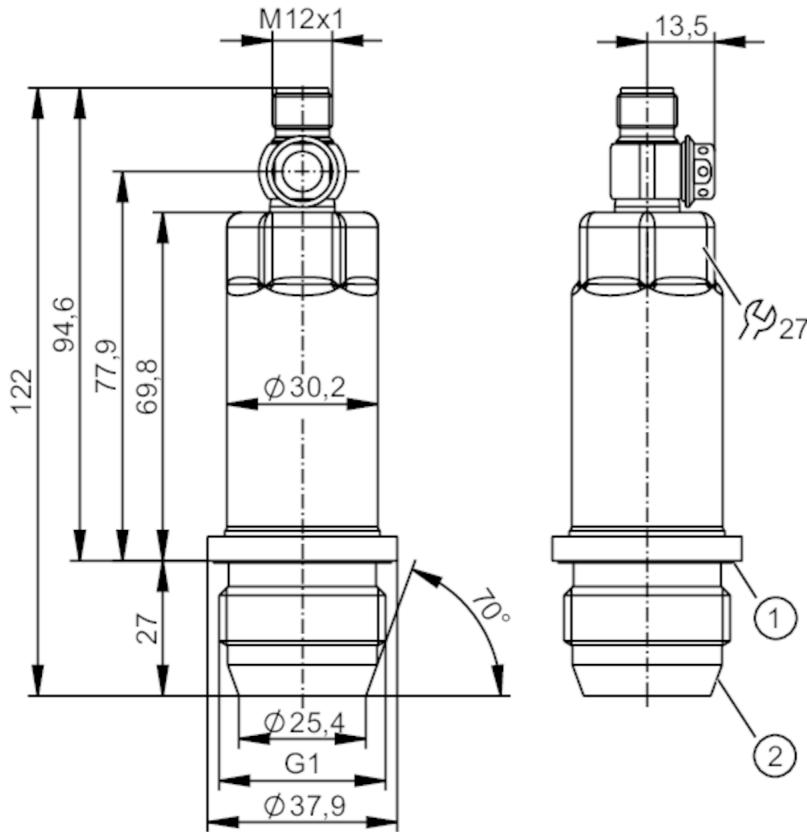


PM1603



Flush pressure sensor

PM-025-REA01-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 UK CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue 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 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	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]	45		

PM1603



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PM-025-REA01-E-ZVG/US

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; ($U_b = 24 \text{ V}; (U_b - 9 \text{ V}) / 21.5 \text{ mA}$)	
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
Analogue start point	-1...20 bar	-14.6...290 psi	-0.1...2 MPa
Analogue 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 = 0.00 bar	AEP = 25.00 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

PM1603



Flush pressure sensor

PM-025-REA01-E-ZVG/US

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	Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)						
SIO mode	no						
Required master port type	A						
Process data analogue	3						
Min. process cycle time [ms]	3.2						
IO-Link resolution pressure [bar]	0.005						
IO-Link process data (cyclical)	<table border="1"> <thead> <tr> <th>function</th> <th>bit length</th> </tr> </thead> <tbody> <tr> <td>pressure</td> <td>16</td> </tr> <tr> <td>device status</td> <td>4</td> </tr> </tbody> </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 border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>660</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	660		
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
Vibration resistance	DIN EN 60068-2-6
MTTF [years]	323
Note on approval	factory certificate available as download at www.factory-certificate.ifm
UL approval	UL Approval no. J022

Mechanical data

Weight	[g]	340.1
Materials		stainless steel (316L/1.4404); PBT
Materials (wetted parts)		ceramics (99.9 % Al2O3); stainless steel (316L/1.4435); surface characteristics: Ra < 0,4 / Rz 4; PTFE
Min. pressure cycles		100 million

PM1603



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PM-025-REA01-E-ZVG/US

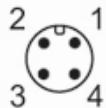
Tightening torque	[Nm]	20
Process connection	threaded connection G 1 external thread sealing cone	

Remarks

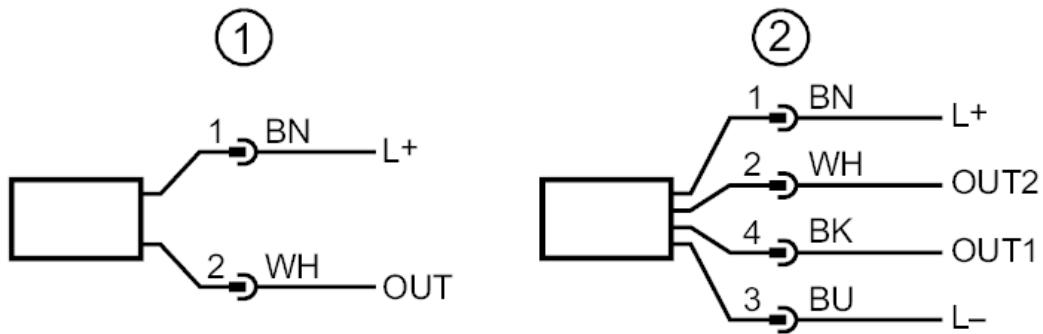
Pack quantity	1 pcs.
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Electrical connection

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

Flush pressure sensor

PM-025-REA01-E-ZVG/US

Diagrams and graphs

ambient temperature influence on the accuracy

