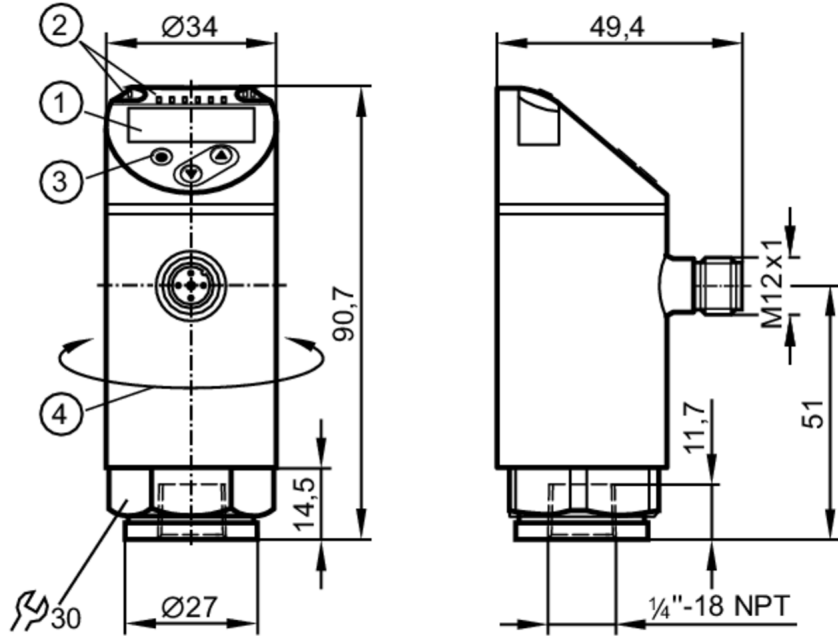


PN7271



Pressure sensor with display

PN-250-SEN14-QFRKG/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

Number of inputs and outputs	Number of digital outputs: 2		
Measuring range	0...250 bar	0...3620 psi	0...25 MPa
Process connection	threaded connection 1/4" NPT Internal thread		

Application

System	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	1100 bar	15950 psi	110 MPa
Pressure rating	500 bar	7250 psi	50 Mpa
Type of pressure	relative pressure		
MAWP (for applications according to CRN)	500 bar	7250 psi	50 MPa

PN7271



Pressure sensor with display

PN-250-SEN14-QFRKG/US/ IV

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	
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	
Outputs			
Total number of outputs		2	
Output signal		switching 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]	2.5	
Permanent current rating of switching output DC	[mA]	150; (200 (...60 °C) 250 (...40 °C))	
Switching frequency DC	[Hz]	< 170	
Short-circuit protection		yes	
Type of short-circuit protection		yes (non-latching)	
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		1 bar	20 psi 0.1 MPa
In steps of		2 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		1 bar	1 psi 0.1 MPa
In steps of		1 bar	1 psi 0.1 MPa
Accuracy / deviations			
Switch point accuracy		< ± 0,5	
	[% of the span]		
Repeatability		< ± 0,1; (with temperature fluctuations < 10 K)	
	[% of the span]		
Characteristics deviation		< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)	
	[% of the span]		
Hysteresis deviation		< ± 0,25	

PN7271



Pressure sensor with display

PN-250-SEN14-QFRKG/US/ IV

	[% of the span]	
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)

Reaction times		
Response time	[ms]	< 3
Delay time programmable dS, dr	[s]	0...50

Software / programming		
Parameter setting options		hysteresis / window; normally open / closed; switching logic; switch-on/switch-off delay; Damping; Display unit

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 class		A; (when pin 2 not connected: B)
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	451
	Status_B High Resolution / CMPT = 3	628
Note		For further information please see the IODD PDF file at "Downloads"

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	2
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	2
IO-Link functions (acyclical)		application specific tag

PN7271



Pressure sensor with display

PN-250-SEN14-QFRKG/US/ IV

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]	214
UL approval	UL approval number	J003
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight	[g]	219.5
Material	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]	2...3 turns after hand-fastening; recommended tightening torque; Depends on lubrication, seal and pressure rating
Process connection	threaded connection 1/4" NPT Internal 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; coding: A; Contacts: gold-plated		
		

PN7271



Pressure sensor with display

PN-250-SEN14-QFRKG/US/ IV

Connection



OUT1	Switching output IO-Link
OUT2	Switching output Colors to DIN EN 60947-5-2 Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white