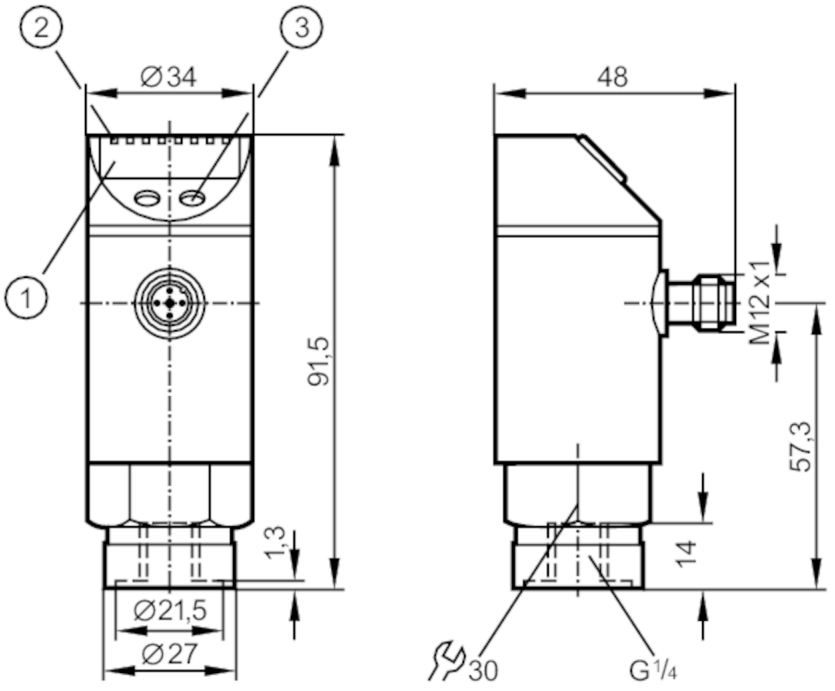
PN7009

Pressure sensor with display

PN-1-1BRBR14-QFRKG/US/ /

Article to be discontinued

Alternative articles: PN7099
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...1 bar	-1000...1000 mbar
Process connection		threaded connection G 1/4 Internal thread	
Application			
System		gold-plated contacts	
Application		for industrial applications	
Media		liquids and gases	
Medium temperature	[°C]	-25...80	
Min. bursting pressure	[mbar]	50000	
Pressure rating	[mbar]	20000	
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	

PN7009

Pressure sensor with display

PN-1-1BRBR14-QFRKG/US/ /

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 / closed; (configurable)	
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		yes (non-latching)	
Measuring/setting range			
Measuring range		-1...1 bar	-1000...1000 mbar
Set point SP	[mbar]	-970...1000	
Reset point rP	[mbar]	-980...990	
In steps of	[mbar]	10	
Factory setting		SP1 = -500 mbar	rP1 = -540 mbar
		SP2 = 500 mbar	rP2 = 460 mbar
Accuracy / deviations			
Switch point accuracy	[% of the span]	< ± 0,5	
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K)	
Characteristics deviation	[% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)	
Hysteresis deviation	[% of the span]	< ± 0,25	
Long-term stability	[% of the span]	< ± 0,05; (per 6 months)	
Temperature coefficient zero point	[% of the span / 10 K]	0,2; (-20...80 °C)	
Temperature coefficient span	[% of the span / 10 K]	0,2; (-20...80 °C)	
Reaction times			
Delay time programmable dS, dr	[s]	0; 0,2...50	

PN7009

Pressure sensor with display

PN-1-1BRBR14-QFRKG/US/ /

Software / programming			
Parameter setting options		hysteresis / window; normally open / 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	
SDCI standard		IEC 61131-9 CDV	
Profiles		no profile	
SIO mode		yes	
Required master port class		A	
Process data analog		1	
Process data binary		2	
Min. process cycle time	[ms]	2.3	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	314
Operating conditions			
Ambient temperature	[°C]	-20...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]	219	
Pressure equipment directive		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	261	
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 G 1/4 Internal thread	
Restrictor element integrated		no (can be retrofitted)	
Displays / operating elements			
Display		Display unit	4 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.	

PN7009

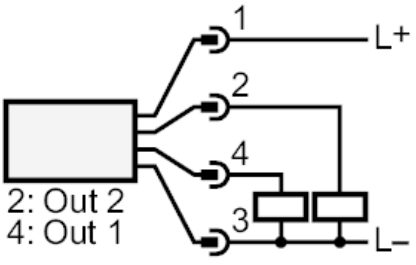
Pressure sensor with display

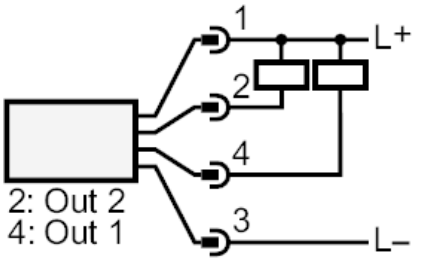
PN-1-1BRBR14-QFRKG/US/ /

Electrical connection

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







OUT1	Switching output IO-Link
OUT2	Switching output Diagnostic output