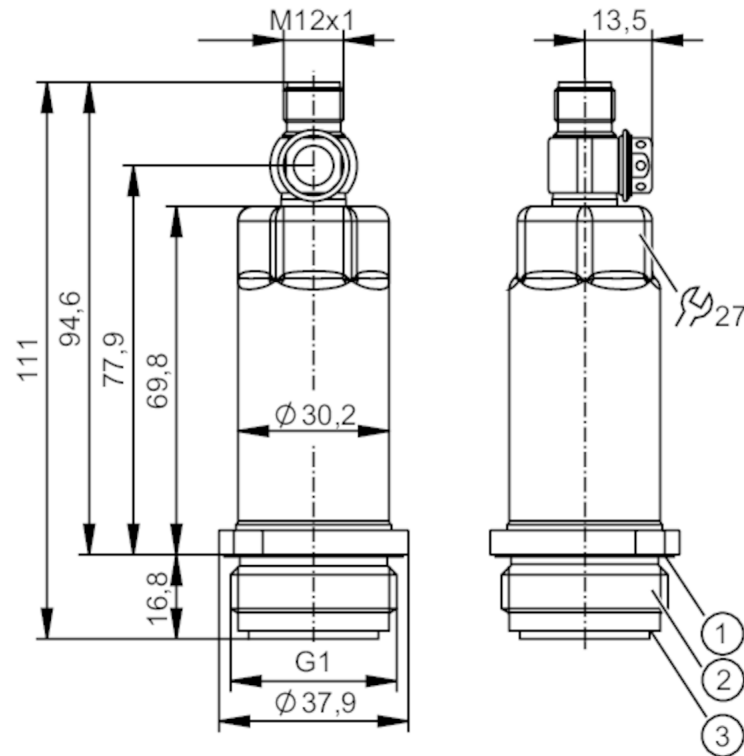


PM1709



Flush pressure sensor

PM-1-1BREA01-E-ZVG/US



- 1 groove with sealing ring (DIN EN ISO 1179-2)
- 2 external thread G1 (Aseptoflex Vario)
- 3 groove for sealing ring



ACS



CRN



EC 1935/2004

EHEDG

Certified

FCM

FDA

IO-Link

Reg31

UK

CA

Reg31

UK

CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1			
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			

Application

System	gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Temperature monitoring	no		
Application	flush mountable for the food and beverage industry		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...150		
Min. bursting pressure	30000 mbar	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	10		

Electrical data

Operating voltage [V]	18...30 DC
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Flush pressure sensor

PM-1-1BREA01-E-ZVG/US

Min. insulation resistance	[MΩ]	100; (500 V DC)			
Protection class		III			
Reverse polarity protection		yes			
Integrated watchdog		yes			
2-wire					
Current consumption	[mA]	3.5...21.5			
Power-on delay time	[s]	1			
3-wire					
Current consumption	[mA]	< 45			
Power-on delay time	[s]	0.5			
Inputs / outputs					
Number of inputs and outputs		Number of digital outputs: 1; Number of analog outputs: 1			
Outputs					
Total number of outputs		2			
Output signal		analog signal; IO-Link; (configurable)			
Number of digital outputs		1; (IO-Link)			
Number of analog outputs		1			
Analog current output		[mA]	4...20; (scalable)		
Max. load		[Ω]	700; (Ub = 24 V; (Ub - 9 V) / 21.5 mA)		
Short-circuit proof		yes			
Overload protection		yes			
Measuring/setting range					
Measuring range		-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Analog start point		-1000...600 mbar	-14.5...8.7 psi		-100...60 kPa
Analog end point		-600...1000 mbar	-8.7...14.5 psi		-60...100 kPa
In steps of		1 mbar	0.01 psi		0.1 kPa
Factory setting			ASP = -1000 mbar		AEP = 1000 mbar
Accuracy / deviations					
Repeatability		[% of the span]			
		< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)			
Characteristics deviation		[% of the span]			
		< ± 0,2; (linearity incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)			
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)			
Total deviation over temperature range		Temperature range		total deviation	
		-25...15 °C		Characteristics deviation ± 0,05 % of the span / 10 K	
		15...80 °C		Characteristics deviation	
		80...150 °C		Characteristics deviation ± 0,1 % of the span / 10 K	
Notes on the accuracy / deviation		for further details see section Diagrams and graphs			

PM1709



Flush pressure sensor

PM-1-1BREA01-E-ZVG/US

Reaction times		
Damping for the analog output dAA	[s]	0...4
2-wire		
Step response time analog output	[ms]	30
3-wire		
Step response time analog output	[ms]	7
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)	
SIO mode	no	
Required master port class	A	
Process data analog	3	
Min. process cycle time	[ms]	3.2
IO-Link resolution pressure	[mbar]	0.5
IO-Link functions (acyclical)	application specific tag; internal temperature	
Supported DeviceIDs	Type of operation	DeviceID
	default	667
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...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]	323
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J021
Mechanical data		
Weight	[g]	306.9
Material	stainless steel (1.4404 / 316L); PBT	
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	
Tightening torque	[Nm]	35
Process connection	threaded connection G 1 external thread Aseptoflex Vario	
Remarks		
Pack quantity	1 pcs.	

PM1709



Flush pressure sensor

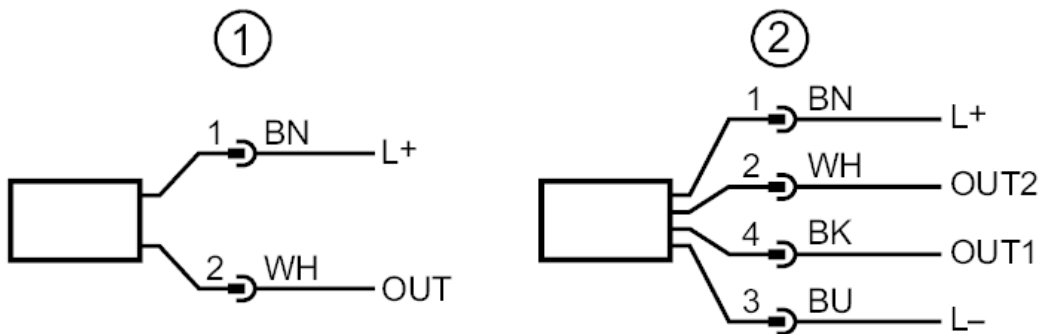
PM-1-1BREA01-E-ZVG/US

Electrical connection

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



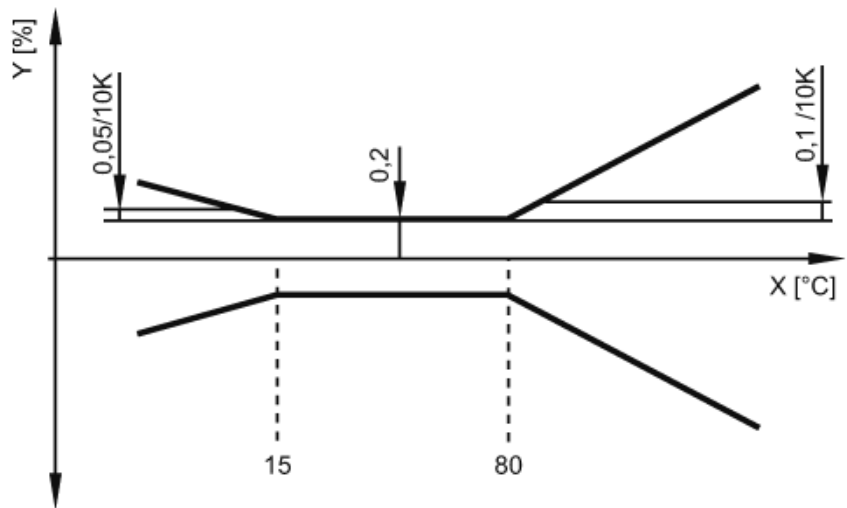
Connection



- 1 connection for 2-wire operation (analog)
 - 2 connection for 3-wire operation (analog / IO-Link)
- OUT1 : IO-Link
OUT2 : analog output

Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation