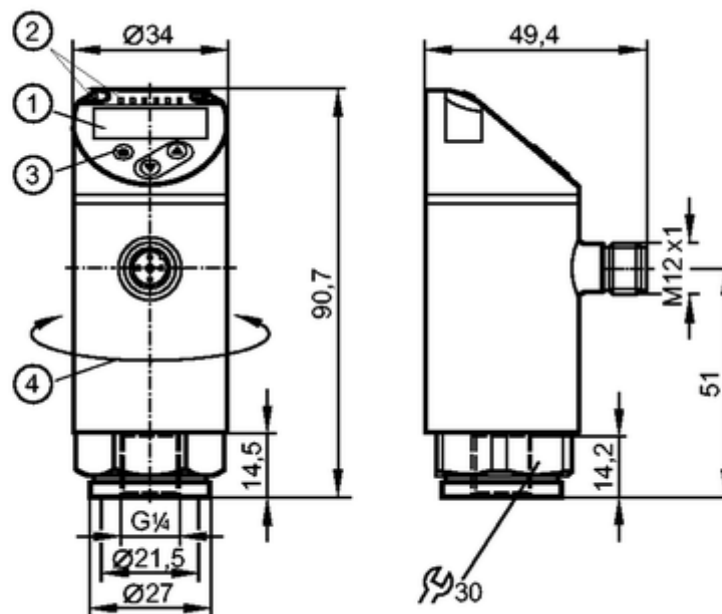


PN2092

PN-100-SER14-MFRKG/US/ /V

Pressure sensors



- 1: 4-digit alphanumeric display / alternating indication of red and green
 2: LEDs (display unit / switching status)
 3: Programming button
 4: Upper part of the housing can be rotated by 345°



Product characteristics

Electronic pressure sensor

M12 connector

Function programmable

Measuring element: ceramic-capacitive pressure measuring cell

Process connection: G 1/4 I (according to DIN EN ISO 1179-2)

2 outputs

OUT1 = switching output

OUT2 = switching output or analogue output

4-digit alphanumeric display / alternating indication of red and green

Measuring range: 0...100 bar / 0...1450 psi / 0...10 MPa

Application

Application

Type of pressure: relative pressure
 Group 2 fluids according to the Pressure Equipment Directive (PED),
 group 1 fluids on request

Pressure rating

300 bar

4350 psi

30 MPa

Bursting pressure min.

650 bar

9400 psi

65 MPa

Vacuum resistance [mbar]

-1000

Medium temperature [°C]

-25...80

Electrical data

Electrical design

DC PNP/NPN

Operating voltage [V]

18...30 DC ¹⁾

Current consumption [mA]

< 35

Insulation resistance [MΩ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes

Outputs

Output	2 outputs OUT1 = switching output OUT2 = switching output or analogue output
Output function	2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x analogue (4...20 mA / 0...10 V; scaleable 1:5)
Current rating [mA]	250
Voltage drop [V]	< 2
Short-circuit protection	pulsed
Overload protection	yes
Switching frequency [Hz]	≤ 500
Analogue output	4...20 mA; 0...10 V
Max. load [Ω]	4...20 mA: max. 500
Min. load resistance [Ω]	0...10 V: min. 2000

Measuring / setting range

Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Setting range			
Set point, SP	0.4...100 bar	6...1450 psi	0.04...10 MPa
Reset point, rP	0.2...99.8 bar	4...1448 psi	0.02...9.98 MPa
Analogue start point, ASP	0...80 bar	0...1160 psi	0...8 MPa
Analogue end point, AEP	20...100 bar	290...1450 psi	2...10 MPa
in steps of	0.2 bar	2 psi	0.02 MPa

Accuracy / deviations**Accuracy / deviations
(in % of the span) Turn down 1:1**

Switch point accuracy	< ± 0.4
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Hysteresis	< ± 0.1
Repeatability **)	< ± 0.1
Long-term stability ***)	< ± 0.05

Temperature coefficients (TEMPCO) in the temperature range -25...80° C (in % of the span per 10 K)

Greatest TEMPCO of the zero point	0.2
Greatest TEMPCO of the span	0.2

Reaction times

Power-on delay time [s]	0.3
Min. response time switching output [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
Response time analogue output [ms]	< 3
Integrated watchdog	yes

Software / programming

Programming options	hysteresis / window function; NO / NC; on delay, off delay; damping; display unit; current/ voltage output
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Interfaces

IO-Link device

Transfer type	COM2
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link device ID	461 d / 00 01 cd h
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis
SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	2
Min. process cycle time [ms]	2.3

Environment

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100
Protection	IP 65 / IP 67

Tests / approvals

Pressure equipment directive	Sound engineering practice
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 number	J013

Mechanical data

Process connection	G ¼ I (according to DIN EN ISO 1179-2)
Materials (wetted parts)	stainless steel (316L / 1.4404); Al ₂ O ₃ (ceramics); FKM
Housing materials	stainless steel (316L / 1.4404); PBT+PC-GF 30; PBT-GF 20; PC
Min. pressure cycles	100 million
Tightening torque [Nm]	25...35 (recommended tightening torque ²)
Weight [kg]	0.261

Displays / operating elements

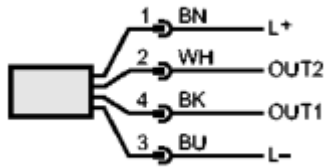
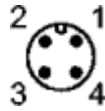
Display	Display unit	3 x LED green (bar, psi, MPa)
	Switching status	2 x LED yellow
	Measured values	4-digit alphanumeric display / alternating indication of red and green

Electrical connection

Connection	M12 connector; Gold-plated contacts
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Wiring

Core colours
 BK black
 BN brown
 BU blue
 WH white



OUT1: switching output or IO-Link
 OUT2: switching output or 4...20 mA / 0...10 V
 Colours to DIN EN 60947-5-2

Remarks

Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in% of the span / 6 months 1) to EN50178, SELV, PELV 2) Depends on lubrication, seal and pressure rating
Pack quantity [piece]	1

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