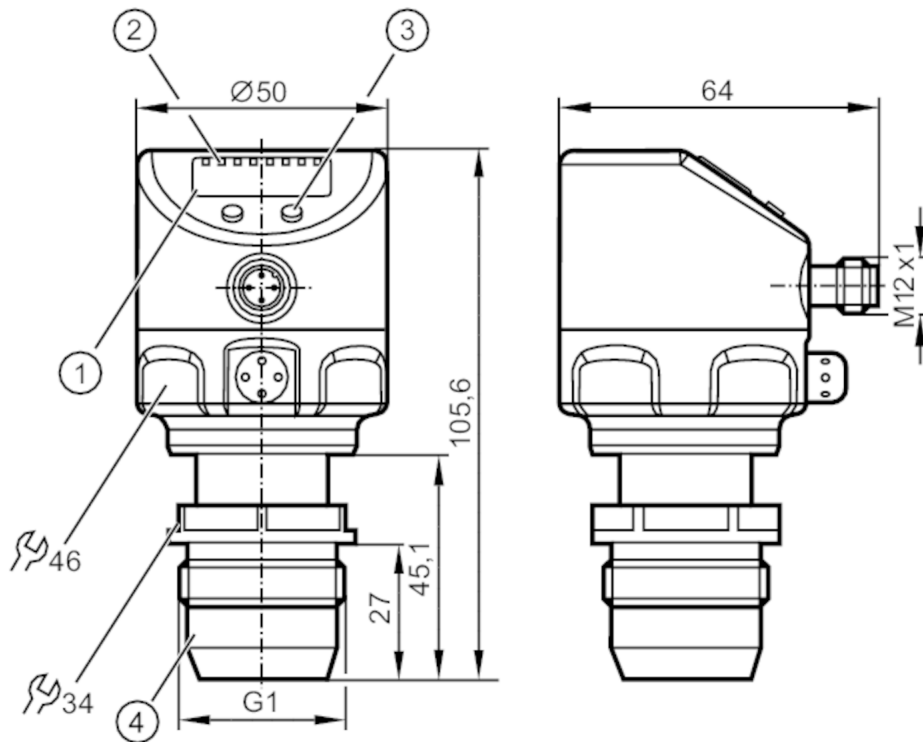




Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ IP



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button
- 4 G 1 sealing cone external thread

Attention: The unit must only be installed in a process connection for G1 sealing cone. The G1A sealing cone of the unit is only suited for adapters with metal end stop.

ACS CRN EC 1935/2004 EHEDG Certified

Product characteristics

Output signal	switching signal; analogue signal; IO-Link; (configurable)			
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Process connection	threaded connection G 1 external thread sealing cone			

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...125; (145 max. 1h)		
Pressure rating	10000 mbar	145 psi	1000 kPa
Min. bursting pressure	30000 mbar	435 psi	3000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
MAWP (for applications according to CRN) [bar]	10		



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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 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



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Measuring/setting range				
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Set point SP	-998...1000 mbar		-14.45...14.5 psi	-99.8...100 kPa
Reset point rP	-1000...998 mbar		-14.5...14.45 psi	-100...99.8 kPa
Analogue start point	-1000...500 mbar		-14.5...7.25 psi	-100...50 kPa
Analogue end point	-500...1000 mbar		-7.25...14.5 psi	-50...100 kPa
In steps of	1 mbar		0.05 psi	0.1 kPa
Factory setting			SP1 = -500 mbar	rP1 = -540 mbar
			SP2 = 500 mbar	rP2 = 460 mbar
			ASP = -1000 mbar	AEP = 1000 mbar
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]	< ± 0,05; (0...70 °C)			
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)			
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			
3-wire				
Min. response time of switching output (dAP) [ms]	3			
Step response time analogue output [ms]	7			

PI2899



Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ IP

Interfaces	
Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.0
IO-Link device ID	258 d / 00 01 02 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]	148.66	
Note on approval	factory certificate available as download at www.factory-certificate.ifm	

Mechanical data	
Weight [g]	379
Materials	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); 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 sealing cone

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	
Remarks	Attention: The unit must only be installed in a process connection for G1 sealing cone. The G1A sealing cone of the unit is only suited for adapters with metal end stop.
Pack quantity	1 pcs.

Electrical connection	
Connector: 1 x M12; Contacts: gold-plated	

PI2899

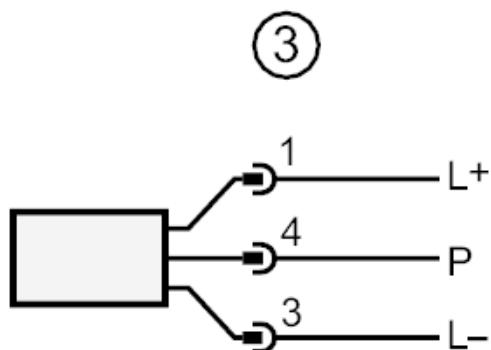
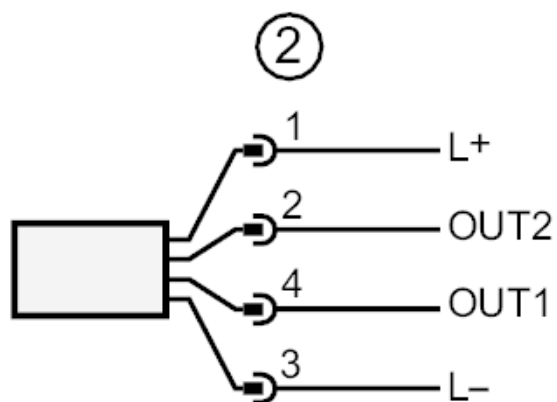
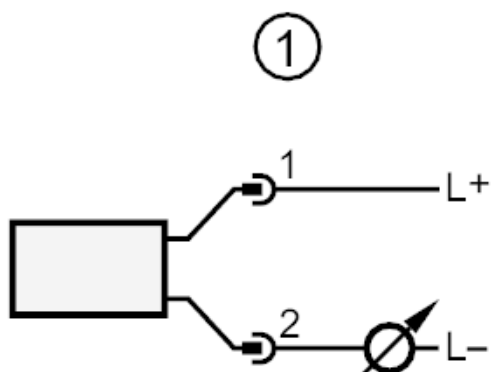


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Connection



- 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)