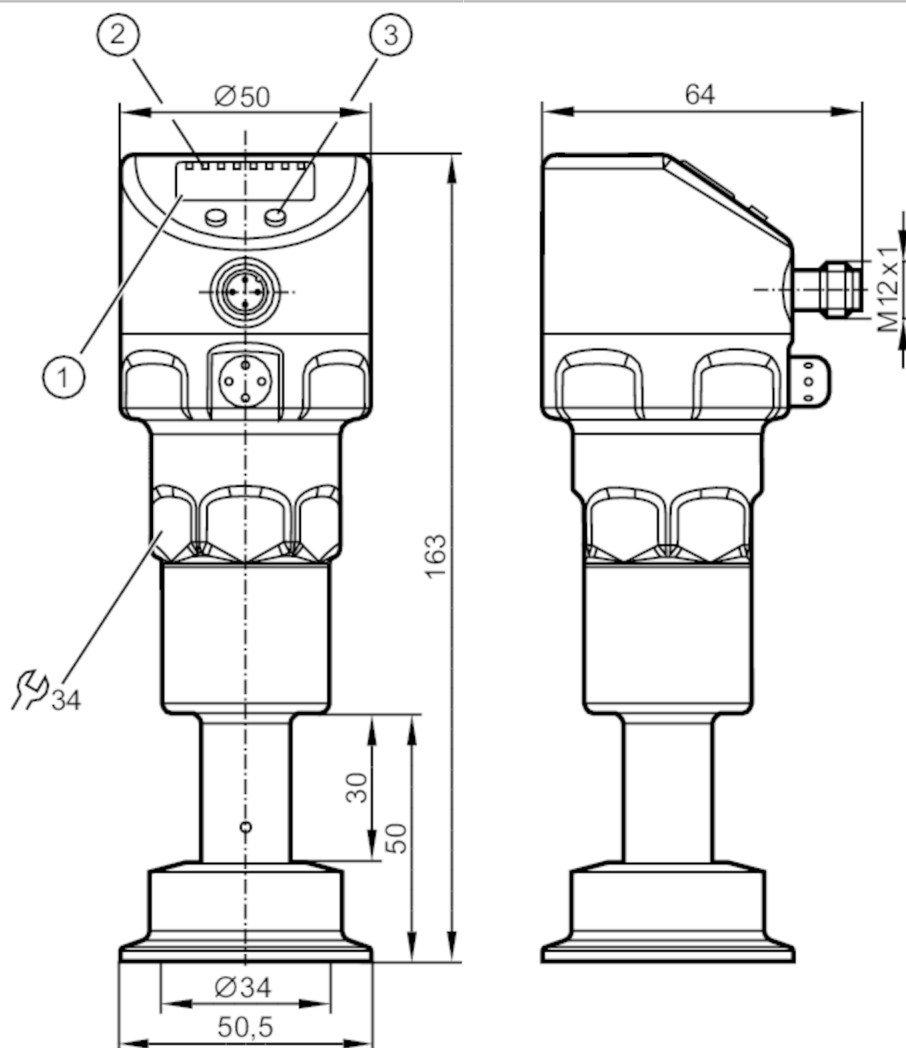




Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button



EC 1935/2004 EHEDG Certified FCM FDA IO-Link

Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi
Process connection	Clamp DN40 (1.5") DIN 32676 (ISO 2852)		

Application

Special feature	Gold-plated contacts		
Application	food and beverage industry		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...200; (-25...160 °C; Ambient temperature > 65 °C)		
Min. bursting pressure	30000 mbar	435 psi	
Pressure rating	10000 mbar	145 psi	
Type of pressure	relative pressure; vacuum		

Electrical data

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



Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi
Set point SP	-998...1000 mbar		-14.45...14.5 psi
Reset point rP	-1000...998 mbar		-14.5...14.45 psi
Analogue start point	-1000...500 mbar		-14.5...7.25 psi
Analogue end point	-500...1000 mbar		-7.25...14.5 psi
In steps of	1 mbar		0.05 psi
Factory setting	SP1 = -500 mbar		rP1 = -540 mbar
	SP2 = 500 mbar		rP2 = 460 mbar
	ASP = -1000 mbar		AEP = 1000 mbar



Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

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 16086)	
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]	< ± 0,3; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °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	
SDCI standard	IO-Link Communication Specification, Version 1.0, January 2009, Ordner No: 10.002	
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	108
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	-25...60 °C	
	Medium temperature: > 160 °C	



Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

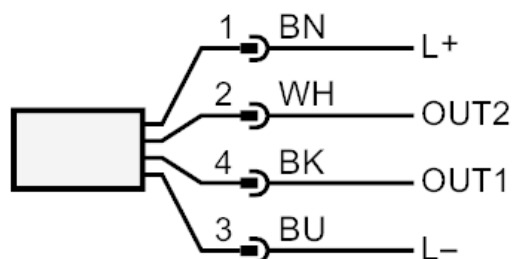
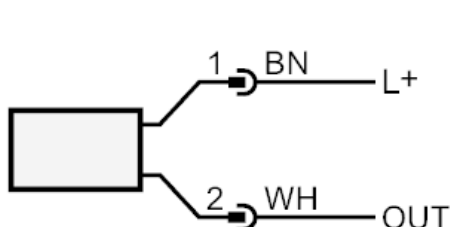
Storage temperature	[°C]	-25...100
Protection		IP 67; IP 68; IP 69K
Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF	[years]	141
Note on approval		Including free 6-point calibration certificate.
Mechanical data		
Weight	[g]	1074.4
Materials		stainless steel (316L/1.4404); stainless steel (316L/1.4435); PBT; PEI; PFA
Materials (wetted parts)		stainless steel (316L/1.4435)
Min. pressure cycles		10 million
Process connection		Clamp DN40 (1,5") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts		< 0.38 / -
Fill fluid for pressure transmission		medical white oil (suited for use in food applications, FDA compliant)
Diaphragm diameter	[mm]	34
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.

Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

Electrical connection

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



OUT	connection for 2-wire operation : analogue output
OUT1	connection for 3-wire operation : switching output
OUT2	IO-Link switching output analogue output
	colours to DIN EN 60947-5-2
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white