



Pressure sensor with display

PN-2,5-RER14-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

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1			
Measuring range	-0.125...2.5 bar	-125...2500 mbar	-1.8...36.25 psi	-12.5...250 kPa
Process connection	threaded connection G 1/4 internal thread			

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	50 bar	725 psi	5000 kPa
Pressure rating	20 bar	290 psi	2000 kPa
Vacuum resistance [mbar]	-1000		
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		



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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	-0.125...2.5 bar	-125...2500 mbar	-1.8...36.25 psi	-12.5...250 kPa
Set point SP	-0.11...2.5 bar	-1.6...36.25 psi		-11...250 kPa
Reset point rP	-0.12...2.49 bar	-1.75...36.1 psi		-12...249 kPa
Analogue start point	-0.125...2 bar	-1.8...29 psi		-12.5...200 kPa
Analogue end point	0.375...2.5 bar	5.45...36.25 psi		37.5...250 kPa
In steps of	0.005 bar	0.05 psi		0.5 kPa
Accuracy / deviations				
Switch point accuracy [X21]	< ± 0,4; (Turn down 1:1)			
Repeatability [X21]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)			
Characteristics deviation [X21]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)			
Hysteresis deviation [X21]	< ± 0,1; (Turn down 1:1)			
Long-term stability [X21]	< ± 0,05; (Turn down 1:1; per 6 months)			
Temperature coefficient zero point [X22]	< ± 0,2; (-0...80 °C)			
Temperature coefficient span [X22]	< ± 0,2; (-0...80 °C)			
Notes on the accuracy / deviation	switch point accuracy, linearity error under DNV GL: < ± 1%: < ± 1%			
Response times				
Response time [ms]	< 1.5			
Delay time programmable dS, dr [s]	0...50			



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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		
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis		
SIO mode	yes		
Required master port type	A		
Process data analogue	1		
Process data binary	2		
Min. process cycle time	[ms]	2.3	
Supported DeviceIDs	Type of operation	DeviceID	
	default	464	
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]	138	
UL approval	UL Approval no.	J012	
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request		
Mechanical data			
Weight	[g]	273.5	
Materials	stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC		
Materials (wetted parts)	stainless steel (316L/1.4404); Al2O3 (96%; 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		
Restrictor element integrated	no (can be retrofitted)		
Displays / operating elements			
Display	Display unit	3 x LED, green (bar, psi, kPa)	
	switching status	2 x LED, yellow	
	measured values	alphanumeric display, red/green 4-digit	

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Remarks

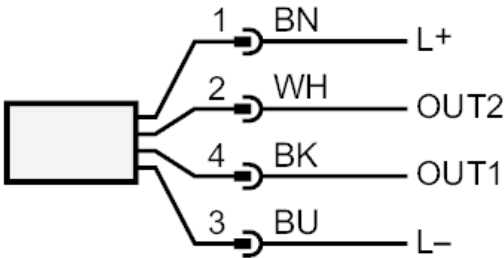
Pack quantity 1 pcs.

Electrical connection

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



Connection



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