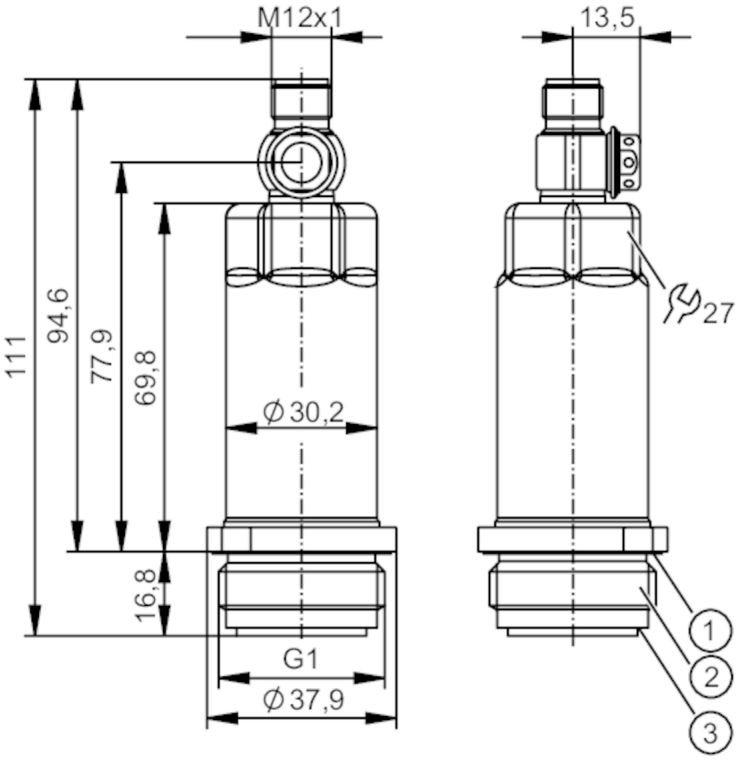
PM1703

Flush pressure sensor

PM-025-REA01-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 CE CRN cULus LISTED EC 1935/2004 EHEDG Certified FCM FDA IO-Link NSF Reg31 UKCA

Product characteristics			
Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1		
Measuring range	-1...25 bar	-14.6...362.6 psi	-0.1...2.5 MPa
Process connection	threaded connection G 1 external thread mit Dichtkontur Aseptoflex Vario		
Note	G1 Gewinde nach ISO 228. Alternativ dichtend über rückwärtige Dichtkontur mit Dichtung in Anlehnung an DIN EN ISO 1179-2.		

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. burst pressure	350 bar	5075 psi	35 MPa
Pressure rating	100 bar	1450 psi	10 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	60		

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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 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...25 bar	-14.6...362.6 psi	-0.1...2.5 MPa
Analog start point		-1...20 bar	-14.6...290 psi	-0.1...2 MPa
Analog end point		4...25 bar	58...362.6 psi	0.4...2.5 MPa
In steps of		0.01 bar	0.2 psi	0.001 MPa
Factory setting		ASP = 0.0 bar	AEP = 25.0 bar	
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	

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Notes on the accuracy / deviation		for further details see section Diagrams and graphs	
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		Smart Sensor - SSP 3.1	Measuring Sensor
		Common - I&D	Identification and Diagnosis
SIO mode		no	
Required master port class		A	
Process data analog		3	
Min. process cycle time	[ms]	3.2	
IO-Link resolution pressure	[bar]	0.005	
IO-Link process data (cyclical)		**Function**	**bit length**
		pressure	16
		device status	4
IO-Link functions (acyclical)		application specific tag; internal temperature	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	660
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]	307.6	
Housing		tubular	
Dimensions	[mm]	Ø 30.2 / L = 111	
Material		stainless steel (1.4404 / 316L); PBT	

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Materials (wetted parts)		ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles		100 million
Tightening torque	[Nm]	35
Process connection		threaded connection G 1 external thread mit Dichtkontur Aseptoflex Vario

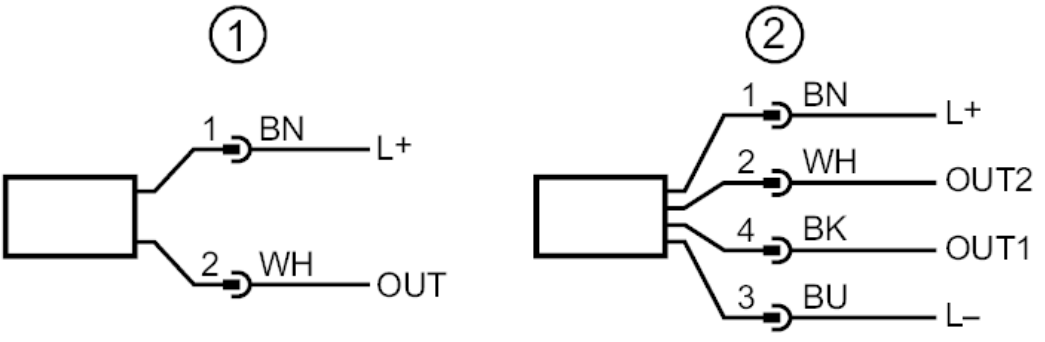
Remarks

Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, 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

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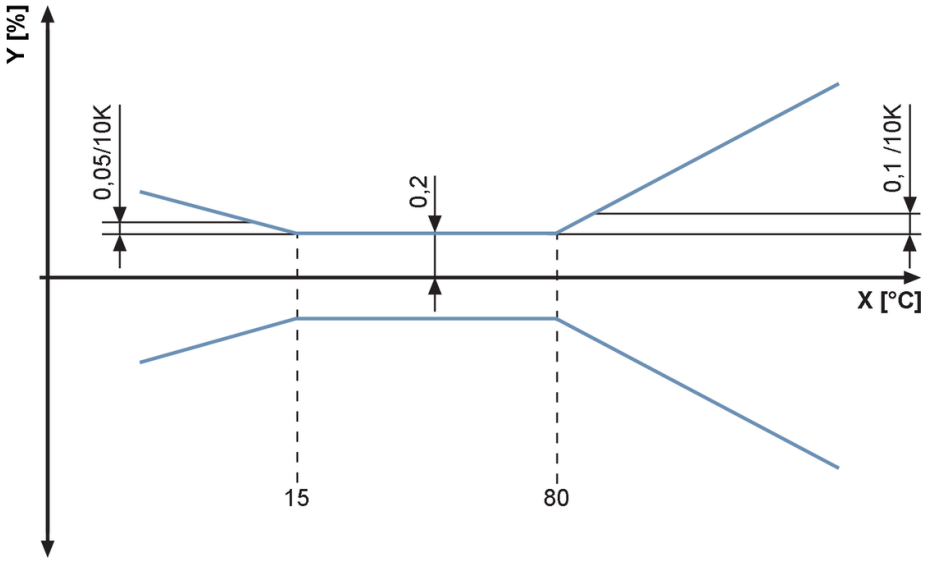
Diagrams and graphs

ambient temperature influence on the accuracy



X temperature

Y total deviation