

PN7514



Pressure sensor with display

PN-016-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...16 bar	-14.6...232 psi	-0.1...1.6 MPa
Process connection	threaded connection G 1/4 external thread Internal thread:M5		

Application

System	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	150 bar	2200 psi	15 MPa
Pressure rating	85 bar	1250 psi	8.5 MPa
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		
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 / closed; (configurable)		
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		yes (non-latching)		
Overload protection		yes		
Measuring/setting range				
Measuring range		-1...16 bar	-14.6...232 psi	-0.1...1.6 MPa
Set point SP		-0.87...16 bar	-12.6...232.1 psi	-0.087...1.6 MPa
Reset point rP		-0.95...15.92 bar	-13.8...230.9 psi	-0.095...1.592 MPa
Min. difference between SP and rP		0.08 bar	1.2 psi	0.008 MPa
In steps of		0.01 bar	0.1 psi	0.001 MPa
Accuracy / deviations				
Switch point accuracy		< ± 0,5		
	[% of the span]			
Repeatability		< ± 0,1; (with temperature fluctuations < 10 K)		
	[% of the span]			
Characteristics deviation		< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)		
	[% of the span]			
Hysteresis deviation		< ± 0,25		
	[% of the span]			
Long-term stability		< ± 0,05; (per 6 months)		
	[% of the span]			
Temperature coefficient zero point		< ± 0,2; (0...80 °C)		
	[% of the span / 10 K]			
Temperature coefficient span		< ± 0,2; (0...80 °C)		
	[% of the span / 10 K]			
Reaction 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 / 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 Common - I&D	Measuring Sensor Identification and Diagnosis
SIO mode		yes	
Required master port class		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)		Function	bit length
		pressure	16
		device status	4
		binary switching information	2
IO-Link functions (acyclical)		application specific tag	
Supported DeviceIDs		Type of operation	DeviceID
		default	1197
Note		For further information please see the IODD PDF file at "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 number	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]		268	
Material		stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)		stainless steel (1.4404 / 316L); Al2O3 (ceramics); FKM	
Min. pressure cycles		100 million	
Tightening torque [Nm]		25...35; (recommended tightening torque; Depends on lubrication, seal and pressure rating)	
Process connection		threaded connection G 1/4 external thread Internal thread:M5	
Restrictor element integrated		no (can be retrofitted)	

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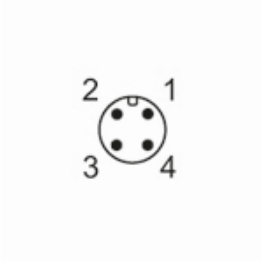
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Displays / operating elements		
Display	Display unit	3 x LED, green (bar, psi, MPa)
	Switching status	2 x LED, yellow
	Measured values	alphanumeric display, red/green 4-digit

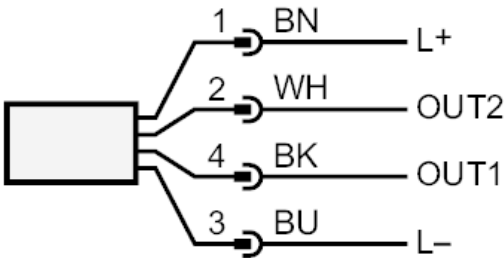
Remarks	
Pack quantity	1 pcs.

Electrical connection

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



Connection



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