

PN7515



Pressure sensor with display

PN-006-REG14-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	-1...6 bar	-14.5...87 psi	100...600 kPa
Process connection	threaded connection G 1/4 external thread internal thread:M5		

Application

Special feature	Gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Min. burst pressure	100 bar	1500 psi	10000 kPa
Pressure rating	40 bar	600 psi	4000 kPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		

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		

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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	-1...6 bar	-14.5...87 psi	100...600 kPa
Set point SP	-0.95...6 bar	-13.8...87 psi	-95...600 kPa
Reset point rP	-0.98...5.97 bar	-14.2...86.6 psi	-98...597 kPa
Min. difference between SP and rP	0.03 bar	0.5 psi	3 kPa
In steps of	0.001 bar	0.1 psi	1 kPa

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; (-0...80 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (-0...80 °C)

Response times

Response time [ms]	< 3
Delay time programmable dS, dr [s]	0...50
Damping process value dAP [s]	0...4

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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								
Profiles	Smart Sensor - SSP 3.1 Measuring Sensor Common - I&D Identification and Diagnosis								
SIO mode	yes								
Required master port type	A; (when pin 2 not connected: B)								
Min. process cycle time [ms]	3								
IO-Link resolution pressure [bar]	0.002								
IO-Link process data (cyclical)	<table border="1"> <thead> <tr> <th>function</th> <th>bit length</th> </tr> </thead> <tbody> <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> </tbody> </table>	function	bit length	pressure	16	device status	4	binary switching information	2
function	bit length								
pressure	16								
device status	4								
binary switching information	2								
IO-Link functions (acyclical)	application specific tag								
Supported DeviceIDs	<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>1199</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	1199				
Type of operation	DeviceID								
default	1199								
Note	For further information please see the IODD PDF file under "Downloads"								
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]	249								
UL approval	UL approval no. J001 File number UL E174189								
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request								
Mechanical data									
Weight [g]	269								
Materials	stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC								
Materials (wetted parts)	stainless steel (316L/1.4404); Al2O3 (ceramics); FKM								
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 external thread internal thread:M5								
Restrictor element integrated	no (can be retrofitted)								

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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

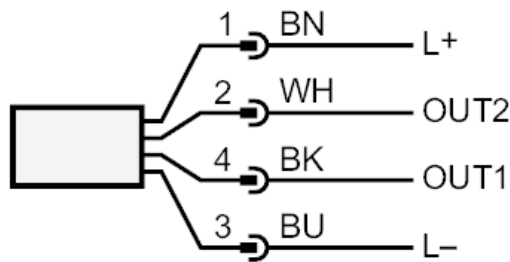
Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated



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