



Pressure sensor with display

PN-025-RER14-MFRKG/US/ I/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°



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1		
Measuring range	0...25 bar	0...362 psi	0...2.5 MPa
Process connection	threaded connection G 1/4 internal thread M6 I		

Application

Special feature	Gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Min. bursting pressure	350 bar	5075 psi	35 MPa
Pressure rating	150 bar	2175 psi	15 MPa
Vacuum resistance [mbar]	-1000		
Vacuum resistance [MPa]	-0.1		
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		



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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: 1; Number of analogue outputs: 1		
Outputs				
Total number of outputs		2		
Output signal		switching signal; analogue signal; IO-Link; (configurable)		
Electrical design		PNP		
Number of digital outputs		1		
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		
Number of analogue outputs		1		
Analogue current output	[mA]	4...20		
Max. load	[Ω]	500		
Analogue voltage output	[V]	0...10		
Min. load resistance	[Ω]	2000		
Short-circuit protection		yes		
Type of short-circuit protection		pulsed		
Overload protection		yes		
Measuring/setting range				
Measuring range		0...25 bar	0...362 psi	0...2.5 MPa
Factory setting / CMPT = 2				
Set point SP		0.2...25 bar	4...362 psi	0.02...2.5 MPa
Reset point rP		0.1...24.9 bar	2...360 psi	0.01...2.49 MPa
Min. difference between SP and rP		0.2 bar	2 psi	0.02 MPa
In steps of		0.1 bar	2 psi	0.01 MPa
Status_B High Resolution / CMPT = 3				
Set point SP		0.2...25 bar	3...363 psi	0.02...2.5 MPa
Reset point rP		0.1...24.9 bar	1...361 psi	0.01...2.49 MPa
Min. difference between SP and rP		0.2 bar	2 psi	0.02 MPa
In steps of		0.1 bar	1 psi	0.01 MPa
Accuracy / deviations				
Switch point accuracy		< ± 0,5		
	[% of the span]			
Repeatability	[% of the span]	< ± 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]			



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Long-term stability [% of the span]	< ± 0,05; (per 6 months)	
Temperature coefficient zero point [% of the span / 10 K]	< ± 0,2; (-0...80 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (-0...80 °C)	
Response times		
Response time [ms]	< 3	
Delay time programmable dS, dr [s]	0...50	
Damping process value 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	
Process data analogue	1	
Process data binary	1	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	430
	Status_B High Resolution / CMPT = 3	609
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	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 [bar]	0.01	

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IO-Link resolution pressure [MPa]	0.001	
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]		226
UL approval	UL Approval no.	J004
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data		
Weight [g]		235
Housing		cylindrical
Dimensions [mm]		Ø 34 / L = 90.7
Materials	stainless steel (316L/1.4404) stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)	stainless steel (316L/1.4404); 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 M6 I	
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.

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



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Connection



OUT1	switching output IO-Link
OUT2	analogue output
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white