

PN2092



Pressure sensor with display

PN-100-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; analogue signal; IO-Link; (configurable)		
Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Process connection	threaded connection G 1/4 internal thread (DIN EN ISO 1179-2)		

Application

Special feature	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 [mbar]	-1000		
Type of pressure	relative pressure		



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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 analogue outputs: 1		
Outputs				
Total number of outputs		2		
Output signal		switching signal; analogue 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		
Permanent current rating of switching output DC	[mA]	250		
Switching frequency DC	[Hz]	< 500		
Number of analogue outputs		1		
Analogue current output	[mA]	4...20; (scalable 1:5)		
Max. load	[Ω]	500		
Analogue voltage output	[V]	0...10; (scalable 1:5)		
Min. load resistance	[Ω]	2000		
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
Analogue start point		0...80 bar	0...1160 psi	0...8 MPa
Analogue end point		20...100 bar	290...1450 psi	2...10 MPa
Factory setting / CMPT = 2				
Set point SP		0.6...100 bar	10...1450 psi	0.06...10 MPa
Reset point rP		0.2...99.6 bar	4...1444 psi	0.02...9.96 MPa
Min. difference between SP and rP		0.6 bar	6 psi	0.06 MPa
In steps of		0.2 bar	2 psi	0.02 MPa
Status_B High Resolution / CMPT = 3				
Set point SP		0.6...100 bar	9...1450 psi	0.06...10 MPa
Reset point rP		0.2...99.6 bar	3...1444 psi	0.02...9.96 MPa
Min. difference between SP and rP		0.5 bar	6 psi	0.05 MPa
In steps of		0.1 bar	1 psi	0.01 MPa



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Accuracy / deviations		
Notes on the accuracy / deviation	switch point accuracy, linearity error under DNV GL: $< \pm 1\%$: $< \pm 1\%$	
Switch point accuracy [% of the span]	$< \pm 0,4$; (Turn down 1:1)	
Repeatability [% of the span]	$< \pm 0,1$; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	$< \pm 0,25$ (BFSL) / $< \pm 0,5$ (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)	
Hysteresis deviation [% of the span]	$< \pm 0,1$; (Turn down 1:1)	
Long-term stability [% of the span]	$< \pm 0,05$; (Turn down 1:1; per 6 months)	
Temperature coefficient zero point [% of the span / 10 K]	$< \pm 0,2$; (-0...80 °C)	
Temperature coefficient span [% of the span / 10 K]	$< \pm 0,2$; (-0...80 °C)	
Response 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 analogue output dAA [s]	0...4	
Max. response time analogue output [ms]	3	
Software / programming		
Parameter setting options	hysteresis / window; normally open / normally closed; switch-on/switch-off delay; Damping; Display unit; current/voltage output	
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; (wenn PIN 2 nicht verbunden: B)	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	461
	Status_B High Resolution / CMPT = 3	972
Note	For further information please see the IO-Link PDF file under "Downloads"	

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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 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 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 [years]	138	
UL approval	UL Approval no.	J013
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	275	
Materials	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 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.	

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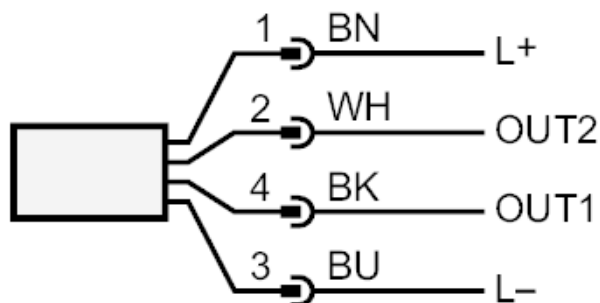
PN-100-SER14-MFRKG/US/ IV

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



Connection



OUT1 switching output

OUT2 switching output

analogue output

Core colours :

BK = black

BN = brown

BU = blue

WH = white