

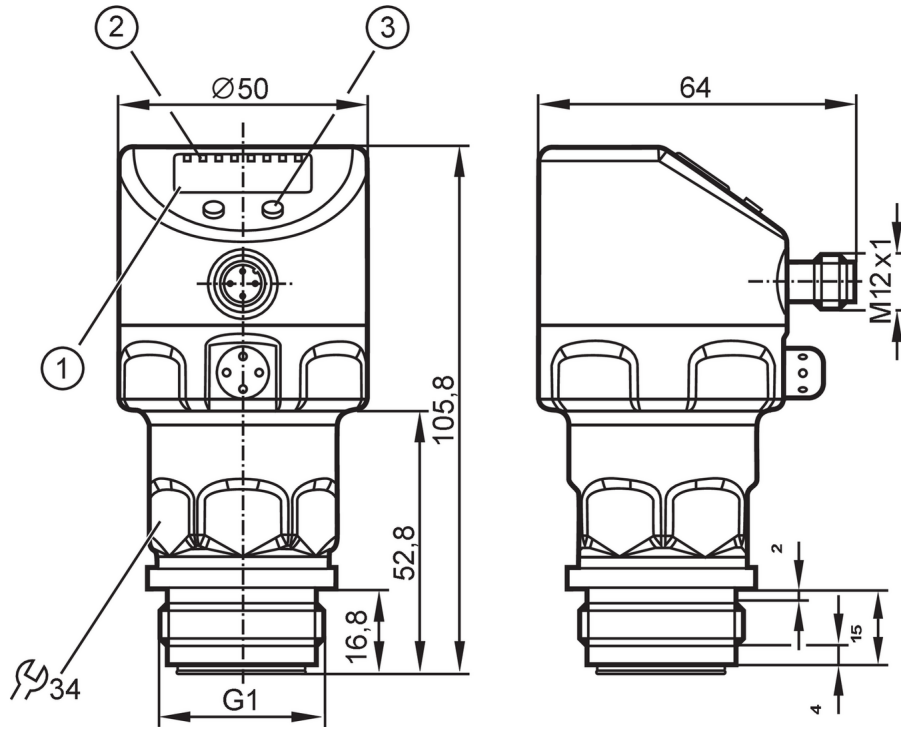


Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ IP

Alternative articles: PI1789

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



EC 1935/2004

EHDG Certified

FCM



Reg31



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 inH ₂ O
Process connection	threaded connection G 1 external thread with Aseptoflex Vario sealing contour		
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 ₂ O	3000 kPa
Pressure rating	4000 mbar	1606 inH ₂ O	400 kPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure		
No dead space	yes		
MAWP for applications according to CRN [bar]	4		

Electrical data

Min. insulation resistance [MΩ]	100; (500 V DC)
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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
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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
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 _b - 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	
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	



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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	
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	
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
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 67; IP 68; IP 69K	

PI2789



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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 www.factory-certificate.ifm	
UL approval	UL approval no.	J018
	File number UL	E174189

Mechanical data		
Weight [g]		362.6
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 ₂ O ₃); 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 with Aseptoflex Vario sealing contour	

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: 4, gold-plated

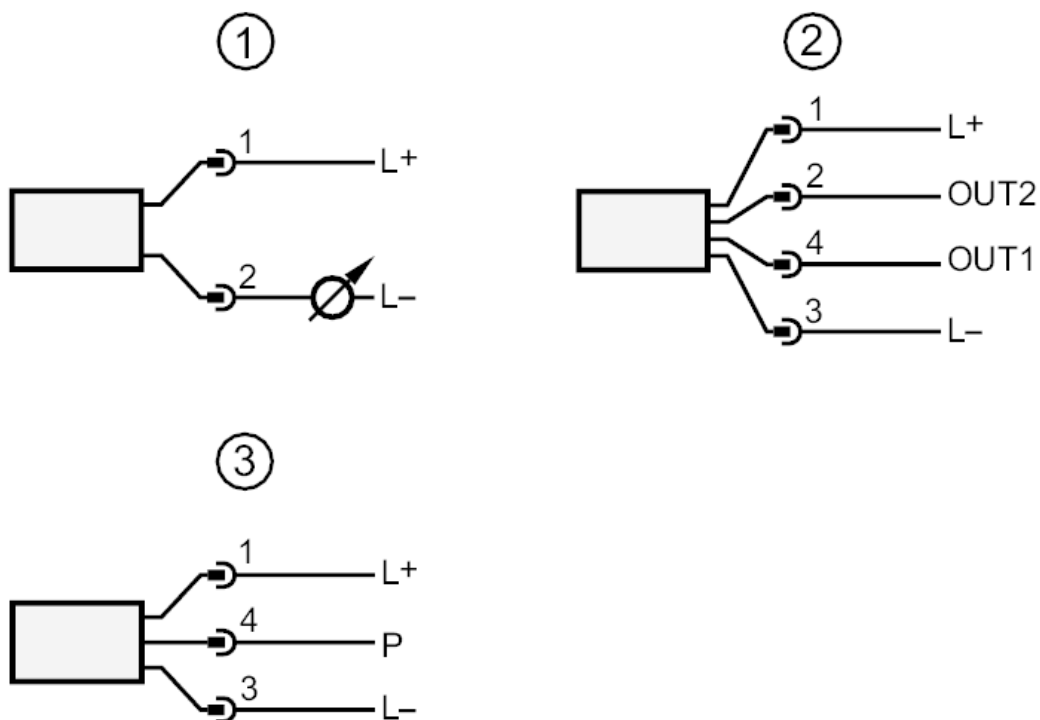




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Connection



- 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)