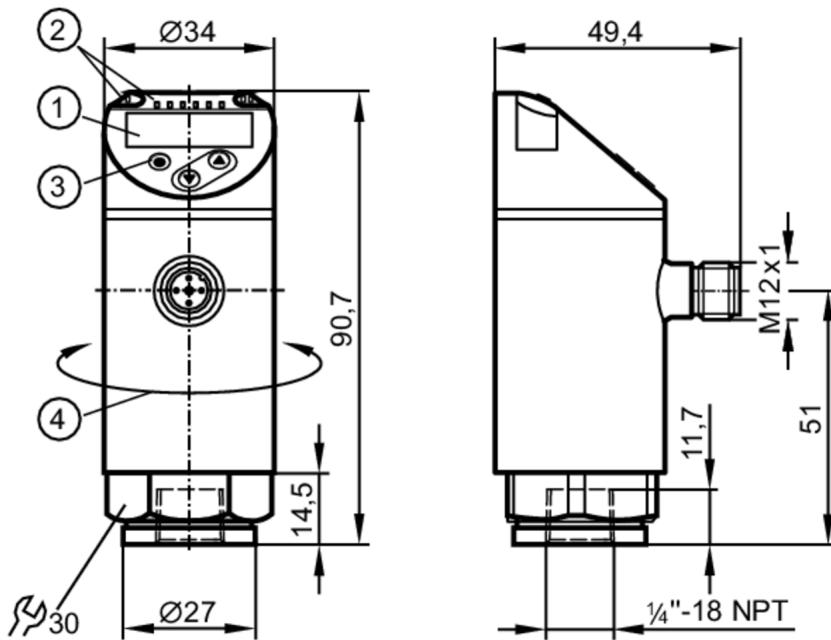


Pressure sensor with display

PN-100-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

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Process connection	threaded connection 1/4" NPT Internal thread		

Application

System	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		
Type of pressure	relative pressure		
MAWP (for applications according to CRN) [bar]	125		



Pressure sensor with display

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

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; Number of analog outputs: 1	
Outputs			
Total number of outputs		2	
Output signal		switching signal; analog 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	
Permanent current rating of switching output DC	[mA]	250	
Switching frequency DC	[Hz]	< 500	
Number of analog outputs		1	
Analog current output	[mA]	4...20; (scalable 1:5)	
Max. load	[Ω]	500	
Analog voltage output	[V]	0...10; (scalable 1:5)	
Min. load resistance	[Ω]	2000	
Short-circuit protection		yes	
Type of short-circuit protection		yes (non-latching)	
Overload protection		yes	
Measuring/setting range			
Measuring range		0...100 bar	0...1450 psi
Analog start point		0...80 bar	0...1160 psi
Analog end point		20...100 bar	290...1450 psi
Factory setting / CMPT = 2			
Set point SP		0.6...100 bar	10...1450 psi
Reset point rP		0.2...99.6 bar	4...1444 psi
Min. difference between SP and rP		0.6 bar	6 psi
In steps of		0.2 bar	2 psi
Status_B High Resolution / CMPT = 3			
Set point SP		0.6...100 bar	0.06...10 MPa
Reset point rP		0.2...99.6 bar	0.02...9.96 MPa
Min. difference between SP and rP		0.5 bar	6 psi
In steps of		0.1 bar	1 psi
ifm efector, inc. • 1100 Atwater Drive • Malvern • PA 19355 — We reserve the right to make technical alterations without prior notice. — EN-US — PN2292-01 — 21.02.2020 —			

Pressure sensor with display

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

Accuracy / deviations		
Notes on the accuracy / deviation	switch point accuracy, linearity error under DNV GL: < ± 1%: < ± 1%	
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; (-0...80 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (-0...80 °C)	
Reaction times		
Response time [ms]	< 1.5	
Delay time programmable dS, dr [s]	0...50	
Damping process value dAP [s]	0...4	
Damping for the analog output dAA [s]	0...4	
Max. response time analog output [ms]	3	
Software / programming		
Parameter setting options	hysteresis / window; normally open / 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 class	A; (wenn PIN 2 nicht verbunden: B)	
Supported DeviceIDs	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 at "Downloads"	



Pressure sensor with display

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

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 border="1"> <thead> <tr> <th>Function</th><th>bit length</th></tr> </thead> <tbody> <tr> <td>pressure</td><td>14</td></tr> <tr> <td>binary switching information</td><td>2</td></tr> </tbody> </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								
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)		<table border="1"> <thead> <tr> <th>Function</th><th>bit length</th></tr> </thead> <tbody> <tr> <td>pressure</td><td>16</td></tr> <tr> <td>device status</td><td>4</td></tr> <tr> <td>binary switching information</td><td>2</td></tr> </tbody> </table>	Function	bit length	pressure	16	device status	4	binary switching information	2
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								
Vibration resistance		DIN EN 60068-2-6								
MTTF [years]		138								
UL approval		UL approval number J013								
Pressure equipment directive		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request								
Mechanical data										
Weight [g]		261								
Material		stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC								
Materials (wetted parts)		stainless steel (1.4404 / 316L); Al2O3 (ceramics); FKM								
Min. pressure cycles		100 million								
Tightening torque [Nm]		> 50								
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.								

Pressure sensor with display

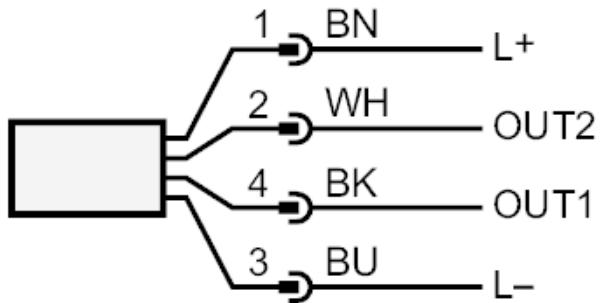
PN-100-SEN14-MFRKG/US/ /V

Electrical connection

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



Connection



OUT1 Switching output

IO-Link

OUT2 Switching output

analog output

Core colors :

BK = black

BN = brown

BU = blue

WH = white