

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



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 Aseptoflex Vario			
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	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			
MAWP (for applications according to CRN) [bar]	20			
Electrical data				
Operating voltage [V]	18...30 DC			



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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)
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
Notes on the accuracy / deviation	for further details see section Diagrams and graphs	



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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	[mbar]	0.5
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	665
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 no.	J021
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 % Al2O3); stainless steel (316L/1.4435); surface characteristics: Ra < 0,4 / Rz 4; PTFE	
Min. pressure cycles	100 million	

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Tightening torque	[Nm]	35
Process connection	threaded connection G 1 external thread Aseptoflex Vario	
Remarks		
Pack quantity	1 pcs.	

Electrical connection

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



Connection



- 1
- 2
- connection for 2-wire operation (analogue)
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