PN2009

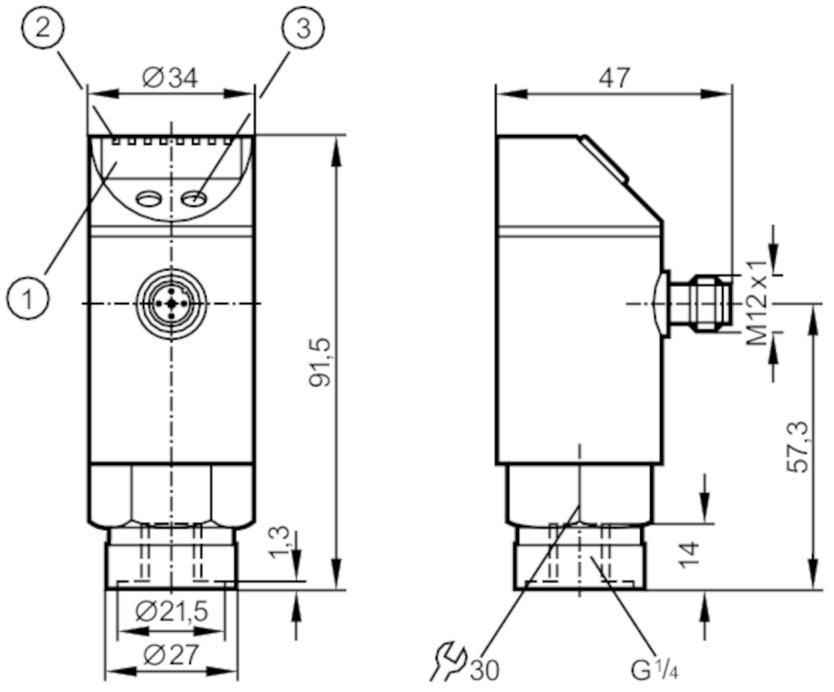
Pressure sensor with display

PN-1-1BRBR14-MFRKG/US/ /V

Article no longer available - archive entry

Alternative articles: PN2099

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...1 bar	-1000...1000 mbar	-14.5...14.5 psi
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	50000 mbar	725 psi	5 MPa
Pressure rating	20000 mbar	290 psi	2 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...1 bar	-1000...1000 mbar	-14.5...14.5 psi	
Set point SP	-988...1000 mbar	-14.3...14.5 psi		
Reset point rP	-996...992 mbar	-14.4...14.4 psi		
Analogue start point	-996...500 mbar	-14.4...7.3 psi		
Analogue end point	-500...1000 mbar	-7.2...14.5 psi		
In steps of	4 mbar	0.1 psi		
Factory setting		SP1 = -500 mbar	rP1 = -540 mbar	
		SP2 = 500 mbar	rP2 = 460 mbar	
		ASP = -996 mbar	AEP = 1000 mbar	

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; (-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	64
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]	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	5 x LED, green
	switching status	2 x LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit	mbar; kPa; psi; inH2O; inHg	

Remarks

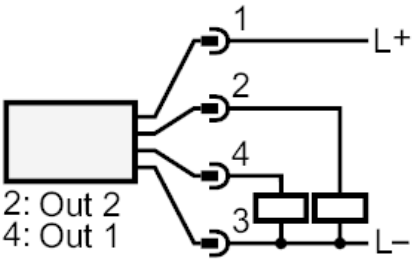
Pack quantity	1 pcs.

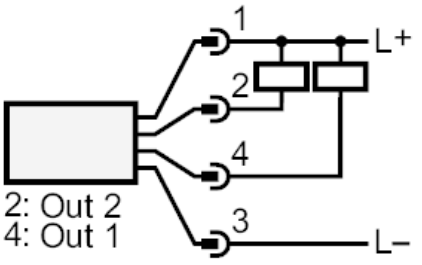
Electrical connection

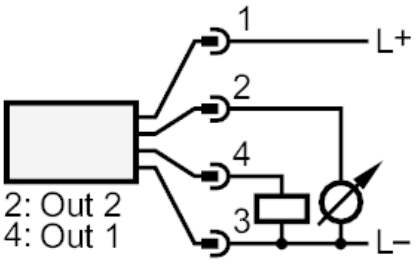
Connector: 1 x M12; coding: A; Contacts: 4, gold-plated

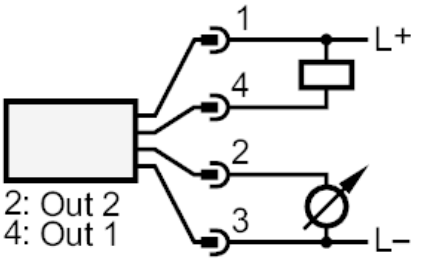


Connection









OUT1	switching output IO-Link
OUT2	switching output analogue output