

PM1104



Flush pressure sensor

PM-010-REZ01-E-ZVG/US



- 1 clamp DN25...DN40 (1...1.5") DIN 32676 (ISO 2852)
the seal for the Triclamp process connection must have an inner diameter of at least 22 mm



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1			
Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Process connection	Clamp DN25...DN40 (1...1.5") DIN 32676 (ISO 2852)			

Application

System	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	150 bar	2175 psi	15 MPa
Pressure rating	50 bar	725 psi	5 MPa
Note on pressure rating	take into account the pressure resistance of the bracket and the seal used for clamp connection		
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	50		

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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...10 bar	-14.5...145 psi	-100...1000 kPa -0.1...1 MPa
Analog start point		-1...8 bar	-14.5...116 psi	-0.1...0.8 MPa
Analog end point		1...10 bar	14.5...145 psi	0.1...1 MPa
In steps of		0.005 bar	0.1 psi	0.0005 MPa
Factory setting		ASP = 0.0 bar	AEP = 10.0 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)		
Temperature coefficient zero point	[% of the span / 10 K]	< ± 0,05; (0...70 °C)		
Temperature coefficient span	[% of the span / 10 K]	< ± 0,15; (0...70 °C)		

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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
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-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								
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	Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)								
SIO mode	no								
Required master port class	A								
Process data analog	3								
Min. process cycle time [ms]	3.2								
IO-Link resolution pressure [bar]	0.002								
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>662</td></tr> </table>	Type of operation	DeviceID	default	662				
Type of operation	DeviceID								
default	662								
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	<table> <tr> <td>UL approval number</td><td>J055</td></tr> <tr> <td>File number UL</td><td>E174189</td></tr> </table>	UL approval number	J055	File number UL	E174189				
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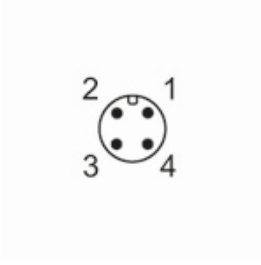
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Mechanical data		
Weight	[g]	369.35
Material	stainless steel (1.4404 / 316L); PBT	
Materials (wetted parts)	ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PTFE	
Min. pressure cycles	100 million	
Process connection	Clamp DN25...DN40 (1...1,5") DIN 32676 (ISO 2852)	

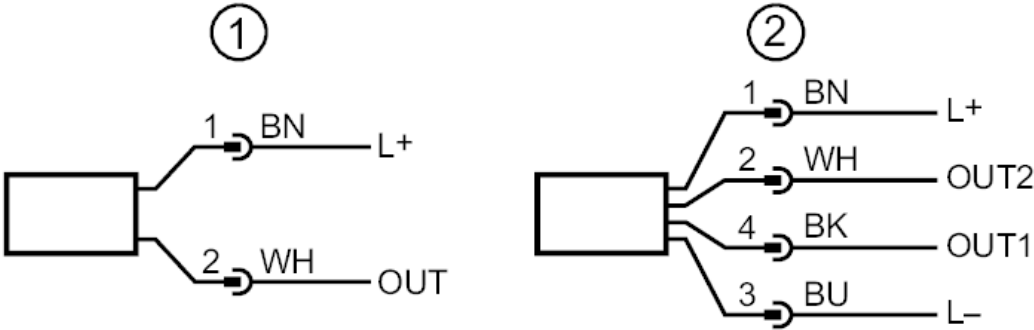
Remarks	
Pack quantity	1 pcs.

Electrical connection

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

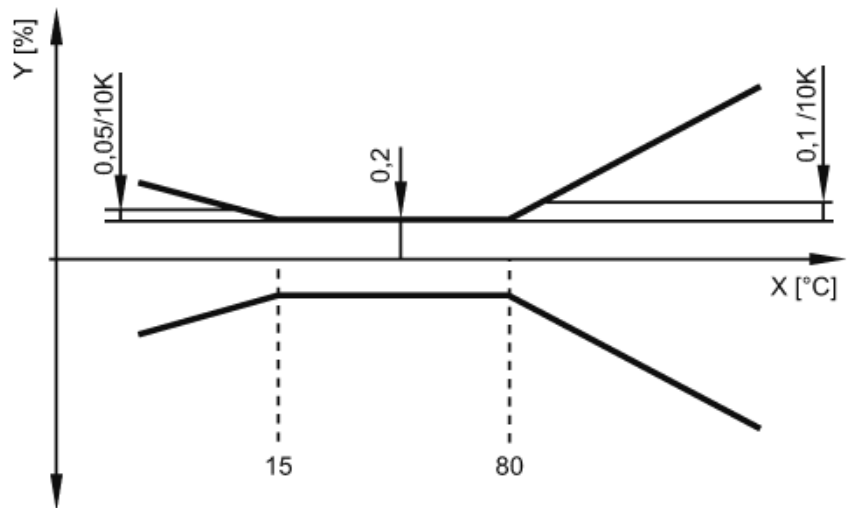


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Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation