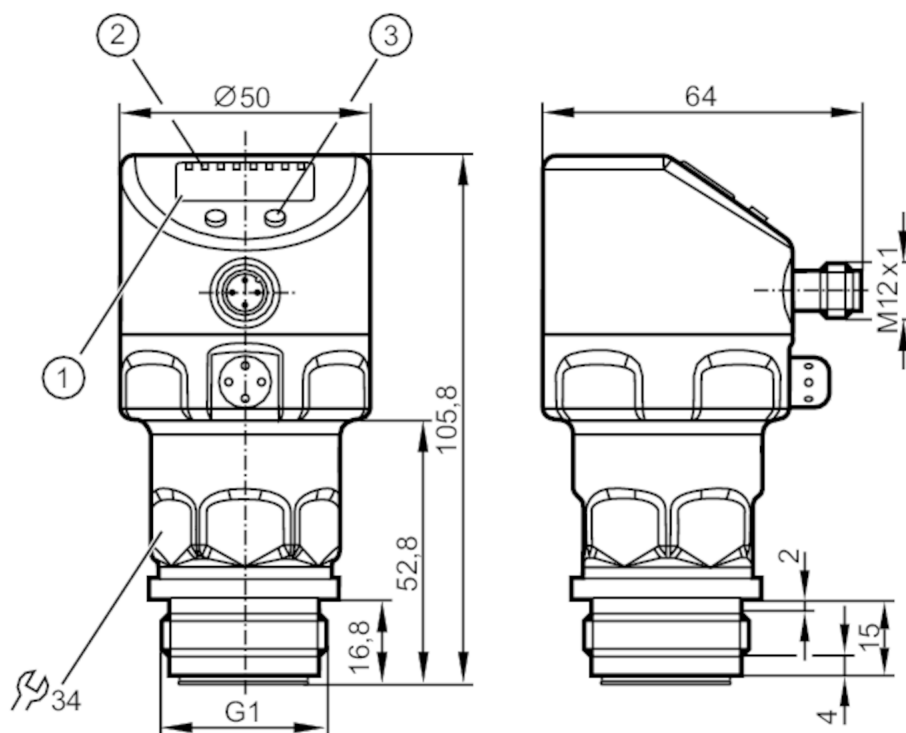




Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ IP



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



ACS



EC 1935/2004 EHEDG Certified



Reg31

Application

Application	hygienic systems	
Media	viscous media and liquids with suspended particles; liquids and gases	
Medium temperature [°C]	-25...125; (145 max. 1h)	
Pressure rating	4000 mbar	1606 inH ₂ O
Min. bursting pressure	30000 mbar	12044 inH ₂ O
Type of pressure	relative pressure	
No dead space	yes	

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



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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]	(U _b - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-5...100 mbar		-2...40.16 inH2O
Set point SP	-4.8...100 mbar		-1.92...40.16 inH2O
Reset point rP	-5...99.8 mbar		-2...40.08 inH2O
Analogue start point	-5...75 mbar		-2...30.12 inH2O
Analogue end point	20...100 mbar		8.04...40.16 inH2O
In steps of	0.1 mbar		0.04 inH2O
Factory setting		SP1 = 25 mbar	rP1 = 23 mbar
		SP2 = 75 mbar	rP2 = 73 mbar
		ASP =0 mbar	AEP = 100 mbar
Accuracy / deviations			
Switch point accuracy	< ± 0,5; (Turn down 1:1)		
	[% of the span]		
Repeatability	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)		
	[% of the span]		
Characteristics deviation	< ± 0,5; (Turn down 1:1 linearity, incl. hysteresis and repeatability limit value setting to DIN 16086)		
	[% of the span]		
Linearity deviation	< ± 0,25; (Turn down 1:1)		
	[% of the span]		
Hysteresis deviation	< ± 0,2; (Turn down 1:1)		



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	[% of the span]	
Long-term stability		< ± 0,1; (Turn down 1:1; per year)
	[% of the span]	
Temperature coefficient zero point		< ± 0,1; (0...70 °C)
	[% of the span / 10 K]	
Temperature coefficient span		< ± 0,2; (0...70 °C)
	[% of the span / 10 K]	

Response times

Damping for the switching output dAP	[s]	0...30
Damping for the analogue output dAA	[s]	0.01...99.99

2-wire

Step response time analogue output	[ms]	45
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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
IO-Link device ID		259 d / 00 01 03 h
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

Operating conditions

Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 67; IP 68; IP 69K

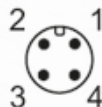
Tests / approvals

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
UL approval	UL Approval no.	J018



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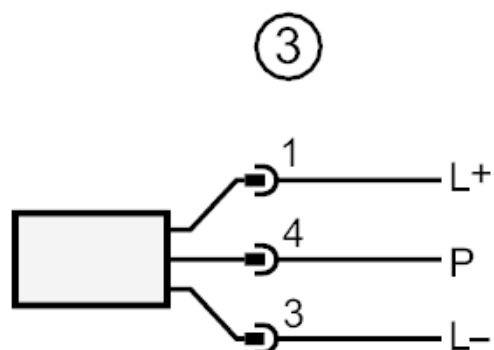
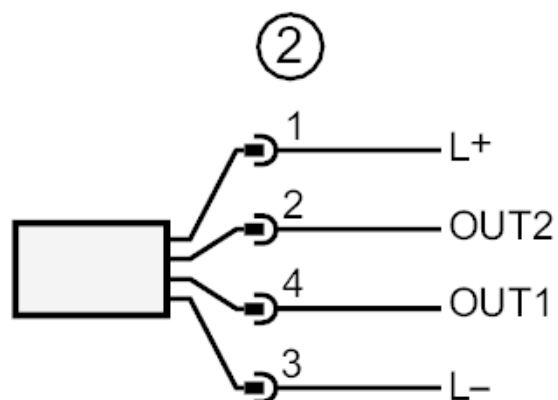
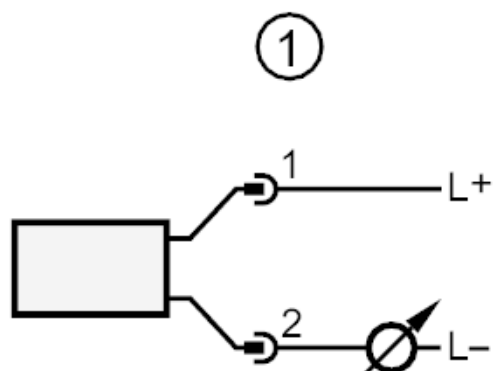
Mechanical data		
Weight	[g]	357.5
Materials	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al2O3); PTFE; stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4	
Min. pressure cycles	100 million	
Process connection	threaded connection 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 |
| | analogue output |
| 3 | connection for IO-Link parameter setting (P = communication via IO-Link) |