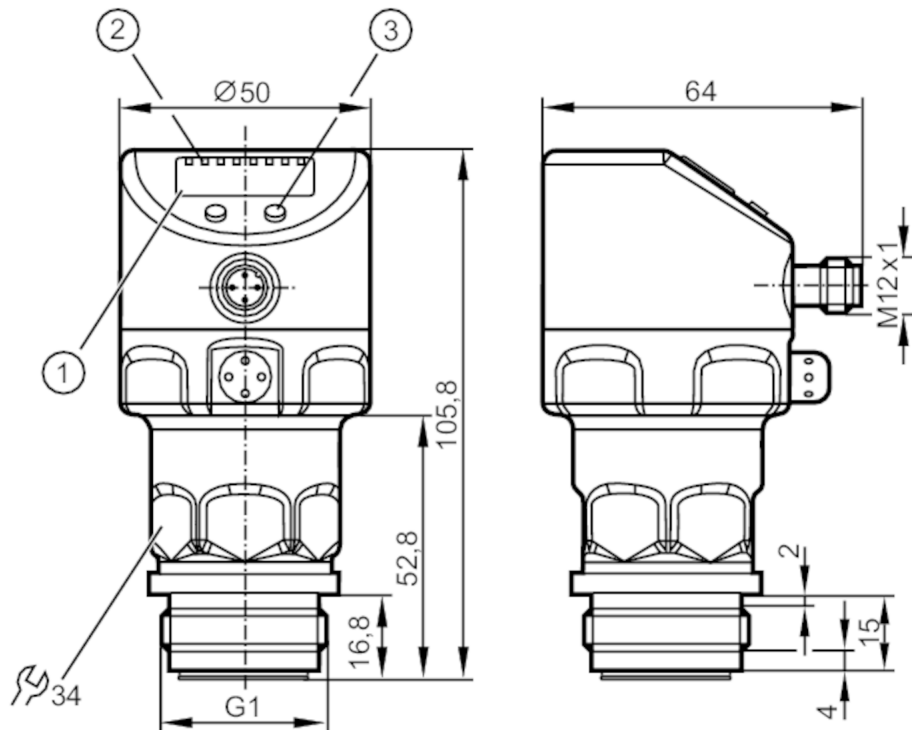




Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P



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

EC 1935/2004 EHEDG Certified Reg31

Product characteristics				
Output signal	switching signal; analog signal; IO-Link; (configurable)			
Measuring range	-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O	-0.5...10 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	12044 inH2O	3000 kPa	
Pressure rating	4000 mbar	1606 inH2O	400 kPa	
Vacuum resistance [mbar]	-1000			
Type of pressure	relative pressure			
No dead space	yes			
MAWP (for applications according to CRN) [bar]	4			



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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



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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	
Reset point rP	-5...99.8 mbar		-2...40.08 inH2O	
Analog start point	-5...75 mbar		-2...30.12 inH2O	
Analog end point	20...100 mbar		8.04...40.16 inH2O	
In steps of	0.1 mbar		0.04 inH2O	
Factory setting			SP1 = 25 mbar	
			SP2 = 75 mbar	
			ASP =0 mbar	
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)			
Reaction times				
Damping for the switching output 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	259
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]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J018
Mechanical data		
Weight [g]	359.5	
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 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; inH2O; mmWS; % of the span	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; Contacts: gold-plated		

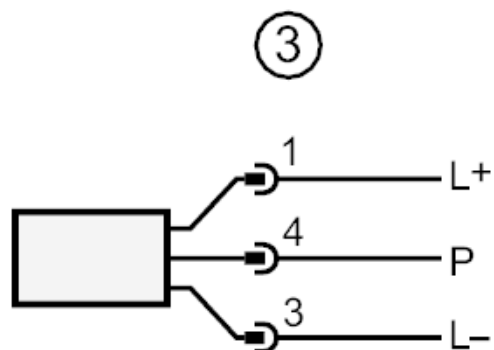
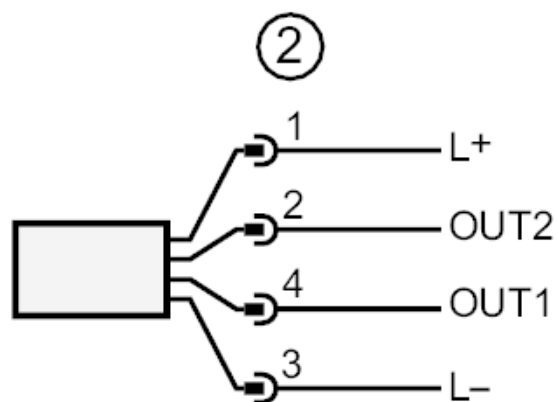
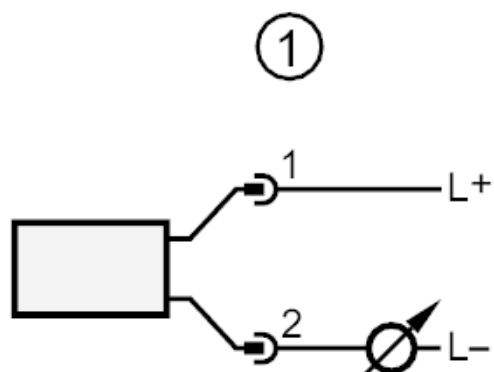


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Connection



- | | |
|------|--|
| 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) |