

# PI2798

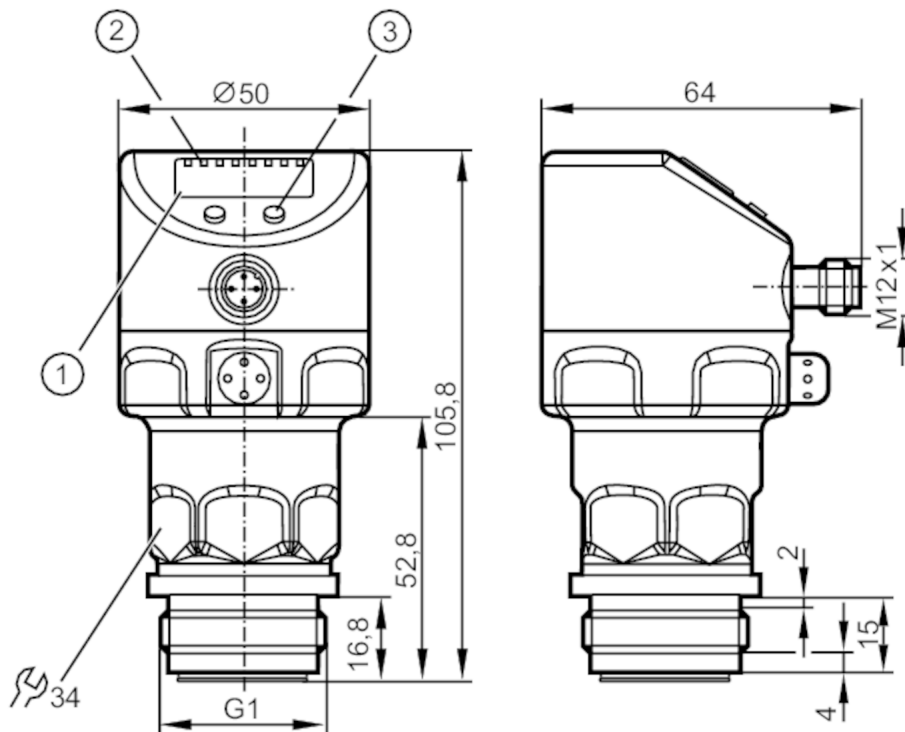


## Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ IP

Alternative articles: PI1708

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



ACS



CRN



US

EC 1935/2004

EHEDG Certified

FCM



Reg31



### 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 mit Dichtkontur Aseptoflex Vario			
Note	G1 Gewinde nach ISO 228. Alternativ dichtend über rückwärtige Dichtkontur mit Dichtung in Anlehnung an DIN EN ISO 1179-2.			

### 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. burst 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	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure		
No dead space	yes		
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			
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]	(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	
In steps of		0.2 mbar	0.1 inH2O	0.02 kPa	



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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
	dAP = 0.06 s	dAA = 0.03 s

### 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	
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
Storage temperature [°C]	-40...100

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Protection	IP 67; IP 68; IP 69K
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### 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
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]		160
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.	J018
	File number UL	E174189

### Mechanical data

Weight [g]	354
Housing	cylindrical
Dimensions [mm]	Ø 50 / L = 105.8
Materials	stainless steel (316L/1.4404); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); stainless steel (316L/1.4435) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread mit Dichtkontur Aseptoflex Vario

### 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 <sub>2</sub> O; mmWS; % of the span	

### Remarks

Pack quantity	1 pcs.
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### Electrical connection

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



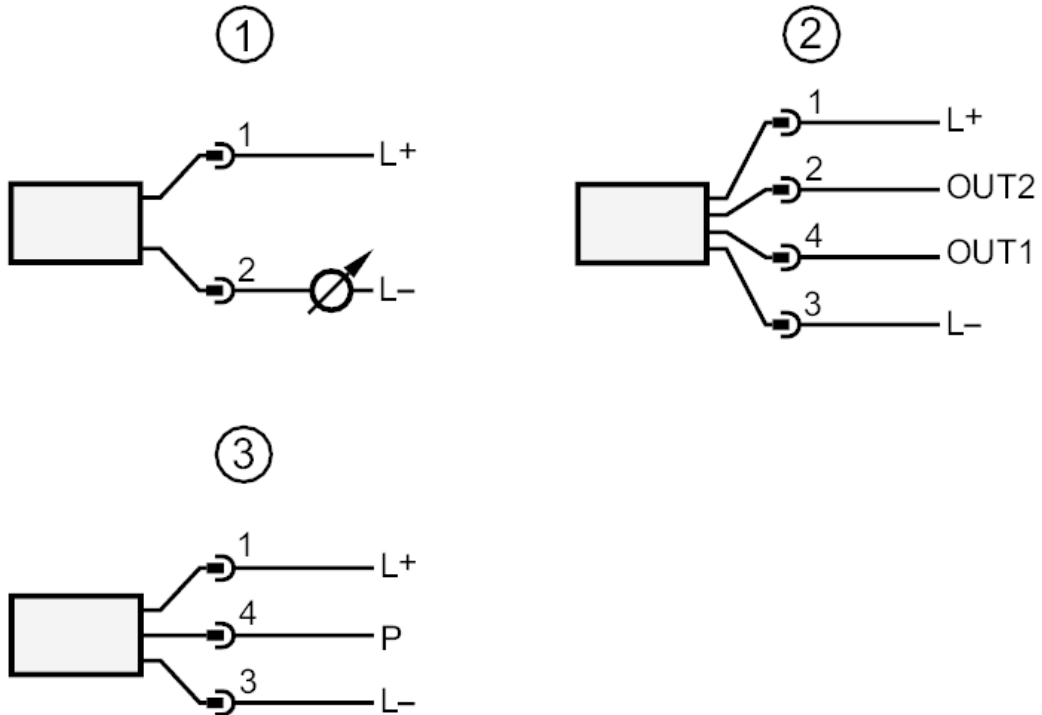
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### Connection



- 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)