

PN3592



Pressure sensor with display

PN-100-SEG14-MFRKG/US/ /V



- 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: 1; Number of analog outputs: 1		
Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); Internal thread:M5		

Application

System	gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Application	for industrial applications		
Media	Liquids		
Conditionally suitable for	use in gases at pressures > 25 bar only on request		
Medium temperature [°C]	-25...80		
Min. bursting pressure	650 bar	9400 psi	65 MPa
Pressure rating	300 bar	4350 psi	30 MPa
Vacuum resistance	-1000 mbar	-0.1 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		



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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: 1; Number of analog outputs: 1
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Outputs

Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link; (configurable)
Electrical design	PNP
Number of digital outputs	1
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
Number of analog outputs	1
Analog current output [mA]	4...20
Max. load [Ω]	500
Analog voltage output [V]	0...10
Min. load resistance [Ω]	2000
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
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	0.8 psi	0.05 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	< ± 0,25



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	[% of the span]	
Long-term stability		$< \pm 0,05$; (per 6 months)
	[% of the span]	
Temperature coefficient zero point		$< \pm 0,2$; (-0...80 °C)
	[% of the span / 10 K]	
Temperature coefficient span		$< \pm 0,2$; (-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
Damping for the analog output dAA	[s]	0...4
Max. response time analog output	[ms]	3

Software / programming

Parameter setting options	hysteresis / window; normally open / closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output
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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 class	A	
Process data analog	1	
Process data binary	1	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	429
	Status_B High Resolution / CMPT = 3	608
Note	For further information please see the IODD PDF file at "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	0.1 bar	0.01 MPa
IO-Link process data (cyclical)	Function	bit length
	pressure	14
	binary switching information	1
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	0.05 bar	0.001 MPa



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IO-Link process data (cyclical)	Function	bit length
	pressure	16
	device status	4
	binary switching information	1
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	[years]	225
UL approval	UL approval number	J005
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g]	297
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 (DIN EN ISO 1179-2); Internal thread:M5	
Process connection sealing	FKM (DIN EN ISO 1179-2)	
Restrictor element integrated	no (can be retrofitted)	

Displays / operating elements

Display	Display unit	3 x LED, green (bar, psi, MPa)
	Switching status	1 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	analog output
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white