

PN2224



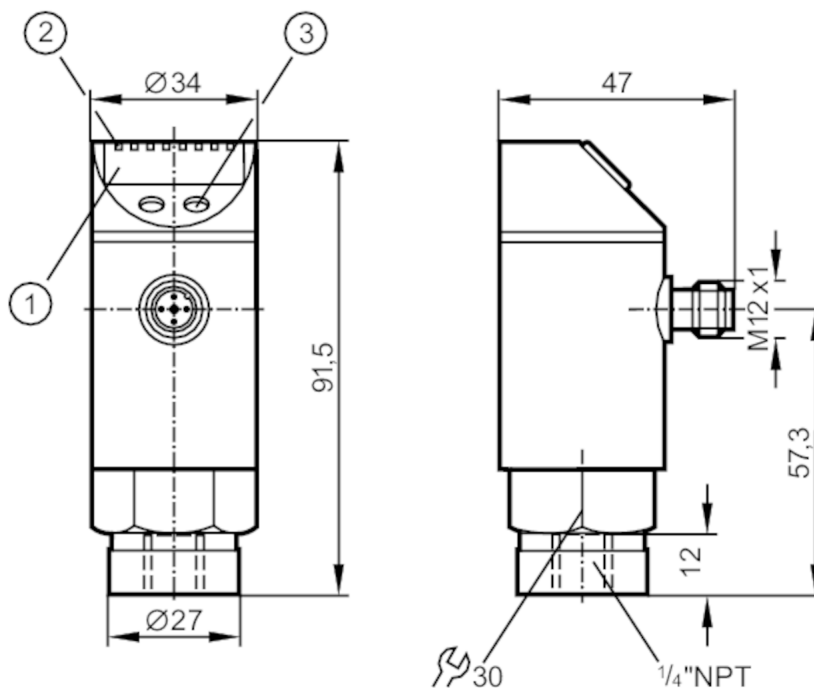
Pressure sensor with display

PN-010-RBN14-MFRKG/US/ IV

Article to be discontinued

Alternative articles: PN2294

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 analog outputs: 1			
Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Process connection	threaded connection 1/4" NPT Internal thread			

Application

System	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	1088 psi	7.5 MPa
Type of pressure	relative pressure		
MAWP (for applications according to CRN)	39 bar	565 psi	3.9 MPa

Electrical data

Operating voltage [V]	18...32 DC; (to SELV/PELV)
Current consumption [mA]	< 35



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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 analog outputs: 1
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Outputs

Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	2
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC [V]	2
Permanent current rating of switching output DC [mA]	250
Switching frequency DC [Hz]	< 500
Number of analog outputs	1
Analog current output [mA]	4...20; (scalable 1:4)
Max. load [Ω]	(U _b - 10 V) x 50
Analog voltage output [V]	0...10; (scalable 1:4)
Min. load resistance [Ω]	2000
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Overload protection	yes

Measuring/setting range

Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Set point SP	-0.88...10 bar	-12.8...145 psi	-0.088...1 MPa	
Reset point rP	-0.94...9.94 bar	-13.6...144.2 psi	> -0.094 MPa	
Analog start point	-1...7.26 bar	-14.6...105.2 psi	-0.1...0.726 MPa	
Analog end point	21.8...145 psi	0.15...1 MPa		
In steps of	0.02 bar	0.29 psi	0.002 MPa	
Factory setting		SP1 = 36.2 psi	rP1 = 33.4 psi	
		SP2 = 108.8 psi	rP2 = 105.8 psi	
		ASP = 0.0 psi	AEP = 145.0 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	< ± 0,1; (Turn down 1:1; per year)



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[% of the span]		
Temperature coefficient zero point		< ± 0,2; (-25...80 °C)
[% of the span / 10 K]		
Temperature coefficient span		< ± 0,2; (-25...80 °C)
[% of the span / 10 K]		
Reaction times		
Response time	[ms]	< 1.5
Damping process value dAP	[s]	0.01...4
Damping for the analog output dAA	[s]	0.01...4
Max. response time analog output	[ms]	3
Software / programming		
Parameter setting options	hysteresis / window; normally open / 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	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]	131
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight	[g]	265
Material	stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM; PTFE	
Materials (wetted parts)	stainless steel (1.4305 / 303); ceramics; FKM	
Min. pressure cycles	100 million	
Process connection	threaded connection 1/4" NPT 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.	

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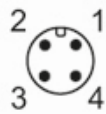


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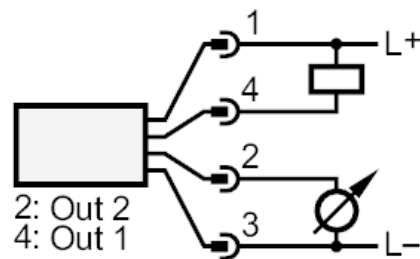
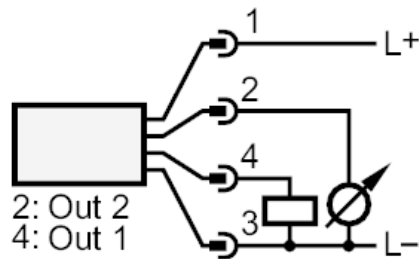
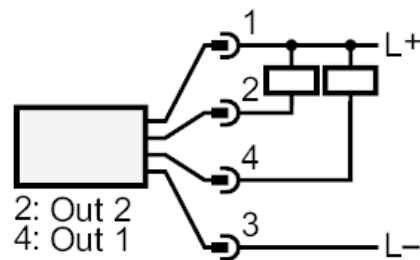
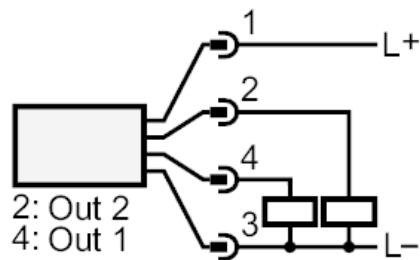
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Electrical connection

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



Connection



OUT1	Switching output IO-Link
OUT2	Switching output analog output