

PN2070



Pressure sensor with display

PN-400-SER14-MFRKG/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

Output signal	switching signal; analog signal; IO-Link; (configurable)		
Measuring range	0...400 bar	0...5800 psi	0...40 MPa
Process connection	threaded connection G 1/4 Internal thread (DIN EN ISO 1179-2)		

Application

System	gold-plated contacts		
Measuring element	metallic thin film cell		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Pressure rating	800 bar	11580 psi	80 MPa
Min. bursting pressure	1700 bar	24650 psi	170 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		

PN2070



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Electrical data			
Operating voltage	[V]	18...30 DC; (according to EN 50178 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	
Inputs / outputs			
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1	
Outputs			
Total number of outputs		2	
Output signal		switching signal; analog 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	
Permanent current rating of switching output DC	[mA]	250	
Switching frequency DC	[Hz]	< 500	
Number of analog outputs		1	
Analog current output	[mA]	4...20; (scalable 1:5)	
Max. load	[Ω]	500	
Analog voltage output	[V]	0...10; (scalable 1:5)	
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...400 bar	0...5800 psi
			0...40 MPa
Set point SP		1.5...400 bar	20...5800 psi
			0.15...40 MPa
Reset point rP		1...399.5 bar	10...5790 psi
			0.1...39.95 MPa
Analog start point		0...320 bar	0...4640 psi
			0...32 MPa
Analog end point		80...400 bar	1160...5800 psi
			8...40 MPa
In steps of		0.5 bar	10 psi
			0.05 MPa
Accuracy / deviations			
Switch point accuracy		< ± 0,4; (Turn down 1:1)	
	[% of the span]		
Repeatability		< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
	[% of the span]		
Characteristics deviation		< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)	
	[% of the span]		
Hysteresis deviation		< ± 0,1; (Turn down 1:1)	
	[% of the span]		
Long-term stability		< ± 0,05; (Turn down 1:1; per 6 months)	

PN2070



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	[% of the span]	
Temperature coefficient zero point	[% of the span / 10 K]	0,2; (-25...80 °C)
Temperature coefficient span	[% of the span / 10 K]	0,2; (-25...80 °C)

Reaction times		
Response time	[ms]	< 1.5
Delay time programmable dS, dr	[s]	0...50
Damping for the switching output 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

Interfaces	
Communication interface	IO-Link
Transmission type	COM2
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link device ID	459 d / 00 01 cb h
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis
SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	2
Min. process cycle time	[ms] 2.3

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]	129
UL approval	UL approval number	J014
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

PN2070



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Mechanical data	
Weight [g]	233
Material	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 (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	2 x LED, yellow
	Measured values	alphanumeric display, red/green 4-digit

Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



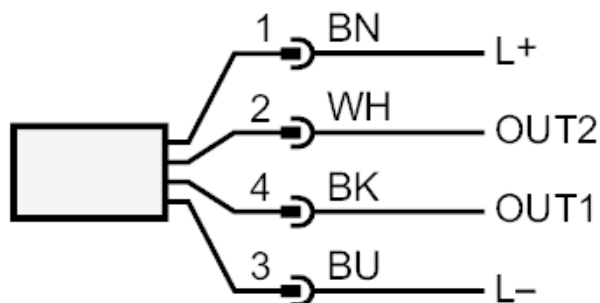
PN2070



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Connection



OUT1 Switching output

OUT2 Switching output

analog output

Core colors :

BK = black

BN = brown

BU = blue

WH = white