

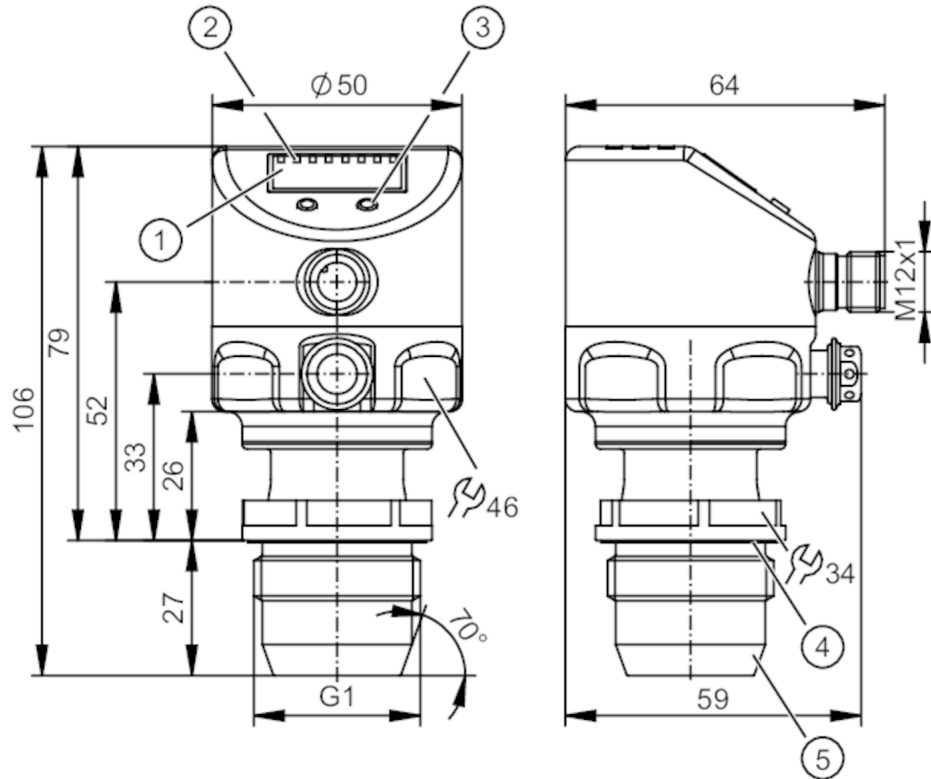


Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Alternative articles: [PI1889](#)

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button
- 4 groove with sealing ring
- 5 sealing contour external thread G1

Attention: The unit must only be installed in a process connection for G1 sealing cone. The G1A sealing cone of the unit is only suited for adapters with metal end stop.



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1			
Measuring range	-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O	-0.5...10 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.			

Application

Special feature	Gold-plated contacts		
Application	flush mountable for the food and beverage industry		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...125; (145 max. 1h)		
Min. bursting pressure	30000 mbar	12044 inH2O	3000 kPa
Pressure rating	4000 mbar	1606 inH2O	400 kPa
Vacuum resistance [mbar]	-1000		
Vacuum resistance [MPa]	-0.1		



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Type of pressure		relative pressure			
MAWP (for applications according to CRN)	[bar]	4			
Electrical data					
Min. insulation resistance	[MΩ]	100; (500 V DC)			
Protection class		III			
Reverse polarity protection		yes			
Measuring principle		hydrostatic			
Integrated watchdog		yes			
2-wire					
Operating voltage	[V]	20...32 DC			
Current consumption	[mA]	3.6...21			
Power-on delay time	[s]	1			
3-wire					
Operating voltage	[V]	18...32 DC			
Current consumption	[mA]	< 45			
Power-on delay time	[s]	0.5			
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)			
Number of analogue outputs		1			
Analogue current output	[mA]	4...20, invertible; (scalable)			
Short-circuit protection		yes			
Type of short-circuit protection		pulsed			
Overload protection		yes			
2-wire					
Max. load	[Ω]	300			
3-wire					
Max. voltage drop switching output DC	[V]	2			
Permanent current rating of switching output DC	[mA]	250			
Switching frequency DC	[Hz]	125			
Max. load	[Ω]	(Ub - 10 V) / 20 mA			
Measuring/setting range					
Measuring range		-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O	-0.5...10 kPa
Set point SP		-4.8...100 mbar	-1.92...40.16 inH2O		-0.48...10 kPa
Reset point rP		-5...99.8 mbar	-2...40.08 inH2O		-0.5...9.98 kPa
Analogue start point		-5...75 mbar	-2...30.12 inH2O		-0.5...7.5 kPa



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Analogue end point	20...100 mbar	8.04...40.16 inH2O	2...10 kPa
In steps of	0.1 mbar	0.04 inH2O	0.01 kPa
Factory setting		SP1 = 25 mbar	rP1 = 23 mbar
		SP2 = 75 mbar	rP2 = 73 mbar
		ASP = 0 mbar	AEP = 100 mbar
		dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,5; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,5; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)
Linearity deviation [% of the span]	< ± 0,25; (Turn down 1:1)
Hysteresis deviation [% of the span]	< ± 0,2; (Turn down 1:1)
Long-term stability [% of the span]	< ± 0,1; (Turn down 1:1; per year)
Temperature coefficient zero point [% of the span / 10 K]	< ± 0,1; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (0...70 °C)

Response times

Damping process value dAP [s]	0...30
Damping for the analogue output dAA [s]	0.01...99.99

2-wire

Step response time analogue output [ms]	45
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3-wire

Min. response time of switching output (dAP) [ms]	3
Step response time analogue output [ms]	7

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
Profiles	no profile	
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	259



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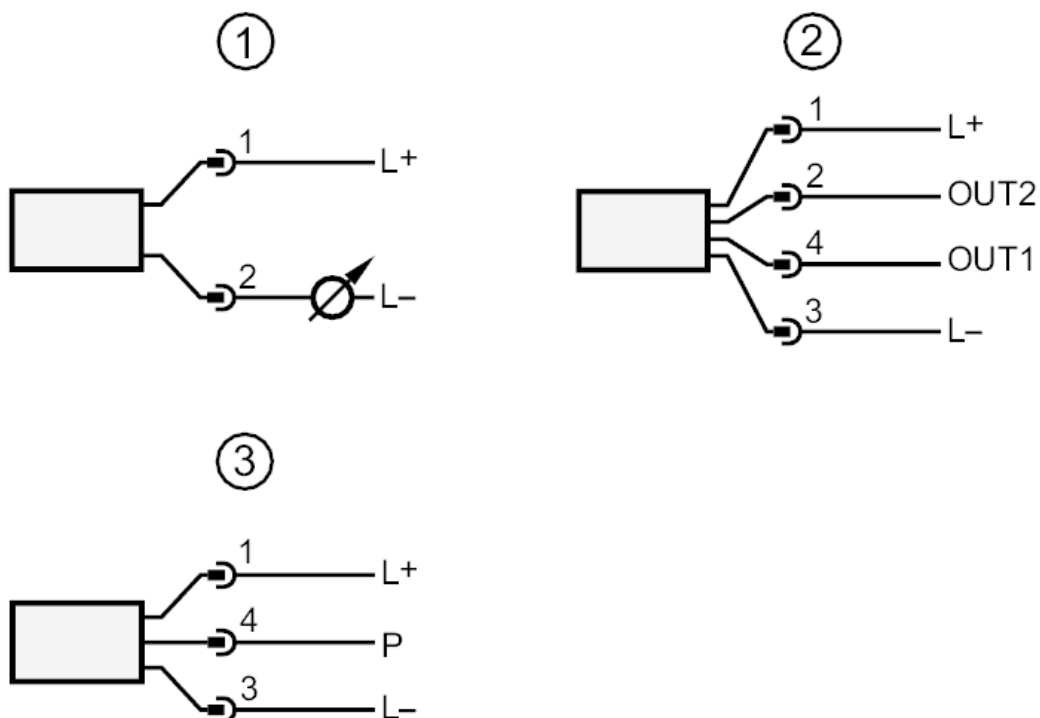
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Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 67; IP 68; IP 69K
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 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	[years]	148.85
Mechanical data		
Weight	[g]	376.5
Housing		cylindrical
Dimensions	[mm]	Ø 50 / L = 106
Materials		stainless steel (316L/1.4404); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)		ceramics (99.9 % Al ₂ O ₃); stainless steel (316L/1.4435); surface characteristics: Ra < 0,4 / Rz 4; PTFE
Min. pressure cycles		100 million
Process connection		threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.
Displays / operating elements		
Display	Display unit	LED, green
	switching status	LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit		mbar; kPa; inH ₂ O; mmWS; % of the span
Remarks		
Pack quantity		1 pcs.
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		

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Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 switching output
- OUT2 switching output
- analogue output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)