

PM1117



Flush pressure sensor

PM-1,6BREZ01-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	-0.1...1.6 bar	-100...1600 mbar	-1.45...23.21 psi	-10...160 kPa
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	40000 mbar	580 psi	4000 kPa
Pressure rating	15000 mbar	215 psi	1500 kPa
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		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	15		



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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		-0.1...1.6 bar	-100...1600 mbar	-1.45...23.21 psi -10...160 kPa
Analog start point		-100...1280 mbar	-1.45...18.56 psi	-10...128 kPa
Analog end point		220...1600 mbar	3.19...23.21 psi	22...160 kPa
In steps of		1 mbar	0.01 psi	0.1 kPa
Factory setting		ASP		0.0 mbar
		AEP		1600 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)		
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	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		
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]	0.5	
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	666	
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		J055
	File number UL		E174189

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Mechanical data		
Weight	[g]	394.6
Housing		tubular
Dimensions	[mm]	Ø 30.2 / L = 111.4
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)

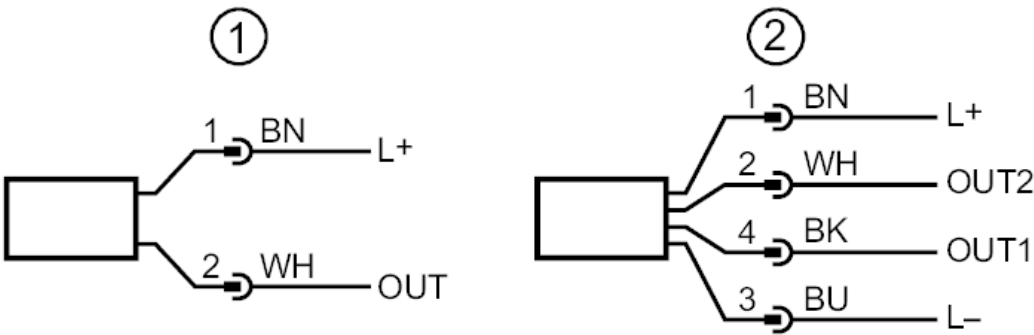
Remarks	
Pack quantity	1 pcs.

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