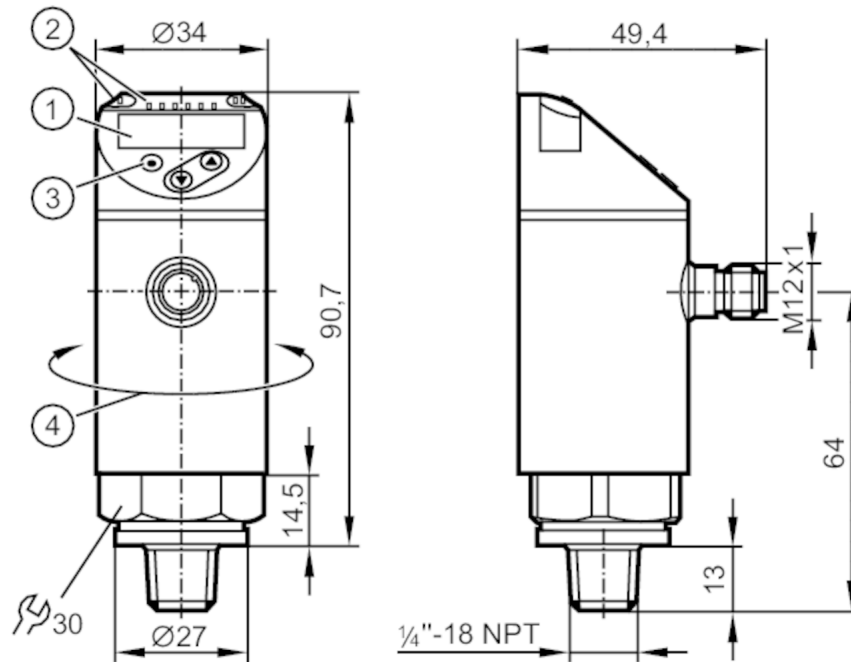


PN2670



Pressure sensor with display

PN-400-SEN14-MFRKG/US/ IV



- 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°



Product characteristics

Output signal	switching signal; analogue signal; IO-Link; (configurable)		
Measuring range	0...400 bar	0...5800 psi	0...40 MPa
Process connection	threaded connection 1/4 NPT external thread		

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		
Pressure rating	800 bar	11580 psi	80 MPa
Min. bursting pressure	1700 bar	24650 psi	170 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		
MAWP (for applications according to CRN)	800 bar	11580 psi	80 MPa



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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: 2; Number of analogue outputs: 1		
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...400 bar	0...5800 psi	0...40 MPa
Set point SP		2.5...400 bar	40...5800 psi	0.25...40 MPa
Reset point rP		1...398.5 bar	10...5780 psi	0.1...39.85 MPa
Analogue start point		0...320 bar	0...4640 psi	0...32 MPa
Analogue end point		80...400 bar	1160...5800 psi	8...40 MPa
In steps of		0.5 bar	10 psi	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		< ± 0,05; (Turn down 1:1; per 6 months)		

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	[% of the span]	
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]	< 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	469 d / 00 01 d5 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]	129
UL approval	UL Approval no.	J014
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

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Pressure sensor with display

PN-400-SEN14-MFRKG/US/ /V

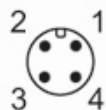
Mechanical data	
Weight [g]	242.5
Materials	1.4542 (17-4 PH / 630); stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)	1.4542 (17-4 PH / 630)
Min. pressure cycles	100 million
Tightening torque [Nm]	> 50; (depends on lubrication, seal and pressure rating)
Process connection	threaded connection 1/4 NPT external thread
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; Contacts: gold-plated



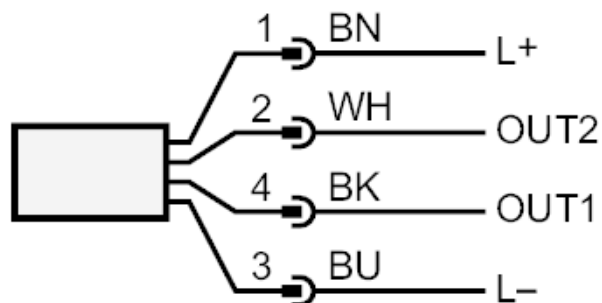
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Pressure sensor with display

PN-400-SEN14-MFRKG/US/ IV

Connection



OUT1 switching output

OUT2 switching output

analogue output

Core colours :

BK = black

BN = brown

BU = blue

WH = white