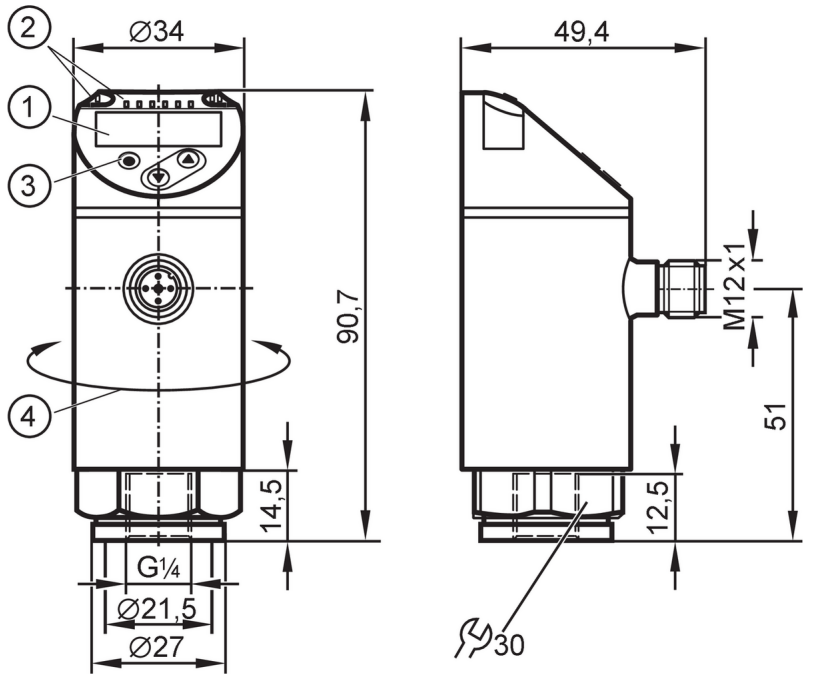
PN3070

Pressure sensor with display

PN-400-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...400 bar	0...5800 psi	0...40 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		1700 bar	24650 psi	170 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...400 bar	0...5800 psi	0...40 MPa
Factory setting / CMPT = 2				
Set point SP		4...400 bar	40...5800 psi	0.4...40 MPa
Reset point rP		2...398 bar	20...5780 psi	0.2...39.8 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...400 bar	49...5802 psi	0.3...40 MPa
Reset point rP		1...398 bar	20...5773 psi	0.1...39.8 MPa
Min. difference between SP and rP		2 bar	30 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	427
		Status_B High Resolution / CMPT = 3	606
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	
IO-Link resolution pressure		0.2 bar	0.02 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]	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]	231.5	
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]	25...35; (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

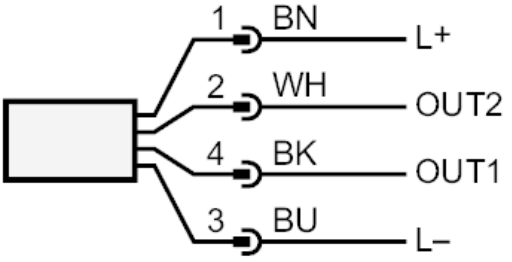


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Connection



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