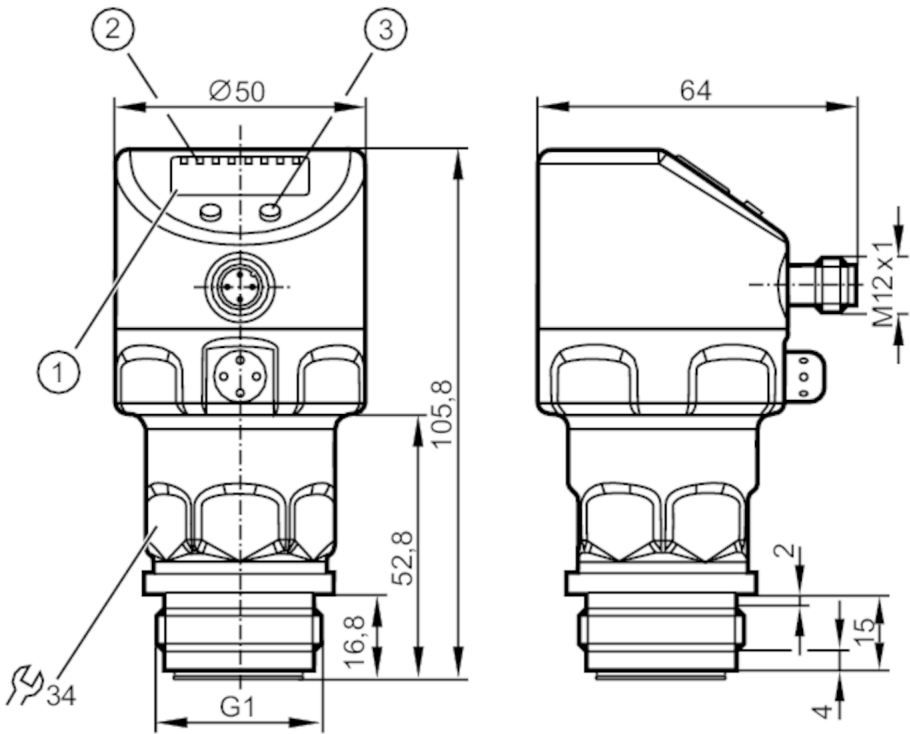




Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Alternative articles: PI1707
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



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1			
Measuring range	-0.05...1 bar	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			

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	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Vacuum resistance [mbar]	-1000		
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		
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		-0.05...1 bar	-50...1000 mbar	-0.73...14.5 psi -5...100 kPa
Set point SP		-48...1000 mbar	-0.7...14.5 psi	-4.8...100 kPa
Reset point rP		-50...998 mbar	-0.73...14.47 psi	-0.5...99.8 kPa
Analogue start point		-50...750 mbar	-0.73...10.88 psi	-5...75 kPa
Analogue end point		200...1000 mbar	2.9...14.5 psi	20...100 kPa
In steps of		1 mbar	0.01 psi	0.1 kPa



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Factory setting		SP1 = 250 mbar	rP1 = 230 mbar
		SP2 = 750 mbar	rP2 = 730 mbar
		ASP = 0 mbar	AEP = 1000 mbar
Accuracy / deviations			
Switch point accuracy	[X21]	< ± 0,2; (Turn down 1:1)	
Repeatability	[X21]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation	[X21]	< ± 0,2; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)	
Linearity deviation	[X21]	< ± 0,15; (Turn down 1:1)	
Hysteresis deviation	[X21]	< ± 0,15; (Turn down 1:1)	
Long-term stability	[X21]	< ± 0,1; (Turn down 1:1; per year)	
Temperature coefficient zero point	[X22]	< ± 0,05; (0...70 °C)	
Temperature coefficient span	[X22]	< ± 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	
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	
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	256
Operating conditions			
Ambient temperature	[°C]	-25...80	
Storage temperature	[°C]	-40...100	
Protection		IP 67; IP 68; IP 69K	



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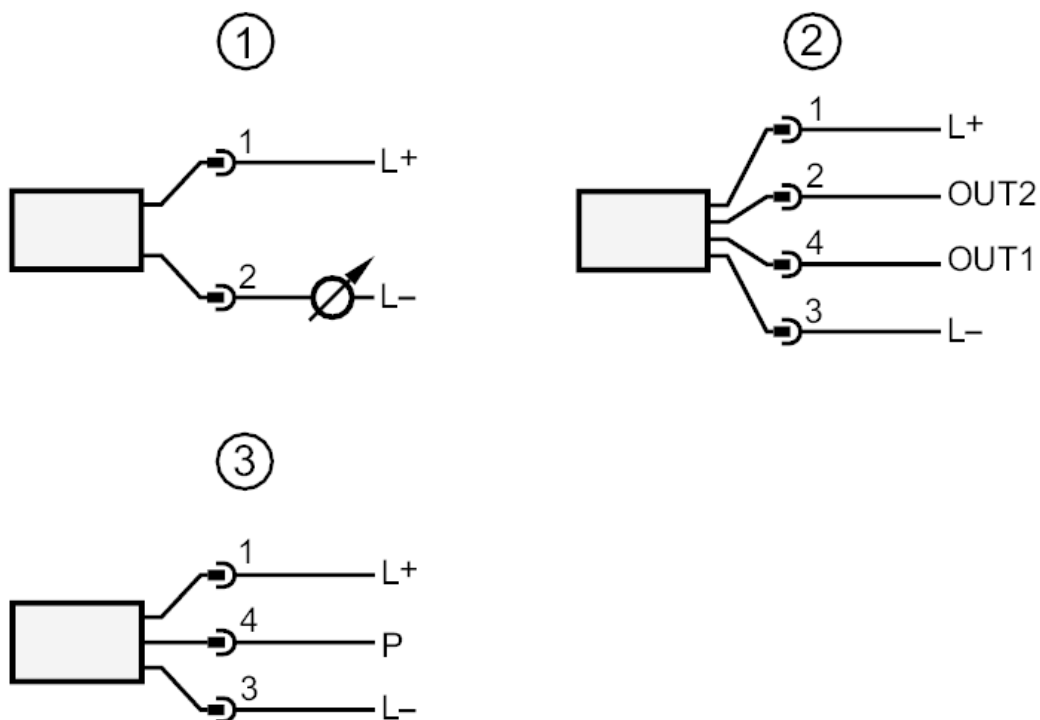
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF	[ANN]	160
Note on approval	factory certificate available as download at www.factory-certificate.ifm	
Mechanical data		
Weight	[g]	356
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 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; psi; inH2O; mWS; % 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)