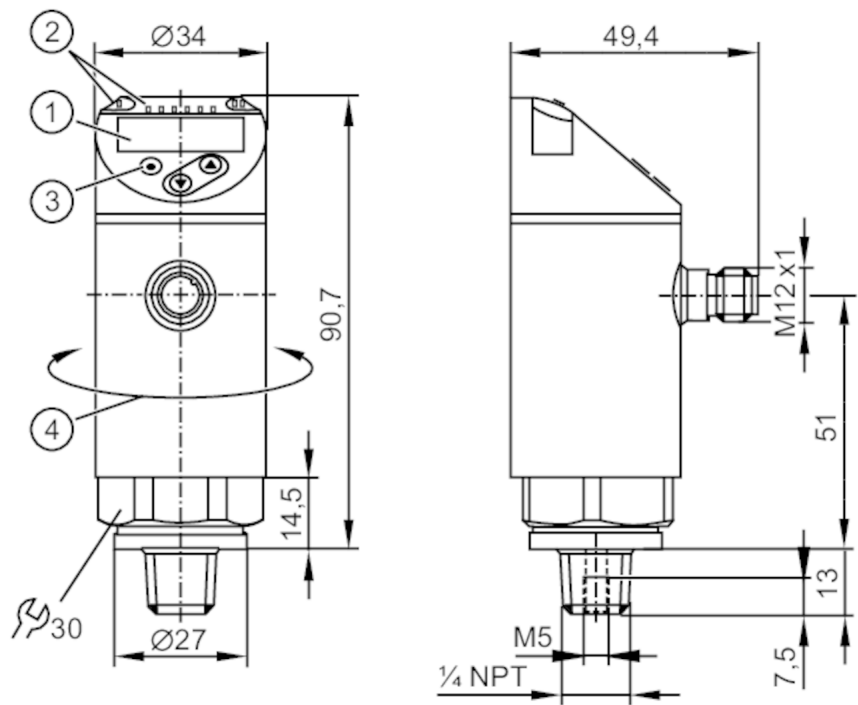




Pressure sensor with display

PN-100-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°



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Process connection	threaded connection 1/4" NPT external thread		
Application			
Special feature	Gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Application	for industrial applications		
Media	Liquids		
Conditionally suitable for	use in gases at pressures > 25 bar only on request		
Medium temperature [°C]	-25...80		
Min. bursting pressure	650 bar	9400 psi	65 MPa
Pressure rating	300 bar	4350 psi	30 MPa
Vacuum resistance [mbar]	-1000		
Vacuum resistance [MPa]	-0.1		
Type of pressure	relative pressure		
MAWP (for applications according to CRN) [bar]	125		
Electrical data			
Operating voltage [V]	18...30 DC; (to SELV/PELV)		
Current consumption [mA]	< 35		



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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...100 bar	0...1450 psi	0...10 MPa
Analogue start point	0...80 bar	0...1160 psi	0...8 MPa
Analogue end point	20...100 bar	290...1450 psi	2...10 MPa

Factory setting / CMPT = 2

Set point SP	0.6...100 bar	10...1450 psi	0.06...10 MPa
Reset point rP	0.2...99.6 bar	4...1444 psi	0.02...9.96 MPa
Min. difference between SP and rP	0.6 bar	6 psi	0.06 MPa
In steps of	0.2 bar	2 psi	0.02 MPa

Status_B High Resolution / CMPT = 3

Set point SP	0.6...100 bar	9...1450 psi	0.06...10 MPa
Reset point rP	0.2...99.6 bar	3...1444 psi	0.02...9.96 MPa
Min. difference between SP and rP	0.5 bar	6 psi	0.05 MPa
In steps of	0.1 bar	1 psi	0.01 MPa

Accuracy / deviations

Switch point accuracy	< ± 0.4; (Turn down 1:1)
[% of the span]	



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Repeatability [% of the span]	$< \pm 0,1$; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	$< \pm 0,25$ (BFSL) / $< \pm 0,5$ (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation [% of the span]	$< \pm 0,1$; (Turn down 1:1)
Long-term stability [% of the span]	$< \pm 0,05$; (Turn down 1:1; per 6 months)
Temperature coefficient zero point [% of the span / 10 K]	$< \pm 0,2$; (-0...80 °C)
Temperature coefficient span [% of the span / 10 K]	$< \pm 0,2$; (-0...80 °C)
Notes on the accuracy / deviation	switch point accuracy, linearity error under DNV GL: $< \pm 1\%$; $< \pm 1\%$

Response times

Response time [ms]	< 1.5
Delay time programmable dS, dr [s]	0...50
Damping process value 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
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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; (when pin 2 not connected: B)						
Supported DeviceIDs	<table> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>Factory setting / CMPT = 2</td><td>471</td></tr> <tr> <td>Status_B High Resolution / CMPT = 3</td><td>987</td></tr> </table>	Type of operation	DeviceID	Factory setting / CMPT = 2	471	Status_B High Resolution / CMPT = 3	987
Type of operation	DeviceID						
Factory setting / CMPT = 2	471						
Status_B High Resolution / CMPT = 3	987						
Note	For further information please see the IODD PDF file under "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]	0.1						
IO-Link process data (cyclical)	<table> <tr> <th>function</th><th>bit length</th></tr> <tr> <td>pressure</td><td>14</td></tr> <tr> <td>binary switching information</td><td>2</td></tr> </table>	function	bit length	pressure	14	binary switching information	2
function	bit length						
pressure	14						
binary switching information	2						
IO-Link functions (acyclical)	application specific tag						



Pressure sensor with display

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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]	0.05	
IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4
	binary switching information	2
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]	138	
UL approval	UL Approval no.	J013
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	283.5	
Housing	cylindrical	
Dimensions [mm]	Ø 34 / L = 90.7	
Materials	stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)	stainless steel (316L/1.4404); Al2O3 (96%; ceramics); FKM	
Min. pressure cycles	100 million	
Tightening torque [Nm]	> 50	
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.	

PN2692



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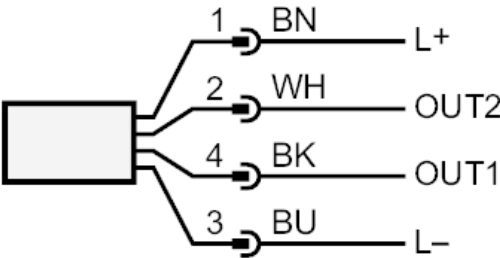
PN-100-SEN14-MFRKG/US/ /V

Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection



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