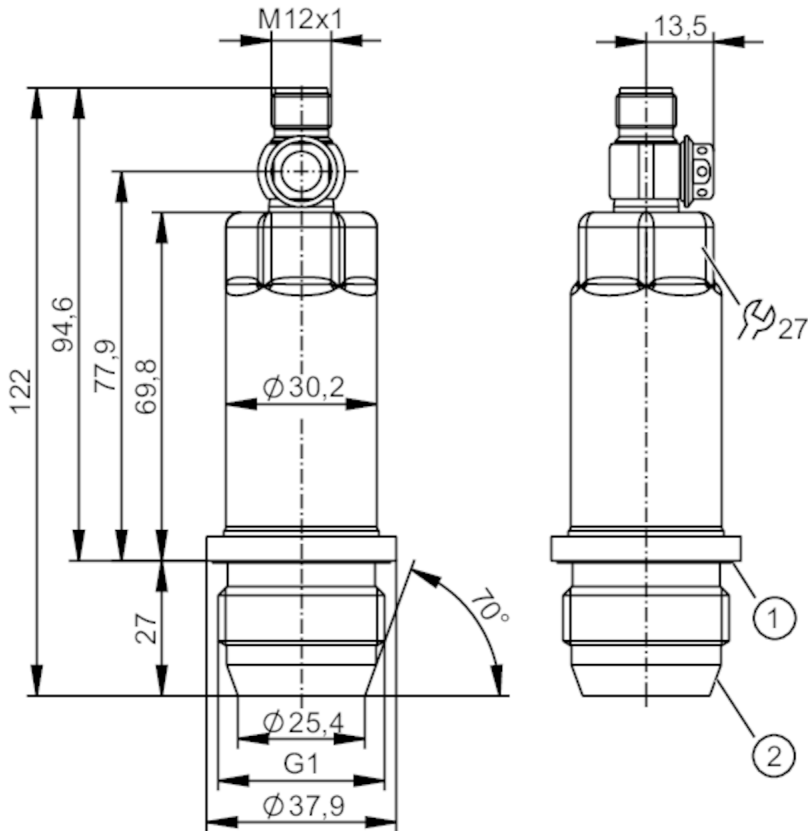


PM1608



Flush pressure sensor

PM-,25BREA01-E-ZVG/US



- 1 groove with sealing ring (DIN EN ISO 1179-2)
- 2 G1 sealing cone external thread



ACS



CRN



EC 1935/2004

EHEDG Tested

FCM



IO-Link



Reg31



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1			
Measuring range	-0.0125...0.25 bar	-12.5...250 mbar	-0.182...3.626 psi	-1.25...25 kPa
Process connection	threaded connection G 1 external thread sealing cone			

Application

Special feature	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	6000 mbar	84 psi	600 kPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure		
No dead space	yes		
MAWP for applications according to CRN [bar]	10		

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Electrical data					
Operating voltage	[V]	18...30 DC			
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 analogue outputs: 1			
Outputs					
Total number of outputs		2			
Output signal		analogue signal; IO-Link; (configurable)			
Number of digital outputs		1; (IO-Link)			
Number of analogue outputs		1			
Analogue current output	[mA]	4...20; (scalable)			
Max. load	[Ω]	700; (U _b = 24 V; (U _b - 9 V) / 21.5 mA)			
Short-circuit proof		yes			
Overload protection		yes			
Measuring/setting range					
Measuring range		-0.0125...0.25 bar	-12.5...250 mbar	-0.182...3.626 psi	-1.25...25 kPa
Analogue start point		-12.5...200 mbar		-0.182...2.9 psi	-1.25...20 kPa
Analogue end point		37.5...250 mbar		0.544...3.626 psi	3.75...25 kPa
In steps of		0.1 mbar		0.002 psi	0.01 kPa
Factory setting		ASP = 0.0 bar	AEP = 250 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 ± 0,1 % of the span / 10 K	
		15...80 °C		Characteristics deviation	
		80...150 °C		Characteristics deviation ± 0,15 % of the span / 10 K	

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Notes on the accuracy / deviation

for further details see section Diagrams and graphs

Response times

Damping for the analogue output dAA [s]	0...4
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2-wire

Step response time analogue output [ms]	30
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3-wire

Step response time analogue output [ms]	7
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Interfaces

Communication interface	IO-Link
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Transmission type	COM2 (38,4 kBaud)
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IO-Link revision	1.1
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SDCI standard	IEC 61131-9
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Profiles	Smart Sensor - SSP 3.1	Measuring Sensor
	Common - I&D	Identification and Diagnosis

SIO mode	no
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Required master port type	A
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Process data analogue	3
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Min. process cycle time [ms]	3.2
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IO-Link resolution pressure [mbar]	0.05
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IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4

IO-Link functions (acyclical)	application specific tag; internal temperature
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Supported DeviceIDs	Type of operation	DeviceID
	default	669

Operating conditions

Ambient temperature [°C]	-25...80
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Storage temperature [°C]	-40...100
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Protection	IP 67; IP 68; IP 69K
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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
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Note on approval	factory certificate available as download at www.factory-certificate.ifm
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UL approval	UL approval no.	J022
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Mechanical data

Weight [g]	304.8
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Housing	cylindrical
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Dimensions [mm]	Ø 30.2 / L = 122
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Materials	stainless steel (316L/1.4404); PBT
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Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (316L/1.4435) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Tightening torque [Nm]	20
Process connection	threaded connection G 1 external thread sealing cone

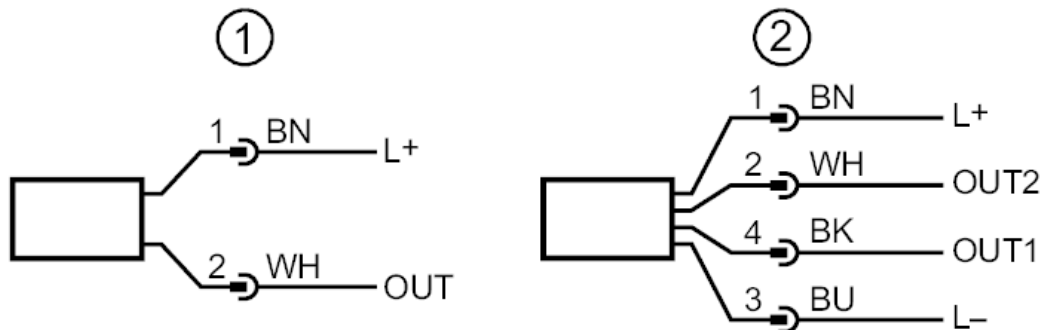
Remarks	
Pack quantity	1 pcs.

Electrical connection

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



Connection



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

PM1608

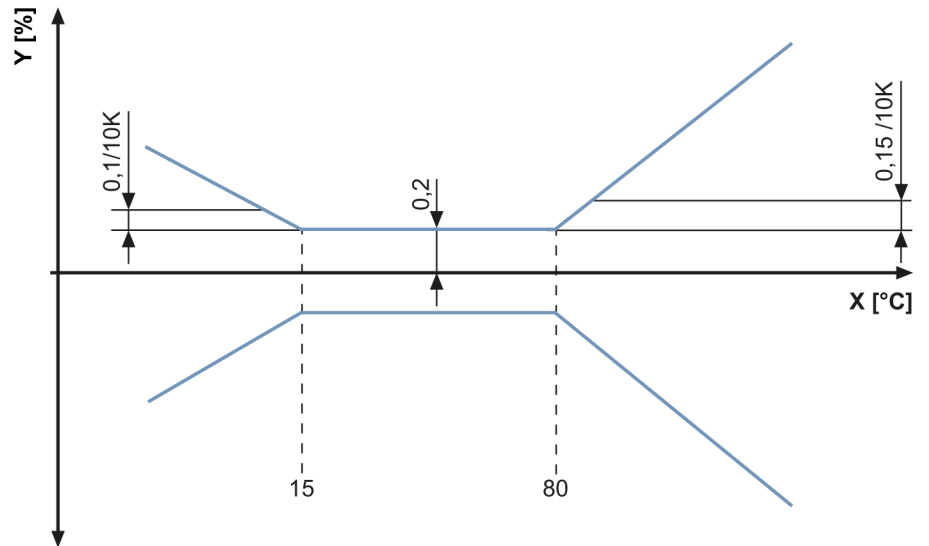


Flush pressure sensor

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Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation