

PN7072



Pressure sensor with display

PN-100-SER14-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°



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2		
Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Process connection	threaded connection G 1/4 internal thread		
Application			
Special feature	Gold-plated contacts		
Measuring element	metallic thin film cell		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature	-25...80		
Min. bursting pressure	1000 bar	14500 psi	100 MPa
Pressure rating	300 bar	4350 psi	30 MPa
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	
Reverse polarity protection		yes	
Power-on delay time	[s]	0.3	
Integrated watchdog		yes	



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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 / 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...100 bar	0...1450 psi 0...10 MPa
Factory setting / CMPT = 2			
Set point SP		1...100 bar	10...1450 psi 0.1...10 MPa
Reset point rP		0.5...99.5 bar	5...1445 psi 0.05...9.95 MPa
Min. difference between SP and rP		0.5 bar	10 psi 0.05 MPa
In steps of		0.5 bar	5 psi 0.05 MPa
Status_B High Resolution / CMPT = 3			
Set point SP		0.8...100 bar	12...1450 psi 0.08...10 MPa
Reset point rP		0.3...99.5 bar	5...1443 psi 0.03...9.95 MPa
Min. difference between SP and rP		0.5 bar	8 psi 0.05 MPa
In steps of		0.1 bar	1 psi 0.01 MPa
Accuracy / deviations			
Switch point accuracy		[X21]	< ± 0,5
Repeatability		[X21]	< ± 0,1; (with temperature fluctuations < 10 K)
Characteristics deviation		[X21]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation		[X21]	< ± 0,25
Long-term stability		[X21]	< ± 0,05; (per 6 months)
Temperature coefficient zero point		[X22]	0,2; (-25...80 °C)
Temperature coefficient span		[X22]	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	



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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)	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	401
	Status_B High Resolution / CMPT = 3	599
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]	0.1	
IO-Link resolution pressure [MPa]	0.01	
IO-Link process data (cyclical)	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]	0.05	
IO-Link resolution pressure [MPa]	0.005	
IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4
	binary switching information	2
IO-Link functions (acyclical)	application specific tag	
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 [ANN]	214	
UL approval	UL Approval no.	J002
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	227.5	

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Materials	1.4542 (17-4 PH / 630); stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)	1.4542 (17-4 PH / 630)
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 internal thread
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

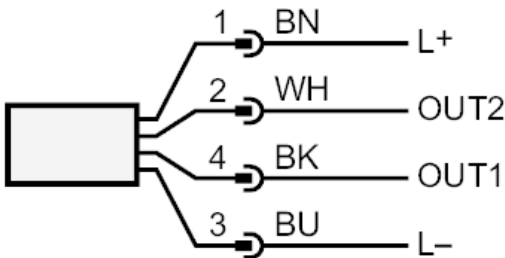
Pack quantity	1 pcs.
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Electrical connection

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



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