



Pressure sensor with display

PN-025-RBN14-MFRKG/US/ IV

phase-out article

Alternative articles: PN2293

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
 2 LEDs Display unit / switching status
 3 programming button



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range	-1...25 bar	-14.5...362.5 psi
Process connection	threaded connection 1/4" NPT internal thread	

Application

Special feature	Gold-plated contacts		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Min. bursting pressure	350 bar	5075 psi	35 MPa
Pressure rating	100 bar	1450 psi	10 MPa
Type of pressure	relative pressure		

Electrical data

Operating voltage [V]	18...32 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: 2; Number of analogue outputs: 1
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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 1:4)
Max. load [Ω]	(U _b - 10 V) / 20 mA
Analogue voltage output [V]	0...10; (scalable 1:4)
Min. load resistance [Ω]	2000
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Overload protection	yes

Measuring/setting range

Measuring range	-1...25 bar		-14.5...362.5 psi
Set point SP	-0.8...25 bar	-11.5...362.5 psi	-0.08...2.5 MPa
Reset point rP	-0.9...24.9 bar	-13...361 psi	-0.09...2.49 MPa
Analogue start point	-1...18.75 bar	-14.5...272 psi	-0.1...1.88 MPa
Analogue end point	5.25...25 bar	76...362.5 psi	0.53...2.5 MPa
In steps of	0.05 bar	0.5 psi	0.01 MPa
Factory setting		SP1 = 90.5 psi	rP1 = 83.5 psi
		SP2 = 272.0 psi	rP2 = 264.5 psi
		ASP = 0.0 psi	AEP = 362.5 psi

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,4; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation [% of the span]	< ± 0,1; (Turn down 1:1)
Long-term stability [% of the span]	< ± 0,1; (Turn down 1:1; per year)



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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]	< 1.5	
Damping process value dAP [s]	0.01...4	
Damping for the analogue output dAA [s]	0.01...4	
Max. response time analogue output [ms]	3	
Software / programming		
Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; current/voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; zero point; span	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 65	
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	131	
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	264	
Housing	cylindrical	
Dimensions [mm]	Ø 34 / L = 91.5	
Materials	stainless steel (304/1.4301); stainless steel (316L/1.4404); PC; PBT; PEI; FKM; PTFE	
Materials (wetted parts)	stainless steel (303/1.4305); ceramics; FKM	
Min. pressure cycles	100 million	
Process connection	threaded connection 1/4" NPT internal thread	
Restrictor element integrated	no (can be retrofitted)	

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Displays / operating elements		
Display	Display unit	3 x LED, green
	switching status	2 x LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit

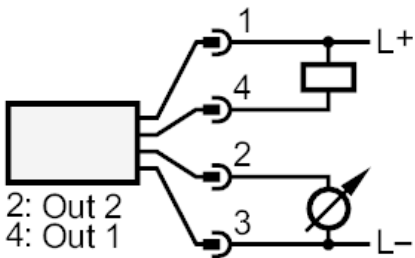
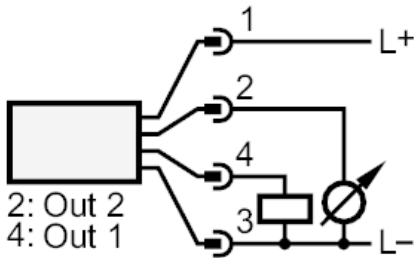
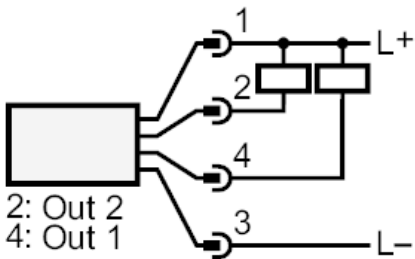
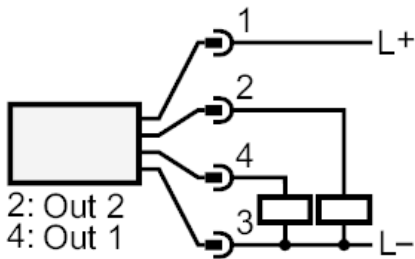
Remarks	
Pack quantity	1 pcs.

Electrical connection

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



Connection



OUT1	switching output
	IO-Link
OUT2	switching output
	analogue output