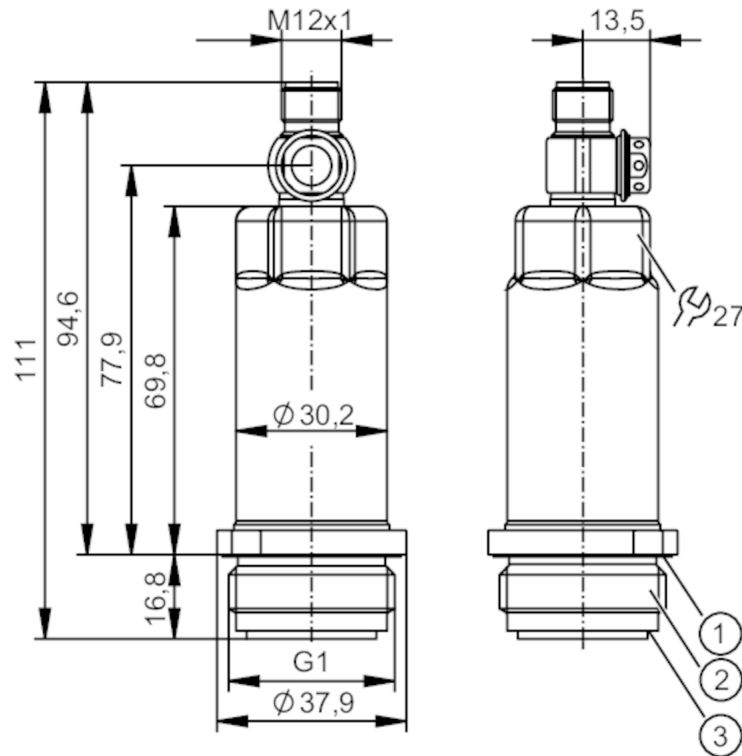


PM1789



Flush pressure sensor

PM-,10BREA01-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



US

EC 1935/2004

EHEDG

Certified

FCM



IO-Link



NSF

Reg31



UK

CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1			
Measuring range	-0.005...0.1 bar	-5...100 mbar	-0.073...1.45 psi	-0.5...10 kPa
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	30000 mbar	435 psi	3000 kPa
Pressure rating	4000 mbar	58 psi	400 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	4		

PM1789



Flush pressure sensor

PM-,10BREA01-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 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; (U _b = 24 V; (U _b - 9 V) / 21.5 mA)								
Short-circuit proof	yes								
Overload protection	yes								
Measuring/setting range									
Measuring range	-0.005...0.1 bar -5...100 mbar -0.073...1.45 psi -0.5...10 kPa								
Analog start point	-5...80 mbar -0.073...1.16 psi -0.5...8 kPa								
Analog end point	15...100 mbar 0.218...1.45 psi 1.5...10 kPa								
In steps of	0.05 mbar 0.001 psi 0.005 kPa								
Factory setting	ASP = 0.0 mbar AEP = 100 mbar								
Accuracy / deviations									
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)								
Characteristics deviation [% of the span]	< ± 0,5; (linearity incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)								
Linearity deviation [% of the span]	< ± 0,25; (Turn down 1:1)								
Hysteresis deviation [% of the span]	< ± 0,2; (Turn down 1:1)								
Long-term stability [% of the span]	< ± 0,1; (Turn down 1:1; per year)								
Total deviation over temperature range	<table border="1"> <thead> <tr> <th>Temperature range</th> <th>total deviation</th> </tr> </thead> <tbody> <tr> <td>-25...15 °C</td> <td>Characteristics deviation ± 0,15 % 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 ± 0,2 % of the span / 10 K</td> </tr> </tbody> </table>	Temperature range	total deviation	-25...15 °C	Characteristics deviation ± 0,15 % of the span / 10 K	15...80 °C	Characteristics deviation	80...150 °C	Characteristics deviation ± 0,2 % of the span / 10 K
Temperature range	total deviation								
-25...15 °C	Characteristics deviation ± 0,15 % of the span / 10 K								
15...80 °C	Characteristics deviation								
80...150 °C	Characteristics deviation ± 0,2 % of the span / 10 K								

PM1789



Flush pressure sensor

PM-,10BREA01-E-ZVG/US

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	[mbar]	0.02
-----------------------------	--------	------

IO-Link functions (acyclical)	application specific tag; internal temperature
-------------------------------	--

Supported DeviceIDs	Type of operation	DeviceID
	default	670

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]	272.15
--------	-----	--------

Housing	tubular
---------	---------

Dimensions	[mm]	Ø 30.2 / L = 111
------------	------	------------------

Material	stainless steel (1.4404 / 316L); PBT
----------	--------------------------------------

Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
--------------------------	--

Min. pressure cycles	100 million
----------------------	-------------

PM1789



Flush pressure sensor

PM-,10BREA01-E-ZVG/US

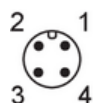
Tightening torque [Nm]	35
Process connection	threaded connection G 1 external thread mit Dichtkontur Aseptoflex Vario

Remarks

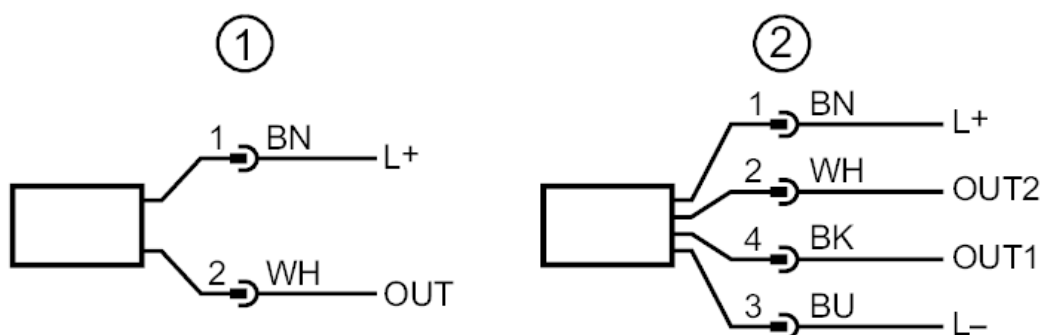
Pack quantity	1 pcs.
---------------	--------

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

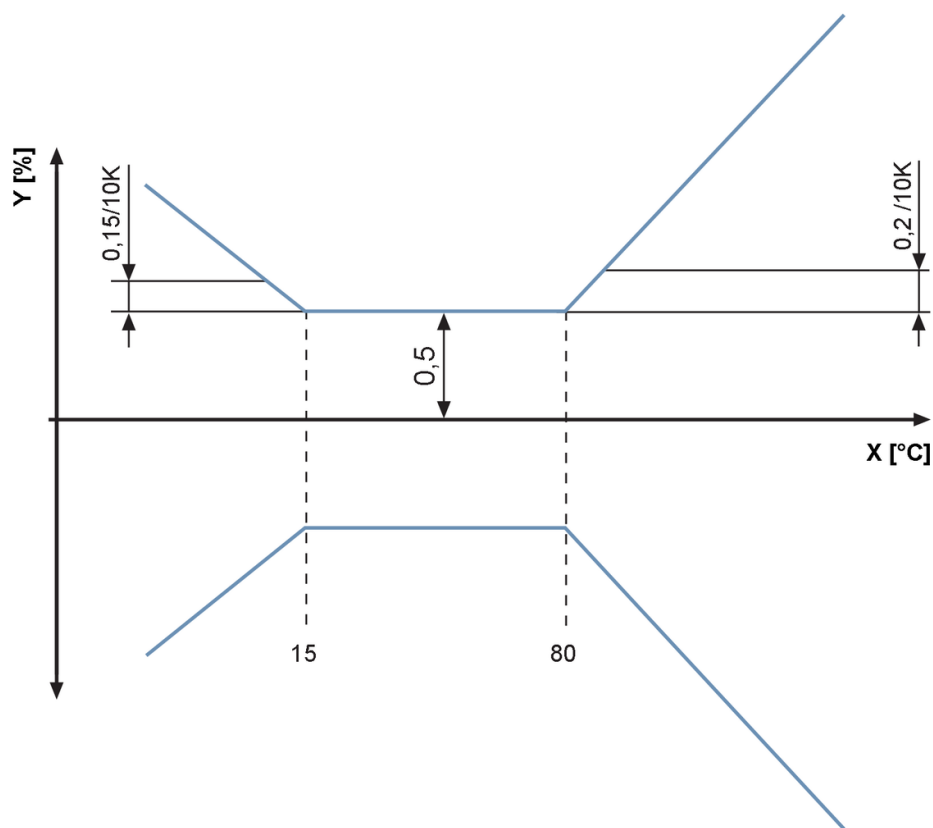
PM1789



Flush pressure sensor

PM-,10BREA01-E-ZVG/US

Diagrams and graphs



X temperature
Y total deviation