

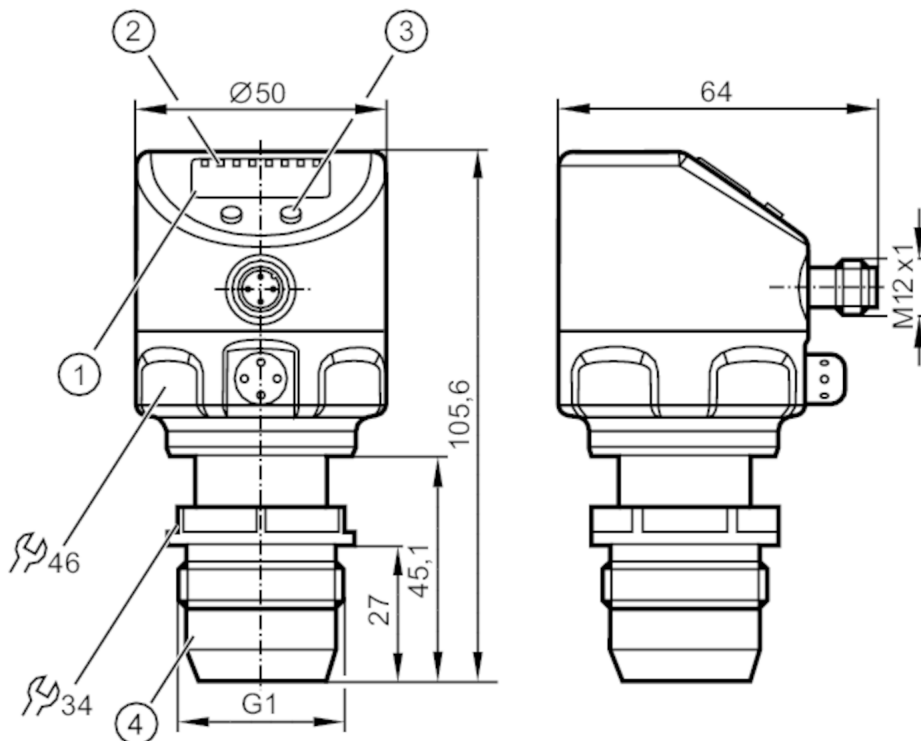


## Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ IP

Alternative articles: PI1808

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 G 1 sealing cone external thread

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.

ACS CE CRN cUL<sup>US</sup> LISTED EAC EC 1935/2004 EHEDG Tested FCM FDA IO-Link UK CA

### Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.0124...0.25 bar	-12.4...250 mbar	-5...100.4 inH <sub>2</sub> O	-1.24...25 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.			



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Application			
System	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	6000 mbar	2400 inH2O	600 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		
MAWP (for applications according to CRN) [bar]	10		
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 analog outputs: 1		
Outputs			
Total number of outputs	2		
Output signal	switching signal; analog signal; IO-Link; (configurable)		
Electrical design	PNP/NPN		
Number of digital outputs	2		
Output function	normally open / closed; (configurable)		
Number of analog outputs	1		
Analog current output [mA]	4...20, invertible; (scalable)		
Short-circuit protection	yes		
Type of short-circuit protection	yes (non-latching)		
Overload protection	yes		
2-wire			
Max. load [Ω]	300		



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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 [ $\Omega$ ]	$(U_b - 10 \text{ V}) / 20 \text{ mA}$
Measuring/setting range	
Measuring range	-0.0124...0.25 bar    -12.4...250 mbar    -5...100.4 inH2O    -1.24...25 kPa
Set point SP	-12...250 mbar    -4.8...100.4 inH2O    -1.2...25 kPa
Reset point rP	-12.4...249.6 mbar    -5...100.2 inH2O    -1.24...24.96 kPa
Analog start point	-12.4...187.4 mbar    -5...75.2 inH2O    -1.24...18.74 kPa
Analog end point	50...250 mbar    20.1...100.4 inH2O    5...25 kPa
In steps of	0.2 mbar    0.1 inH2O    0.02 kPa
Factory setting	SP1 = 62.4 mbar    rP1 = 57.4 mbar
	SP2 = 187.4 mbar    rP2 = 182.4 mbar
	ASP = 0.0 mbar    AEP = 250.0 mbar
Accuracy / deviations	
Switch point accuracy [% of the span]	$< \pm 0,2$ ; (Turn down 1:1)
Repeatability [% of the span]	$< \pm 0,1$ ; (with temperature fluctuations $< 10 \text{ K}$ ; Turn down 1:1)
Characteristics deviation [% of the span]	$< \pm 0,2$ ; (Turn down 1:1, linearity, incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)
Linearity deviation [% of the span]	$< \pm 0,15$ ; (Turn down 1:1)
Hysteresis deviation [% of the span]	$< \pm 0,15$ ; (Turn down 1:1)
Long-term stability [% of the span]	$< \pm 0,1$ ; (Turn down 1:1; per year)
Temperature coefficient zero point [% of the span / 10 K]	$< \pm 0,05$ ; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	$< \pm 0,15$ ; (0...70 °C)
Reaction times	
Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
2-wire	
Step response time analog output [ms]	45
3-wire	
Min. response time of switching output (dAP) [ms]	3
Step response time analog output [ms]	7

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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 class	A	
Process data analog	1	
Process data binary	2	
Min. process cycle time [ms]	2.3	
Supported DeviceIDs	Type of operation	DeviceID
	default	257
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	
Note on approval	Factory certificate available as download at <a href="http://www.factory-certificate.ifm">www.factory-certificate.ifm</a>	
UL approval	UL approval number	J019
Mechanical data		
Weight [g]	377	
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
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 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; inH2O; mmWS; % of the span	
Remarks		
Pack quantity	1 pcs.	

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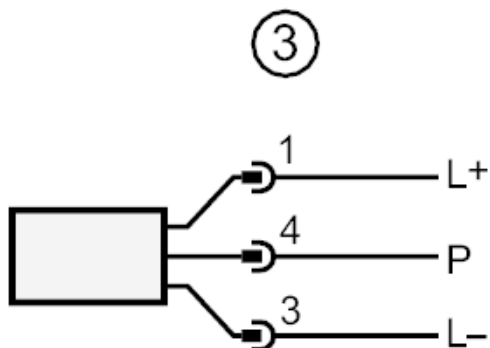
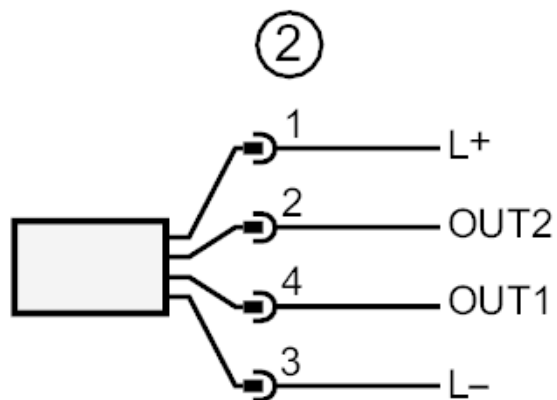
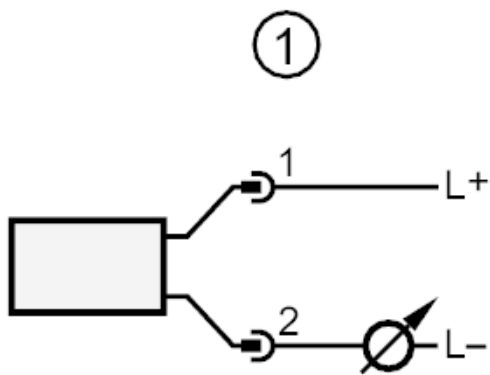
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### Electrical connection

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



### Connection



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