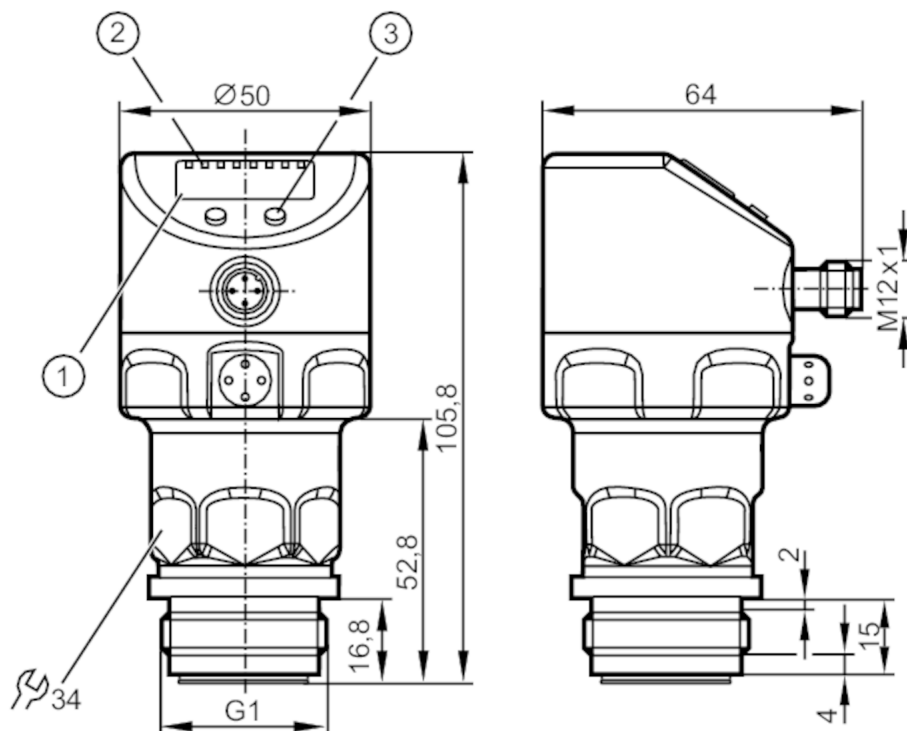


Flush pressure sensor with display

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



ACS



CRN



EC 1935/2004

EHEDG

Certified

FCM



Reg31



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog 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

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	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	10		



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

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 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		
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		-0.05...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
Analog start point		-50...750 mbar	-0.73...10.88 psi	-5...75 kPa
Analog end point		200...1000 mbar	2.9...14.5 psi	20...100 kPa
In steps of		1 mbar	0.01 psi	0.1 kPa



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Factory setting	SP1 = 250 mbar	rP1 = 230 mbar
	SP2 = 750 mbar	rP2 = 730 mbar
	ASP = 0 mbar	AEP = 1000 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)

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

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	256

Operating conditions

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



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

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]	160
Note on approval		Factory certificate available as download at www.factory-certificate.ifm

Mechanical data

Weight	[g]	356
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 105.8
Material		stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)		ceramics (99.9 % Al ₂ O ₃); 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 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; inH ₂ O; mWS; % of the span

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

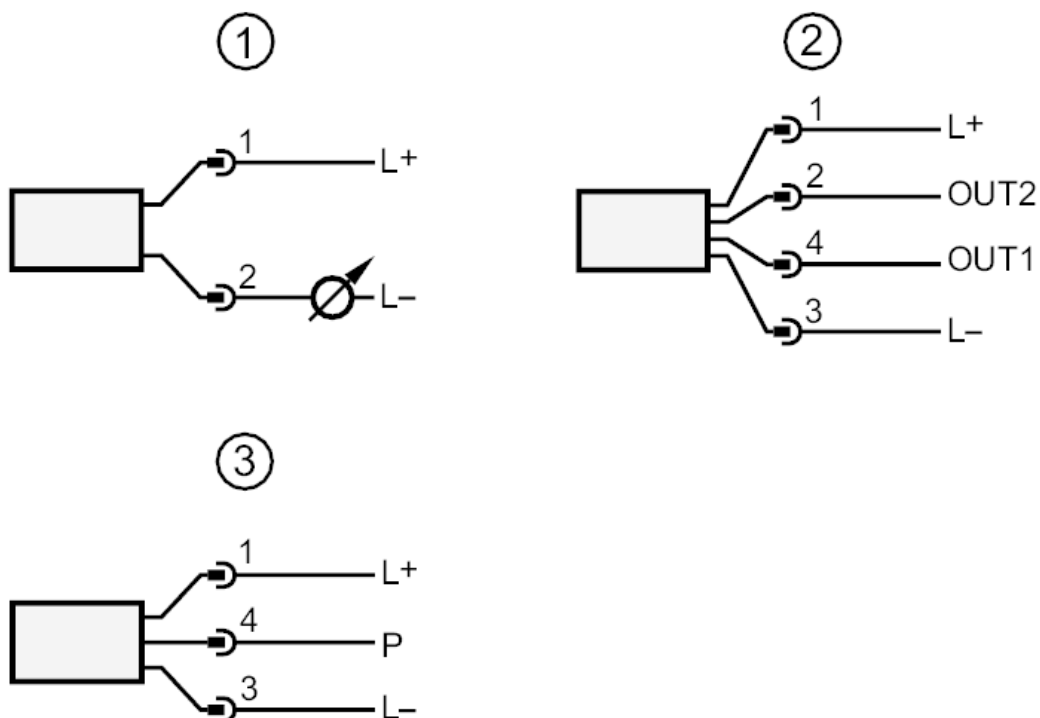




Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

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)