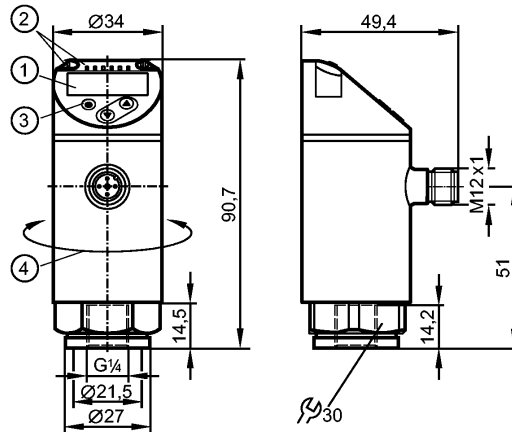


PN7070

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°

Made in Germany



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 liquids and gases of the fluid group 2 according to Article 9 of the Pressure Equipment Directive (PED)		
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 (...80°C) / 200 (...60°C) / 250 (...40°C)

PN7070

PN-400-SER14-QFRKG/US/ /V

Pressure sensors

Voltage drop	[V]	< 2.5
Short-circuit protection		pulsed
Overload protection		yes
Switching frequency	[Hz]	≤ 170

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
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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 type	A
Process data analogue	1
Process data binary	2
Min. process cycle time	[ms] 2.3

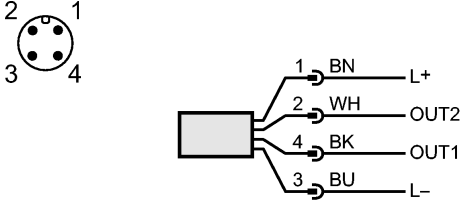
Environment

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

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PN-400-SER14-QFRKG/US/ /V

Pressure sensors

Tests / approvals	
Pressure equipment directive	Article 3, section 3 - 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 torque ²)
Weight [kg]	0.257
Displays / operating elements	
Display	Display unit 3 x LED green (bar, psi, MPa) Switching status 2 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 BK black BN brown BU blue WH white	 <p>OUT1: switching output or IO-Link OUT2: switching output Colours to DIN EN 60947-5-6</p>
Remarks	
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