

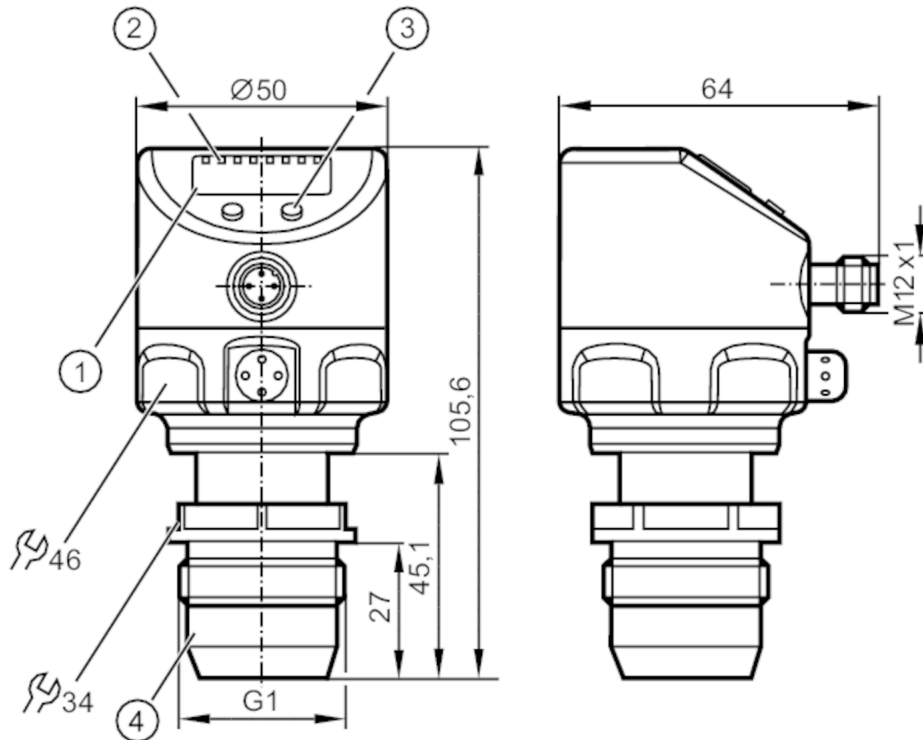


## Flush pressure sensor with display

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<sub>US</sub> LISTED 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 analogue 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.			

### 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 inH <sub>2</sub> O	3000 kPa
Pressure rating	6000 mbar	2400 inH <sub>2</sub> O	600 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		



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MAWP (for applications according to CRN)	[bar]	10
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### 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
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### 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
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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	[Ω]	(U <sub>b</sub> - 10 V) / 20 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	
Analogue start point	-12.4...187.4 mbar	-5...75.2 inH2O	-1.24...18.74 kPa	
Analogue end point	50...250 mbar	20.1...100.4 inH2O	5...25 kPa	



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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]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, linearity, incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)
Linearity deviation [% of the span]	< ± 0,15; (Turn down 1:1)
Hysteresis deviation [% of the span]	< ± 0,15; (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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

### Response times

Damping process value dAP [s]	0...30
Damping for the analogue output dAA [s]	0.01...99.99
<b>2-wire</b>	
Step response time analogue output [ms]	45
<b>3-wire</b>	
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	<b>Type of operation</b>	<b>DeviceID</b>
	default	257

### Operating conditions

Ambient temperature [°C]	-25...80
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# PI2898



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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 no.	J019

### Mechanical data

Weight [g]	377
Materials	stainless steel (316L/1.4404); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al2O3); 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; inH2O; mmWS; % of the span	

### Remarks

Pack quantity	1 pcs.
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### Electrical connection

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

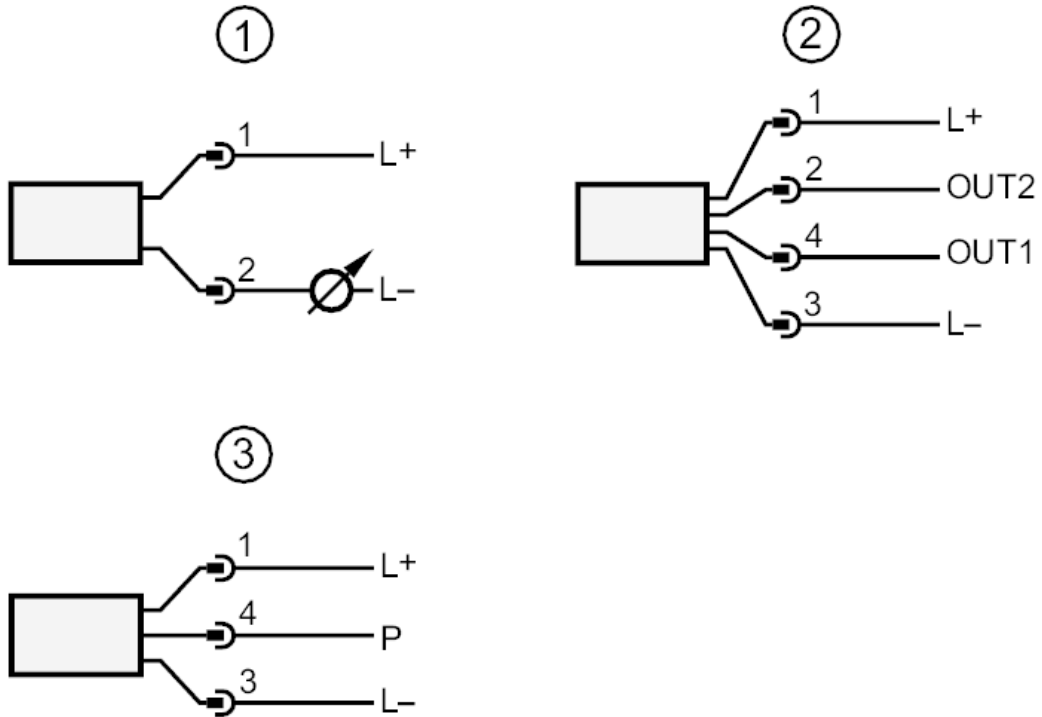




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### Connection



- 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)