



Pressure sensor with display

PN-010-RBR14-QFRKG/US/ IV

phase-out article

Alternative articles: PN7094

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		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	threaded connection G 1/4 internal thread		

Application

Special feature	Gold-plated contacts		
Application	for industrial applications		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Min. bursting pressure	150 bar	2175 psi	15 MPa
Pressure rating	75 bar	1087 psi	7.5 MPa
Type of pressure	relative pressure		

Electrical data

Operating voltage [V]	18...36 DC; (to SELV/PELV)		
Current consumption [mA]	< 35		
Min. insulation resistance [MΩ]	100; (500 V DC)		
Protection class	III		



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PN-010-RBR14-QFRKG/US/ /V

Reverse polarity protection	yes
Overvoltage protection	yes; (< 40 V)
Power-on delay time [s]	0.3
Integrated watchdog	yes
Inputs / outputs	
Number of inputs and outputs	Number of digital outputs: 2
Outputs	
Total number of outputs	2
Output signal	switching 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]	< 170
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Measuring/setting range	
Measuring range	-1...10 bar -14.5...145 psi -0.1...1 MPa
Set point SP	-0.9...10 bar -12...145 psi -0.09...1 MPa
Reset point rP	-0.95...9.95 bar -13...144 psi -0.095...0.995 MPa
In steps of	0.05 bar 1 psi 0.005 MPa
Factory setting	SP1 = 2.50 bar rP1 = 2.30 bar
	SP2 = 7.50 bar rP2 = 7.30 bar
Accuracy / deviations	
Switch point accuracy [X21]	< ± 0,5
Repeatability [X21]	< ± 0,1; (with temperature fluctuations < 10 K)
Characteristics deviation [X21]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation [X21]	< ± 0,25
Long-term stability [X21]	< ± 0,05; (per 6 months)
Temperature coefficient zero point [X22]	0,2; (-20...80 °C)
Temperature coefficient span [X22]	0,2; (-20...80 °C)
Response times	
Delay time programmable dS, dr [s]	0; 0,2...50
Software / programming	
Parameter setting options	hysteresis / window; normally open / normally closed; diagnostic function; switching logic; switch-on/switch-off delay; Damping; Display unit
Interfaces	
Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.1

PN7004



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PN-010-RBR14-QFRKG/US/ /V

SDCI standard	IEC 61131-9 CDV	
Profiles	no profile	
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	311

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
	DIN IEC 68-2-27	50 g (11 ms)
Shock resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
Vibration resistance	219	
MTTF [ANN]	219	
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data		
Weight [g]	262.6	
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 G 1/4 internal thread	
Restrictor element integrated	no (can be retrofitted)	

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.

PN7004



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Electrical connection

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



OUT1	switching output IO-Link
OUT2	switching output Diagnostic output