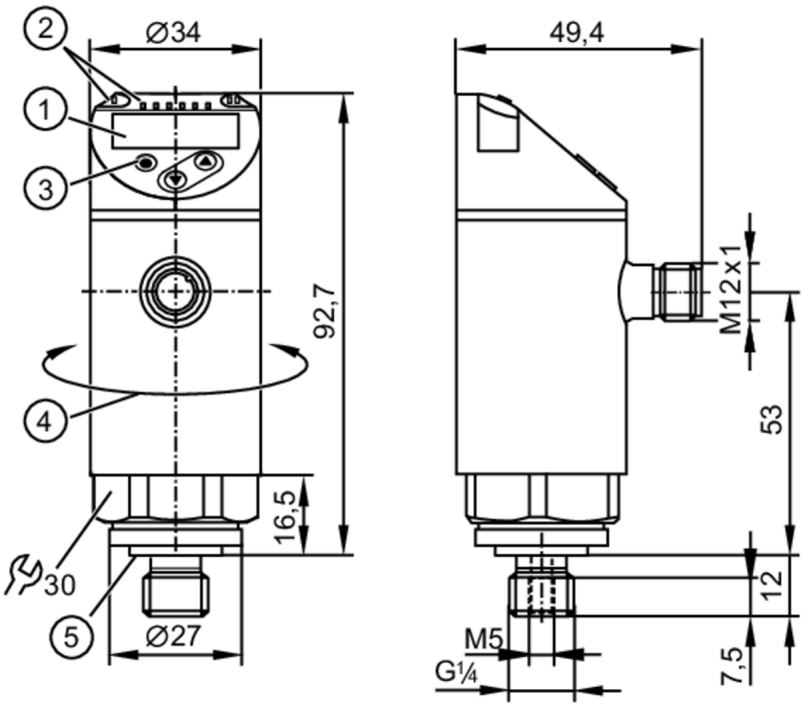
PN7592

Pressure sensor with display

PN-100-SEG14-QFRKG/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°
5 Sealing

Product characteristics				
Number of inputs and outputs		Number of digital outputs: 2		
Measuring range		0...100 bar	0...1450 psi	0...10 MPa
Process connection		threaded connection G 1/4 external thread internal thread:M5		
Application				
Special feature		Gold-plated contacts		
Measuring element		ceramic-capacitive pressure measuring cell		
Application		for industrial applications		
Media		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		
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		

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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 / normally closed; (parameterisable)		
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	pulsed		
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	8 psi	0.05 MPa
In steps of	0.1 bar	1 psi	0.01 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 [% of the span]	< ± 0,05; (per 6 months)		
Temperature coefficient zero point [% of the span / 10 K]	< ± 0,2; (-0...80 °C)		
Temperature coefficient span	< ± 0,2; (-0...80 °C)		

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[% of the span / 10 K]		
Response times		
Response time [ms]		< 3
Delay time programmable dS, dr [s]		0...50
Software / programming		
Parameter setting options		hysteresis / window; normally open / normally 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 type		A; (when pin 2 not connected: B)
Process data analogue		1
Process data binary		2
Supported DeviceIDs	**Type of operation**	**DeviceID**
	Factory setting / CMPT = 2	401
	PN7002	309
	Status_B High Resolution / CMPT = 3	599
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 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]		0.05
IO-Link resolution pressure [MPa]		0.02
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

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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]	260	
UL approval		UL Approval no.	J002
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	297.5	
Materials		stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)		stainless steel (316L/1.4404); 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 external thread internal thread:M5	
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

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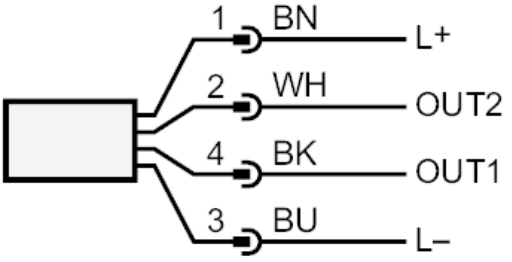
Connection



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