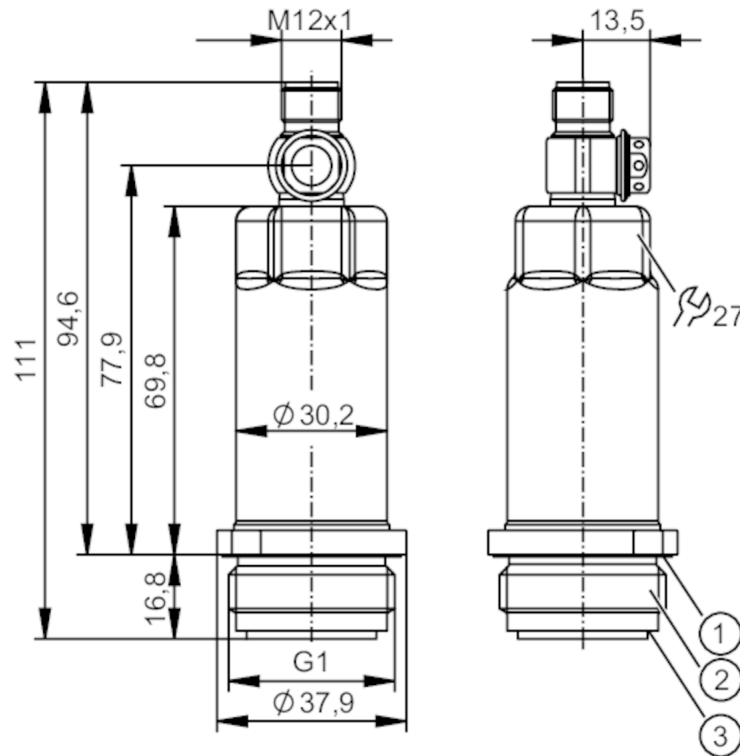


PM1706



Flush pressure sensor

PM-2,5-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



CRN



EC 1935/2004

EHEDG

Certified

FCM

CN

FCM

JP



IO-Link



Certified Product to NSF H1934-01

Reg31

UK
CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1			
Measuring range	-0.125...2.5 bar	-125...2500 mbar	-1.82...36.26 psi	-12.5...250 kPa
Process connection	threaded connection G 1 external thread with Aseptoflex Vario sealing contour			
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	50000 mbar	725 psi	5000 kPa
Pressure rating	20000 mbar	290 psi	2000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		
No dead space	yes		



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MAWP for applications according to CRN	[bar]	20		
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	-0.125...2.5 bar	-125...2500 mbar	-1.82...36.26 psi	-12.5...250 kPa
Analogue start point	-125...2000 mbar	-1.82...29 psi	-12.5...200 kPa	
Analogue end point	375...2500 mbar	5.44...36.26 psi	-37.5...250 kPa	
In steps of	1 mbar	0.02 psi	0.1 kPa	
Factory setting	ASP = 0.0 mbar	AEP = 2500 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)		

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Total deviation over temperature range	<table> <tr> <th>Temperature range</th><th>total deviation</th></tr> <tr> <td>-25...15 °C</td><td>Characteristics deviation $\pm 0,05$ % of the span / 10 K</td></tr> <tr> <td>15...80 °C</td><td>Characteristics deviation</td></tr> <tr> <td>80...150 °C</td><td>Characteristics deviation $\pm 0,1$ % of the span / 10 K</td></tr> </table>	Temperature range	total deviation	-25...15 °C	Characteristics deviation $\pm 0,05$ % of the span / 10 K	15...80 °C	Characteristics deviation	80...150 °C	Characteristics deviation $\pm 0,1$ % of the span / 10 K
Temperature range	total deviation								
-25...15 °C	Characteristics deviation $\pm 0,05$ % of the span / 10 K								
15...80 °C	Characteristics deviation								
80...150 °C	Characteristics deviation $\pm 0,1$ % of the span / 10 K								
Notes on the accuracy / deviation	for further details see section Diagrams and graphs								
Response times									
Damping for the analogue output dAA [s]	0...4								
2-wire									
Step response time analogue output [ms]	30								
3-wire									
Step response time analogue 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	<table> <tr> <td>Smart Sensor - SSP 3.1</td><td>Measuring Sensor</td></tr> <tr> <td>Common - I&D</td><td>Identification and Diagnosis</td></tr> </table>	Smart Sensor - SSP 3.1	Measuring Sensor	Common - I&D	Identification and Diagnosis				
Smart Sensor - SSP 3.1	Measuring Sensor								
Common - I&D	Identification and Diagnosis								
SIO mode	no								
Required master port type	A								
Process data analogue	3								
Min. process cycle time [ms]	3.2								
IO-Link resolution pressure [mbar]	0.5								
IO-Link process data (cyclical)	<table> <tr> <th>function</th><th>bit length</th></tr> <tr> <td>pressure</td><td>16</td></tr> <tr> <td>device status</td><td>4</td></tr> </table>	function	bit length	pressure	16	device status	4		
function	bit length								
pressure	16								
device status	4								
IO-Link functions (acyclical)	application specific tag; internal temperature								
Supported DeviceIDs	<table> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>default</td><td>665</td></tr> </table>	Type of operation	DeviceID	default	665				
Type of operation	DeviceID								
default	665								
Operating conditions									
Ambient temperature [°C]	-25...80								
Storage temperature [°C]	-40...100								
Protection	IP 67; IP 68; IP 69K								
Tests / approvals									
EMC	<table> <tr> <td>DIN EN 61000-6-2</td><td></td></tr> <tr> <td>DIN EN 61000-6-3</td><td></td></tr> </table>	DIN EN 61000-6-2		DIN EN 61000-6-3					
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 no. J021								

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Mechanical data		
Weight	[g]	307.4
Housing		cylindrical
Dimensions	[mm]	Ø 30.2 / L = 111
Materials		stainless steel (316L/1.4404); PBT
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]	35
Process connection		threaded connection G 1 external thread with Aseptoflex Vario sealing contour

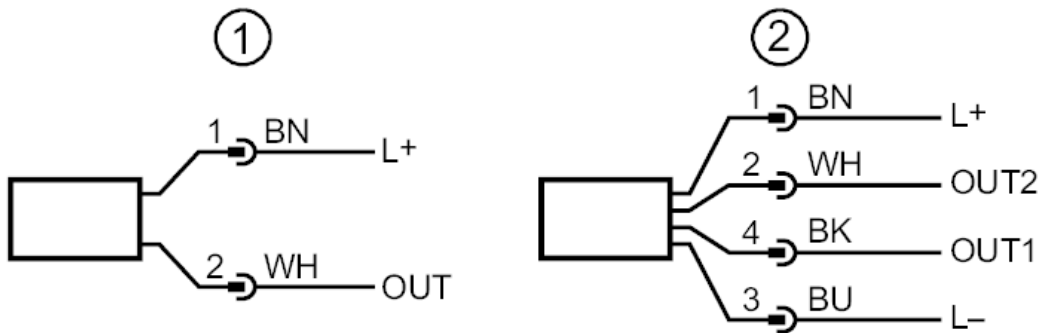
Remarks	
Pack quantity	1 pcs.

Electrical connection

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

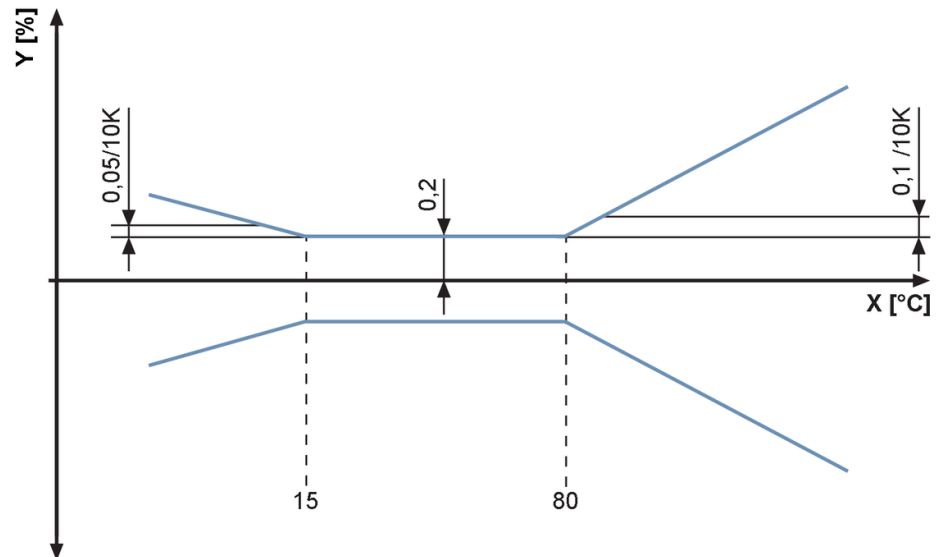


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Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation