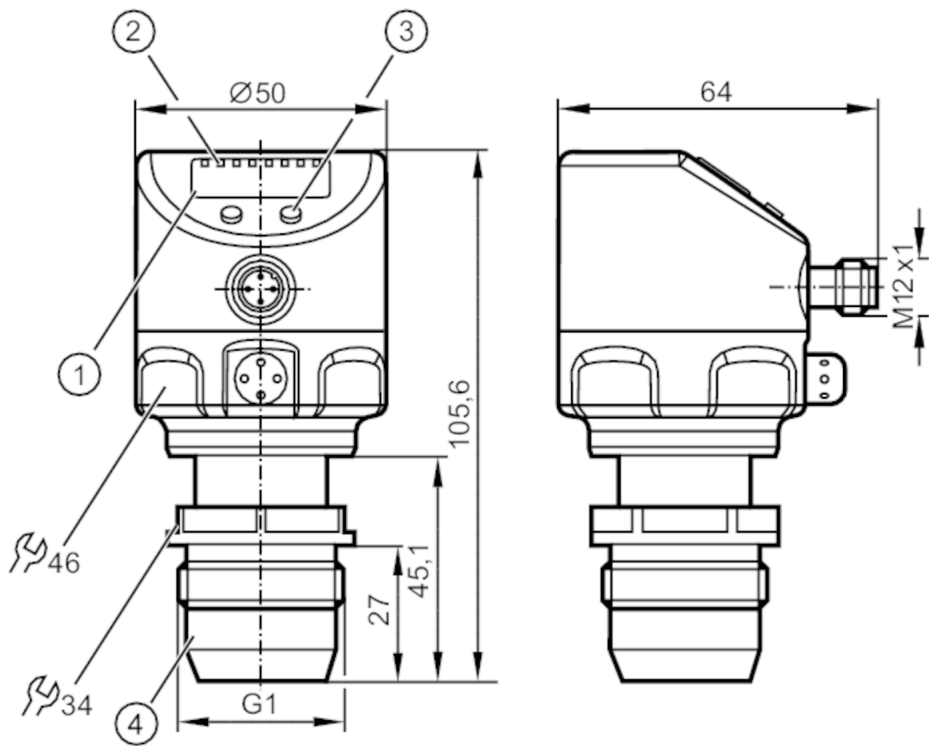




Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ IP

Alternative articles: PI1809
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 US LISTED ENEC 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	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 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	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
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	[Ω]	(Ub - 10 V) / 20 mA			
Measuring/setting range					
Measuring range		-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Set point SP		-998...1000 mbar		-14.45...14.5 psi	-99.8...100 kPa
Reset point rP		-1000...998 mbar		-14.5...14.45 psi	-100...99.8 kPa
Analog start point		-1000...500 mbar		-14.5...7.25 psi	-100...50 kPa
Analog end point		-500...1000 mbar		-7.25...14.5 psi	-50...100 kPa
In steps of		1 mbar		0.05 psi	0.1 kPa
Factory setting				SP1 = -500 mbar	rP1 = -540 mbar
				SP2 = 500 mbar	rP2 = 460 mbar
				ASP = -1000 mbar	AEP = 1000 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)			
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	258
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]	148.66	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
Mechanical data		
Weight [g]	379	
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; psi; inH2O; mWS; % of the span	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		

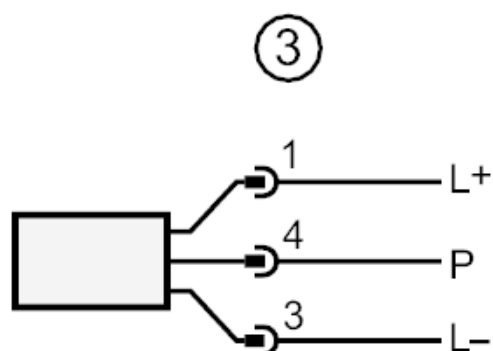
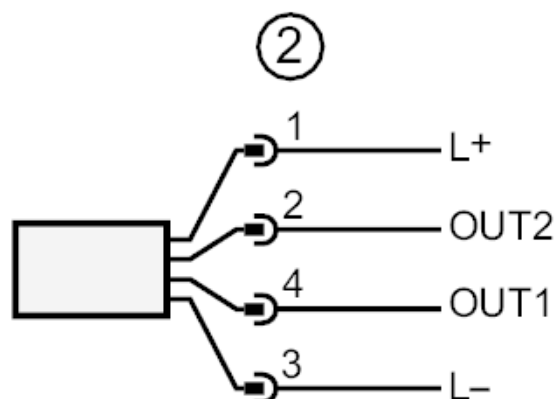
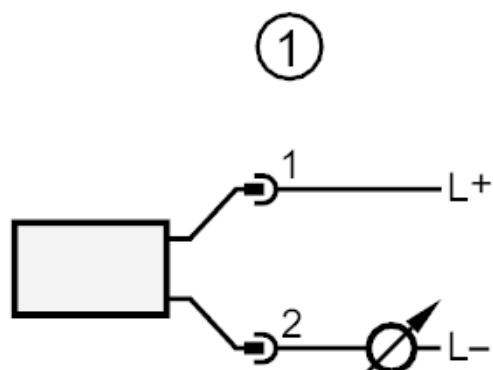


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Connection



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