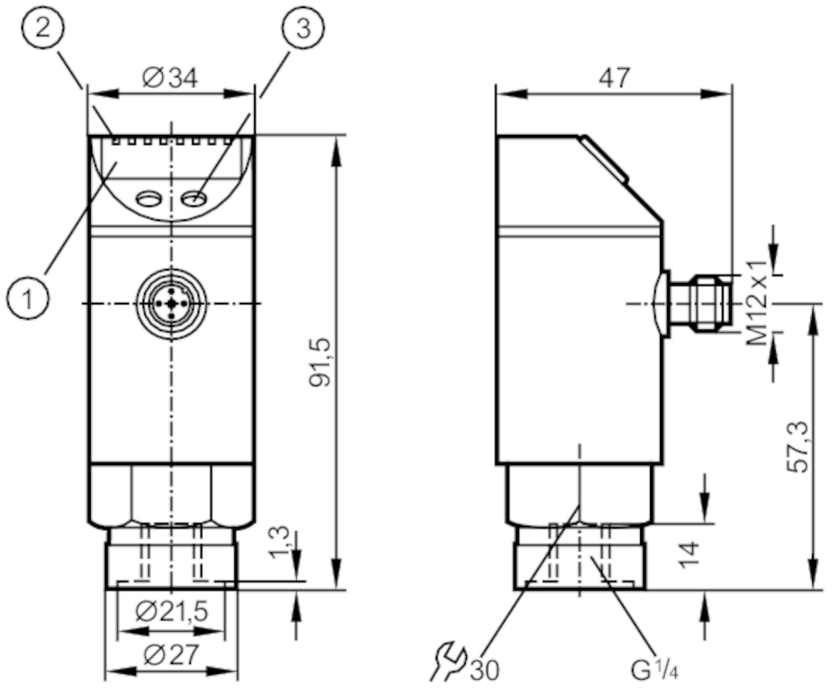
PN2024

Pressure sensor with display

PN-010-RBR14-MFRKG/US/ /V

Article no longer available - archive entry

Alternative articles: PN2094
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...10 bar	-14.5...145 psi	-100...1000 kPa	-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. burst pressure	150 bar	2175 psi	15 MPa	
Pressure rating	75 bar	1088 psi	7.5 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
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]	(Ub - 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...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...0.994 MPa
Analogue start point	-1...7.26 bar	-14.6...105.2 psi		-0.1...0.726 MPa
Analogue end point	1.76...10 bar	25.4...145 psi		0.176...1 MPa
In steps of	0.02 bar	0.29 psi		0.002 MPa
Factory setting		SP1 = 2.50 bar		rP1 = 2.30 bar
		SP2 = 7.50 bar		rP2 = 7.30 bar
		ASP = 0.00 bar		AEP = 10.00 bar

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]		< ± 0,1; (-25...80 °C)	
Temperature coefficient span [% of the span / 10 K]		< ± 0,2; (-25...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	
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	60
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]	163	
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	262	
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	

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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

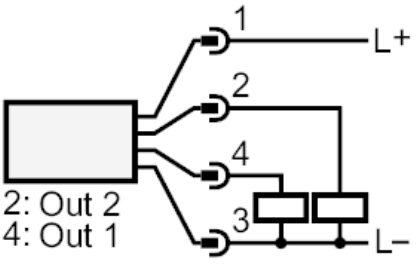
Pack quantity	1 pcs.

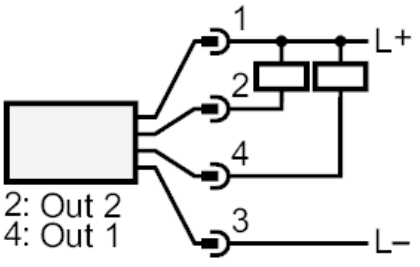
Electrical connection

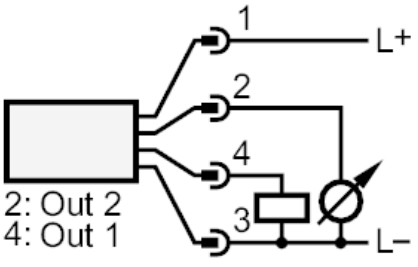
Connector: 1 x M12; coding: A; Contacts: 4, gold-plated

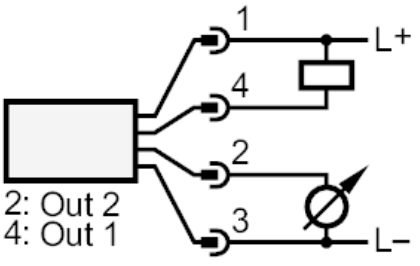


Connection









OUT1	switching output IO-Link
OUT2	switching output analogue output