

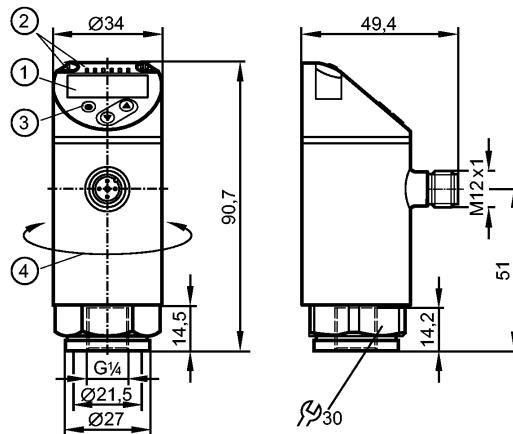


PN7070

PN-400-SER14-QFRKG/US/ IV



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 monitor

M12 connector

Function programmable

Measuring element: metal thin film cell

Process connection: G 1/4 I

2 outputs

OUT1 = switching output

OUT2 = switching output

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

Measuring range: 0...400 bar / 0...5790 psi / 0...40 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	800 bar	11580 psi	80 MPa
Bursting pressure min.	1700 bar	24650 psi	170 MPa
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

Output function

2 x normally open / closed programmable

Current rating [mA]

150; 200 (...60 °C); 250 (...40 °C)

Voltage drop [V]

< 2.5

Short-circuit protection

pulsed

Overload protection

yes

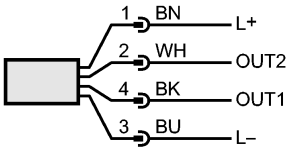
Switching frequency [Hz]

≤ 170

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Measuring / setting range			
Measuring range	0...400 bar	0...5790 psi	0...40 MPa
Setting range			
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
in steps of	2 bar	20 psi	0.2 MPa
Accuracy / deviations			
Accuracy / deviations (in % of the span)			
Switch point accuracy	< ± 0.5		
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)		
Hysteresis	< ± 0.25		
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]	< 3		
Delay time programmable dS, dr [s]	0...50		
Integrated watchdog	yes		
Software / programming			
Programming options	hysteresis / window function; NO / NC; output polarity; on delay, off delay; damping; display unit		
Interfaces			
IO-Link device			
Transfer type	COM2 (38.4 kBaud)		
IO-Link revision	1.1		
SDCI standard	IEC 61131-9		
IO-Link device ID	399 d / 00 018f 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]	201.44		
UL approval number	J003		
Mechanical data			
Process connection	G ¼ I		
Materials (wetted parts)	1.4542		
Housing materials	1.4542; 1.4404; PBT+PC-GF 30; PBT-GF 20; PC		
Min. pressure cycles	100 million		
Tightening torque [Nm]	25...35 (recommended tightening torque²)		
Weight [kg]	0.257		
Displays / operating elements			

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Display	Display unit3 x LED green (bar, psi, MPa) Switching status2 x LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green		
Electrical connection			
Connection	M12 connector; Gold-plated contacts		
Wiring			
Core colours			
BKblack			
BNbrown			
BUblue			
WHwhite			
Remarks	OUT1: switching output or IO-Link OUT2: switching output Colours to DIN EN 60947-5-2		
Remarks	1) to EN50178, SELV, PELV *) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in% of the span / 6 months 2) Depends on lubrication, seal and pressure rating		
Pack quantity	[piece]	1	