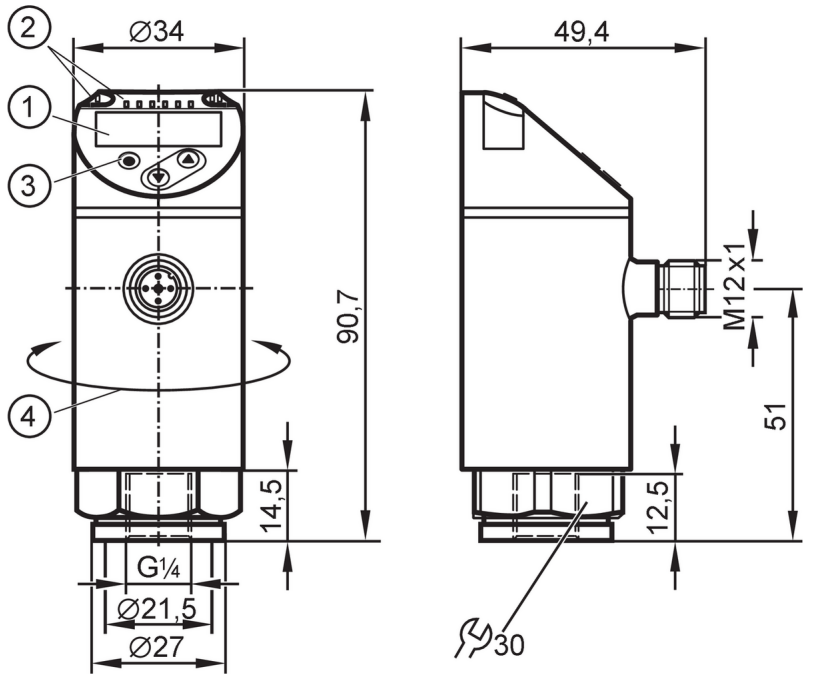
PN3160

Pressure sensor with display

PN-600-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 analogue outputs: 1		
Measuring range	0...600 bar	0...8700 psi	0...60 MPa
Process connection	threaded connection G 1/4 internal thread M6 I		
Application			
Special feature	Gold-plated contacts		
Measuring element	metallic thin film cell		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Min. burst pressure	2500 bar	36250 psi	250 MPa
Pressure rating	800 bar	11580 psi	80 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		
Integrated watchdog	yes		

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Inputs / outputs				
Number of inputs and outputs		Number of digital outputs: 1; Number of analogue outputs: 1		
Outputs				
Total number of outputs		2		
Output signal		switching signal; analogue signal; IO-Link; (configurable)		
Electrical design		PNP		
Number of digital outputs		1		
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		
Number of analogue outputs		1		
Analogue current output	[mA]	4...20		
Max. load	[Ω]	500		
Analogue voltage output	[V]	0...10		
Min. load resistance	[Ω]	2000		
Short-circuit protection		yes		
Type of short-circuit protection		pulsed		
Overload protection		yes		
Measuring/setting range				
Measuring range		0...600 bar	0...8700 psi	0...60 MPa
Factory setting / CMPT = 2				
Set point SP		4...600 bar	40...8700 psi	0.4...60 MPa
Reset point rP		2...598 bar	20...8680 psi	0.2...59.8 MPa
Min. difference between SP and rP		2 bar	40 psi	0.2 MPa
In steps of		2 bar	20 psi	0.2 MPa
Status_B High Resolution / CMPT = 3				
Set point SP		3...600 bar	47...8702 psi	0.3...60 MPa
Reset point rP		2...599 bar	26...8681 psi	0.2...59.9 MPa
Min. difference between SP and rP		2 bar	21 psi	0.2 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	[% of the span]	< ± 0,05; (per 6 months)		

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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)	
Response times		
Response time [ms]	< 3	
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	
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	
Process data analogue	1	
Process data binary	1	
Supported DeviceIDs	**Type of operation**	**DeviceID**
	Factory setting / CMPT = 2	426
	Status_B High Resolution / CMPT = 3	605
Note	For further information please see the IODD PDF file under "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	1 bar	0.1 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	

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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]	190	
UL approval		UL approval no.	J006
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	231	
Housing		cylindrical	
Dimensions	[mm]	Ø 34 / L = 90.7	
Materials		stainless steel (630/1.4542/17-4 PH); stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)		stainless steel (630/1.4542/17-4 PH)	
Min. pressure cycles		100 million	
Tightening torque	[Nm]	30...50; (recommended tightening torque; depends on the lubrication, the seal and the pressure load)	
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: 4, gold-plated

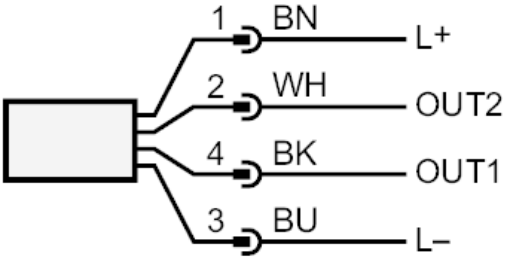


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Connection



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