

PN7560



Pressure sensor with display

PN-600-SEG14-QFRKG/US/ IV



- 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°
- 5 Sealing



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2		
Measuring range	0...600 bar	0...8700 psi	0...60 MPa
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); internal thread:M5		

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. bursting pressure	2500 bar	36250 psi	250 MPa
Pressure rating	800 bar	11580 psi	80 MPa
Vacuum resistance [mbar]	-1000		
Vacuum resistance [MPa]	-0.1		
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



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Reverse polarity protection	yes
Power-on delay time [s]	< 0.3
Integrated watchdog	yes

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2
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Outputs

Total number of outputs	2
Output signal	switching signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	2
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
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
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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)
Temperature coefficient zero point [% of the span / 10 K]	0,2; (-25...80 °C)



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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								
Software / programming									
Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; switch-on/switch-off delay; Damping; Display unit								
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; (when pin 2 not connected: B)								
Process data analogue	1								
Process data binary	2								
Supported DeviceIDs	<table> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>Factory setting / CMPT = 2</td><td>398</td></tr> <tr> <td>PN7060</td><td>315</td></tr> <tr> <td>Status_B High Resolution / CMPT = 3</td><td>596</td></tr> </table>	Type of operation	DeviceID	Factory setting / CMPT = 2	398	PN7060	315	Status_B High Resolution / CMPT = 3	596
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Note	For further information please see the IODD PDF file under "Downloads"								
Factory setting / CMPT = 2									
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis								
Min. process cycle time [ms]	2.3								
IO-Link resolution pressure [bar]	1								
IO-Link resolution pressure [MPa]	0.1								
IO-Link process data (cyclical)	<table> <tr> <th>function</th><th>bit length</th></tr> <tr> <td>pressure</td><td>14</td></tr> <tr> <td>binary switching information</td><td>2</td></tr> </table>	function	bit length	pressure	14	binary switching information	2		
function	bit length								
pressure	14								
binary switching information	2								
IO-Link functions (acyclical)	application specific tag								
Status_B High Resolution / CMPT = 3									
Profiles	Smart Sensor ED2: Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)								
Min. process cycle time [ms]	3								
IO-Link resolution pressure [bar]	0.2								
IO-Link resolution pressure [MPa]	0.02								
IO-Link process data (cyclical)	<table> <tr> <th>function</th><th>bit length</th></tr> <tr> <td>pressure</td><td>16</td></tr> <tr> <td>device status</td><td>4</td></tr> <tr> <td>binary switching information</td><td>2</td></tr> </table>	function	bit length	pressure	16	device status	4	binary switching information	2
function	bit length								
pressure	16								
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binary switching information	2								
IO-Link functions (acyclical)	application specific tag								
Operating conditions									
Ambient temperature [°C]	-25...80								

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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]	214
UL approval	UL Approval no.	J003
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g]	257
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 lubrication, seal and pressure rating)
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); internal thread:M5	
Restrictor element integrated	no (can be retrofitted)	

Displays / operating elements

Display	Display unit	3 x LED, green (bar, psi, MPa)
	switching status	2 x LED, yellow
	measured values	alphanumeric display, red/green 4-digit

Remarks

Pack quantity	1 pcs.
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Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



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Connection



OUT1	switching output IO-Link
OUT2	switching output colours to DIN EN 60947-5-2 Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white