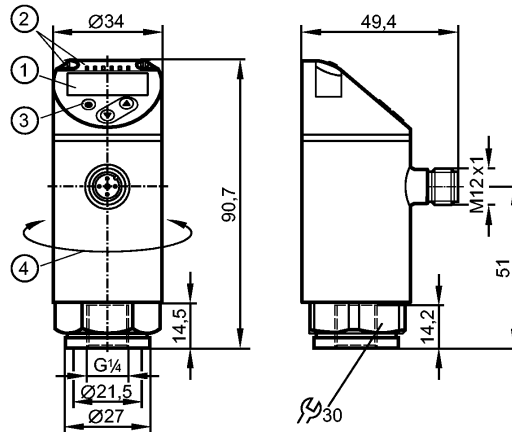


**PN7160**

PN-600-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...600 bar / 0...8700 psi / 0...60 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.	2500 bar	36250 psi	250 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)

**PN7160**

PN-600-SER14-QFRKG/US/ /V

**Pressure sensors**

Voltage drop	[V]	< 2.5
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 170

**Measuring / setting range**

Measuring range	0...600 bar	0...8700 psi	0...60 MPa
Setting range			
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
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	398 d / 00 01 8e 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

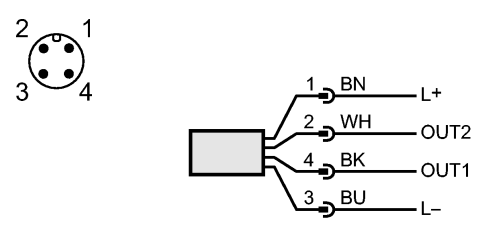
**Environment**

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

**PN7160**

PN-600-SER14-QFRKG/US/ IV

**Pressure sensors**

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]	210
UL approval number	J003
Mechanical data	
Process connection	G ¼ I
Materials (wetted parts)	1.4542
Housing materials	1.4542; 316L stainless steel / 1.4404; PBT+PC-GF 30; PBT-GF 20; PC
Switching cycles min.	100 million
Tightening torque [Nm]	25...35 (recommended tightening torque <sup>2</sup> )
Weight [kg]	0.231
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
<b>Wiring</b>	
Core colors BK    black BN    brown BU    blue WH    white	
	<p>OUT1: switching output or IO-Link                  OUT2: switching output                  Colours to DIN EN 60947-5-2</p>
Remarks	
Remarks	<p>1) to EN50178, SELV, PELV                  *) BFSL = Best Fit Straight Line / LS = Limit Value Setting                  **) with temperature fluctuations &lt; 10 K                  ***) in% of the span / 6 months                  2) Depends on lubrication, seal and pressure rating</p>
Pack quantity [piece]	1