PH5007

Flush pressure sensor with display

PH-001BREA01-MFRKG/US/ /P

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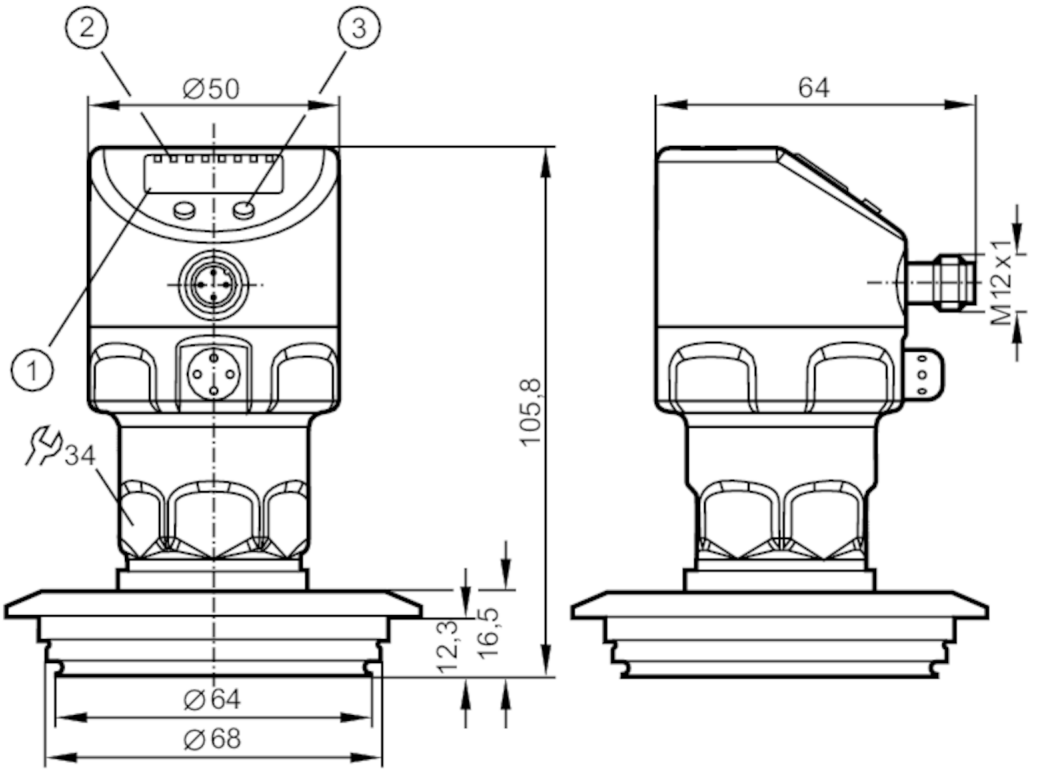

1 alphanumeric display 4-digit
2 status LEDs
3 programming button

CE

Product characteristics			
Number of inputs and outputs		Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range		-0.05...1 bar	-50...1000 mbar
Process connection		Varivent Form N, DN40 (1,5"), Ø 68 mm	
Application			
Special feature		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	[mbar]	30000	
Pressure rating	[mbar]	10000	
Type of pressure		relative pressure	
Electrical data			
Min. insulation resistance	[MΩ]	100; (500 V DC)	
Protection class		III	
Reverse polarity protection		yes	
Integrated watchdog		yes	

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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		-0.05...1 bar	-50...1000 mbar
Set point SP	[mbar]	-48...1000	
Reset point rP	[mbar]	-50...998	
Analogue start point	[mbar]	-50...750	
Analogue end point	[mbar]	200...1000	
In steps of	[mbar]	1	
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)	

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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)	
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)	
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)
Mechanical data		
Weight [g]	788.6	
Materials	stainless steel (316L/1.4404); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al2O3); PTFE; stainless steel (316L/1.4435); surface characteristics: Ra < 0,4 / Rz 4	
Min. pressure cycles	100 million	
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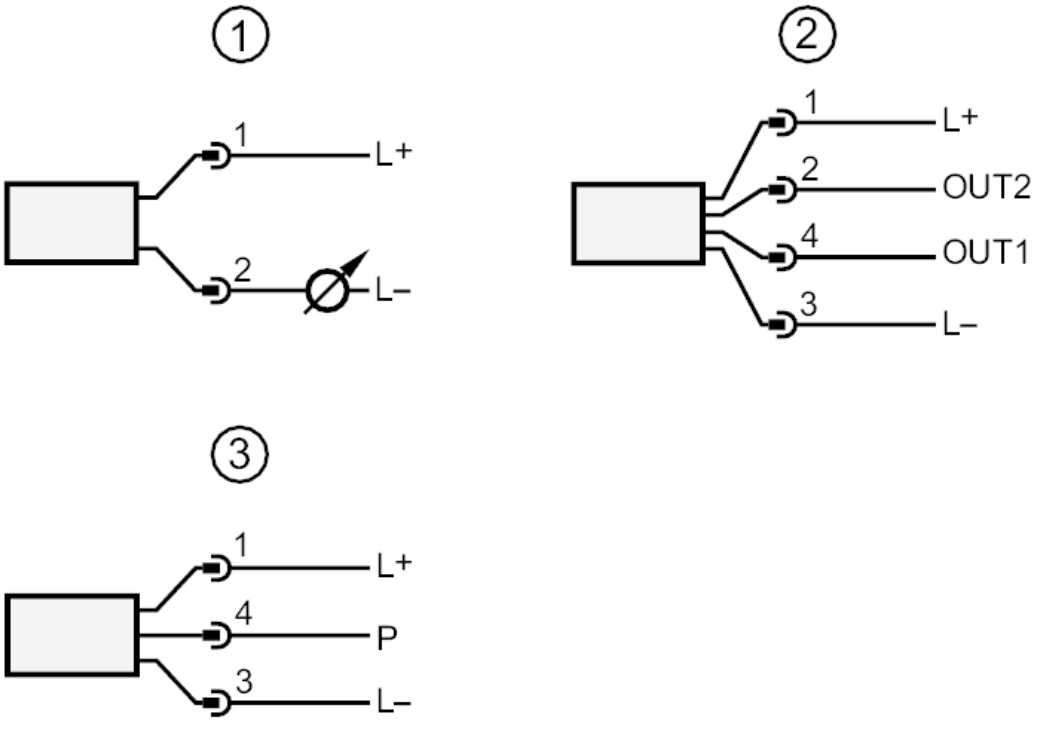
Displays / operating elements		
Display	Display unit	LED, green
	switching status	LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit	mbar; kPa; psi; inH2O; mWS; % of the span	

Remarks	
Pack quantity	1 pcs.

Electrical connection

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

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)