



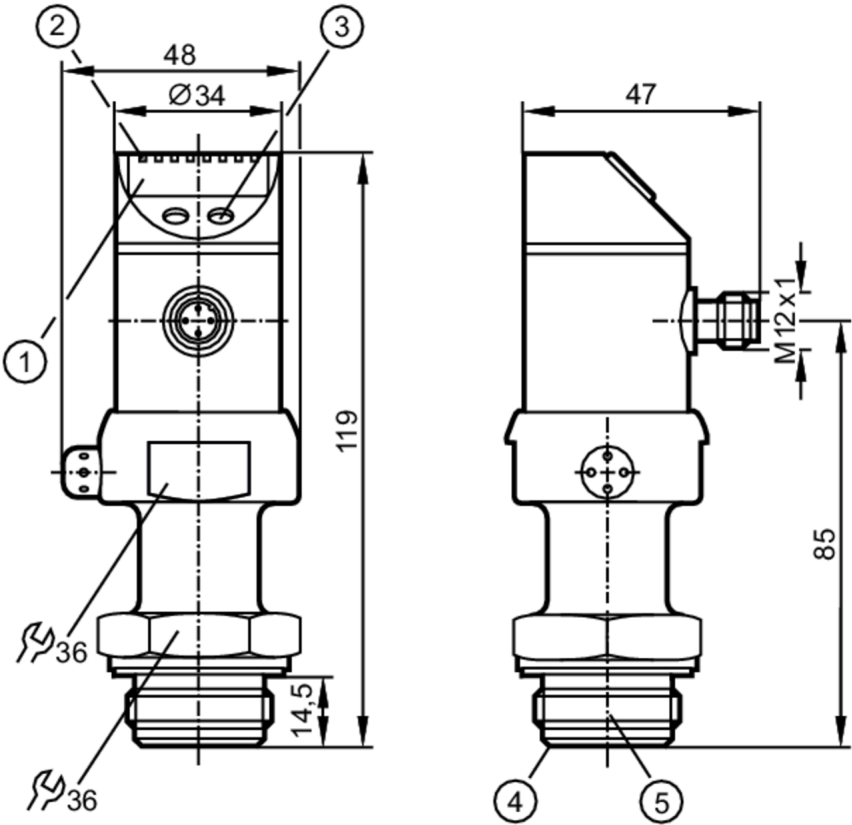
Flush pressure sensor with display

PI-1-1BRES30-MFRKG/US/ /P

phase-out article
Discontinuation date: 03/31/2024

Alternative articles: PI1009 or PI1709
When selecting an alternative article and accessories please note that technical data may differ!

Please do not use for new projects.
no more adapters available as accessories



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button
- 4 Aseptoflex sealing edge
- 5 Aseptoflex thread



Product characteristics		
Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1	
Measuring range	-1...1 bar	-1000...1000 mbar
Process connection	threaded connection Aseptoflex external thread Aseptoflex	
Application		
Special feature	Gold-plated contacts	
Application	flush mountable for the food and beverage industry	
Installation	freely rotatable housing 350°	
Media	viscous media and liquids with suspended particles; liquids and gases	



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Medium temperature	[°C]	-25...125; (145 max. 1h)
Min. bursting pressure	[mbar]	30000
Pressure rating	[mbar]	10000
Type of pressure		relative pressure
No dead space		yes

Electrical data

Operating voltage	[V]	18...32 DC
Current consumption	[mA]	< 50
Min. insulation resistance	[MΩ]	100; (500 V DC)
Protection class		III
Reverse polarity protection		yes
Power-on delay time	[s]	0.5
Integrated watchdog		yes

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
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Outputs

Total number of outputs	2
Output signal	switching signal; analogue signal; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	1
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]	6
Number of analogue outputs	1
Analogue current output [mA]	4...20, invertible; (scalable 1:4)
Max. load [Ω]	(Ub - 10 V) / 20 mA
Analogue voltage output [V]	0...10, invertible; (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
Set point SP	[mbar]	-998...1000
Reset point rP	[mbar]	-1000...998
Analogue start point	[mbar]	-1000...500
Analogue end point	[mbar]	-500...1000
In steps of	[mbar]	1
Factory setting	SP1 = -500 mbar	rP1 = -540 mbar
	ASP = -1000 mbar	AEP = 1000 mbar



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Accuracy / deviations		
Switch point accuracy	[X21]	< ± 0,2; (Turn down 1:1)
Repeatability	[X21]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation	[X21]	< ± 0,2; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)
Linearity deviation	[X21]	< ± 0,15; (Turn down 1:1)
Hysteresis deviation	[X21]	< ± 0,15; (Turn down 1:1)
Long-term stability	[X21]	< ± 0,1; (Turn down 1:1; per year)
Temperature coefficient zero point	[X22]	< ± 0,05; (0...70 °C)
Temperature coefficient span	[X22]	< ± 0,15; (0...70 °C)
Response times		
Response time	[ms]	< 100
Damping process value dAP	[s]	0.1...100
Damping for the analogue output dAA	[s]	0.1...100
Step response time analogue output	[ms]	25
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	
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection	IP 67; IP 69K	
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	[ANN]	163
Mechanical data		
Weight	[g]	413.5
Materials	stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM; PTFE	
Materials (wetted parts)	ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PTFE	
Min. pressure cycles	100 million	
Process connection	threaded connection Aseptoflex external thread Aseptoflex	



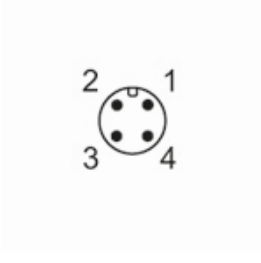
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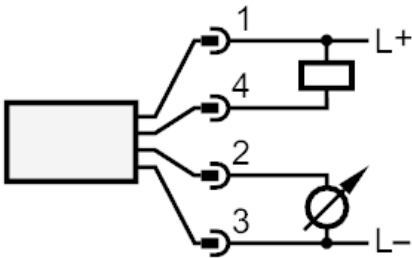
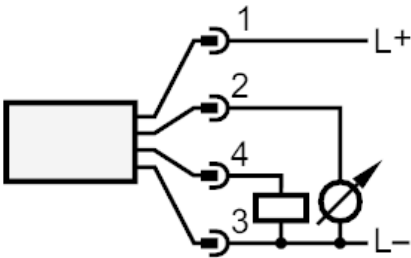
Displays / operating elements		
Display	Display unit	6 x, green
	switching status	LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit	mbar; kPa; psi; inH2O; mWS; % of the span	
Remarks		
Remarks	The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.	
Notes	Please do not use for new projects.; no more adapters available as accessories	
Pack quantity	1 pcs.	

Electrical connection

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



Connection



OUT1 switching output
OUT2 analogue output