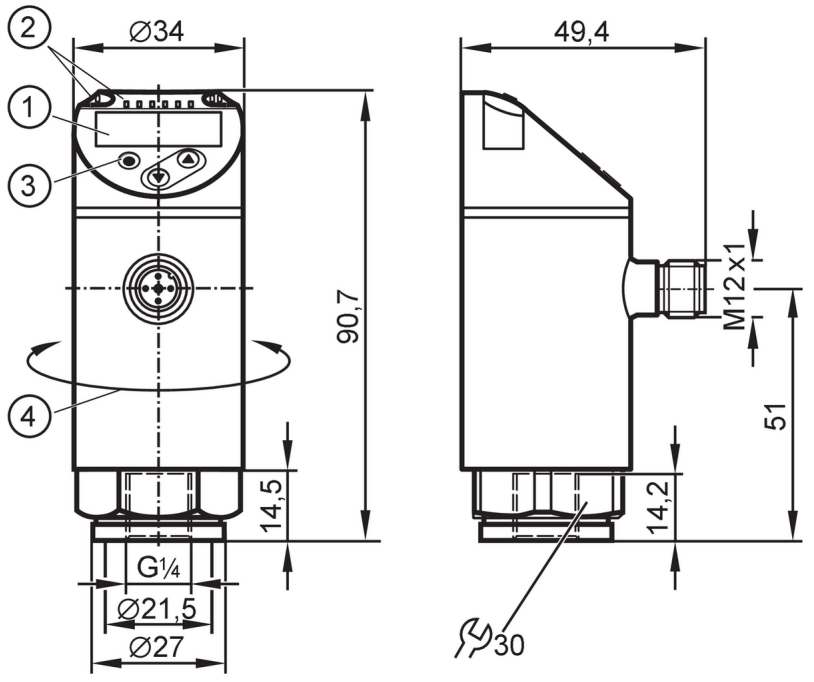
PN3092

Pressure sensor with display

PN-100-SER14-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: 1; Number of analog outputs: 1		
Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Process connection	threaded connection G 1/4 Internal thread M6 I		
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. burst pressure	650 bar	9400 psi	65 MPa
Pressure rating	300 bar	4350 psi	30 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure		
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		

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Integrated watchdog	yes		
Inputs / outputs			
Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1		
Outputs			
Total number of outputs	2		
Output signal	switching signal; analog signal; IO-Link; (configurable)		
Electrical design	PNP		
Number of digital outputs	1		
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		
Number of analog outputs	1		
Analog current output [mA]	4...20		
Max. load [Ω]	500		
Analog voltage output [V]	0...10		
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	0...10 MPa
Factory setting / CMPT = 2			
Set point SP	1...100 bar	10...1450 psi	0.1...10 MPa
Reset point rP	0.5...99.5 bar	5...1445 psi	0.05...9.95 MPa
Min. difference between SP and rP	0.5 bar	10 psi	0.05 MPa
In steps of	0.5 bar	5 psi	0.05 MPa
Status_B High Resolution / CMPT = 3			
Set point SP	0.8...100 bar	12...1450 psi	0.08...10 MPa
Reset point rP	0.3...99.5 bar	5...1443 psi	0.03...9.95 MPa
Min. difference between SP and rP	0.5 bar	0.8 psi	0.05 MPa
In steps of	1 bar	1 psi	0.1 MPa
Accuracy / deviations			
Switch point accuracy [% of the span]	< ± 0,5		
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K)		
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)		
Hysteresis deviation [% of the span]	< ± 0,25		
Long-term stability	< ± 0,05; (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)	
Reaction times			
Response time	[ms]	< 3	
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	
Process data analog		1	
Process data binary		1	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		Factory setting / CMPT = 2	429
		Status_B High Resolution / CMPT = 3	608
Note		For further information please see the IODD PDF file at "Downloads"	
Factory setting / CMPT = 2			
Profiles		Smart Sensor - SSP 0	Generic Profiled Sensor
		Function	Device identification
		Function	Process data variable
		Function	Device diagnosis
Min. process cycle time	[ms]	2.3	
IO-Link resolution pressure		0.1 bar	0.01 MPa
IO-Link process data (cyclical)		**Function**	**bit length**
		pressure	14
		binary switching information	1
IO-Link functions (acyclical)		application specific tag	
Status_B High Resolution / CMPT = 3			
Profiles		Smart Sensor - SSP 3.1	Measuring Sensor
		Common - I&D	Identification and Diagnosis
Min. process cycle time	[ms]	3	
IO-Link resolution pressure		0.05 bar	0.005 MPa

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IO-Link process data (cyclical)		**Function**	**bit length**
		pressure	16
		device status	4
		binary switching information	1
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]	225	
UL approval		UL approval number	J005
Pressure equipment directive		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	275.8	
Housing		tubular	
Dimensions	[mm]	Ø 34 / L = 90.7	
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]	25...35; (recommended tightening torque; Depends on lubrication, seal and pressure rating)	
Process connection		threaded connection G 1/4 Internal thread M6 I	
Restrictor element integrated		no (can be retrofitted)	
Displays / operating elements			
Display		Display unit	3 x LED, green (bar, psi, MPa)
		Switching status	1 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

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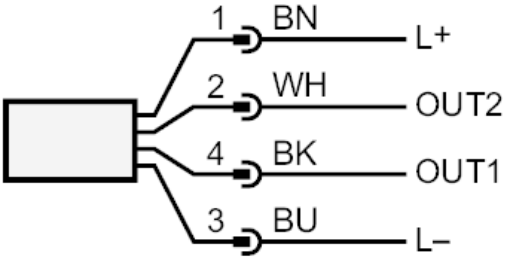
Connection



OUT1	Switching output IO-Link
OUT2	analog output
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white