

PM1507



Electronic pressure sensor

PM-001-REA12-A-ZVG/US



- 1 Gasket FKM (for sealing on the back - not pressure resistant) / removable
- 2 pre-mounted PEEK sealing ring (removable) / metallic sealing area
- 3 groove for sealing ring DIN EN ISO 1179-2

ACS   EC 1935/2004 FCM   Reg31 

Product characteristics

Measuring range	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Process connection	threaded connection G 1/2 external thread sealing cone		

Application

System	gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Temperature monitoring	yes		
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	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]	2		

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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	
Outputs			
Total number of outputs		2	
Output signal		analog signal; IO-Link	
Analog current output	[mA]	4...20; (scalable; 1:5)	
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		-50...1000 mbar	-0.73...14.5 psi
Analog start point		-50...800 mbar	-0.73...11.6 psi
Analog end point		150...1000 mbar	2.18...14.5 psi
In steps of		1 mbar	0.01 psi
Factory setting		ASP = 0.0 bar	AEP = 1000 mbar
Temperature monitoring			
Measuring range		-25...150 °C	-13...302 °F
Accuracy / deviations			
Repeatability	[K]	± 0,2	
Resolution	[K]	0.2	
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]	< ± 0,15; (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 % der Spanne / 10 K	
	15...80 °C	Characteristics deviation	
	80...150 °C	Characteristics deviation ± 0,1 % der Spanne / 10 K	

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Notes on the accuracy / deviation	for further details see section Diagrams and graphs	
Temperature monitoring		
Accuracy	[K]	± 2.5 K + (0.045 x (ambient temperature - medium temperature))
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
Temperature monitoring		
Dynamic response T05 / T09	[s]	< 10 / < 25; (DIN EN 60751 water; > 0,9 m/s)
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor ED2: Identification and Diagnosis (0x4000), Measurement Data Channel (0x800A)	
SIO mode	no	
Required master port class	A; (when pin 2 not connected: B)	
Min. process cycle time	[ms]	4.5
IO-Link resolution pressure	[mbar]	0.2
IO-Link resolution temperature	[K]	0.2
IO-Link process data (cyclical)	Function	bit length
	pressure	16
	temperature	16
	device status	4
IO-Link functions (acyclical)	application specific tag; internal temperature	
Supported DeviceIDs	Type of operation	DeviceID
	default	1534
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection	IP 67; IP 68; IP 69K	
Tests / approvals		
EMC	DIN EN 61326-1	
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]	322
UL approval	UL approval number	J069
	File number UL	E174189

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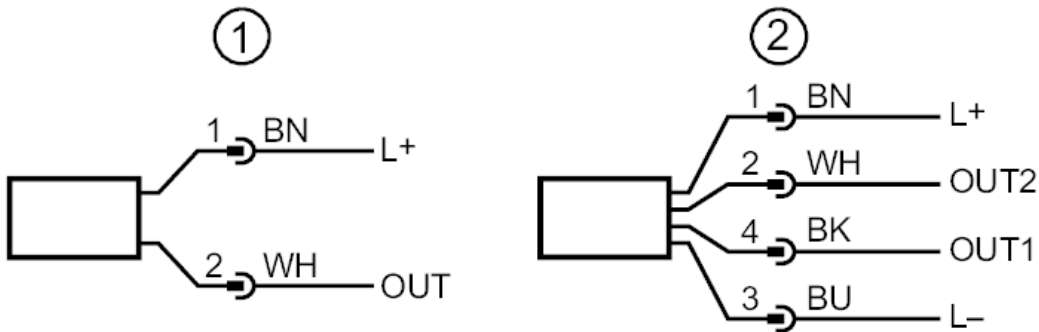
Mechanical data		
Weight	[g]	265.9
Material		stainless steel (1.4404 / 316L); PTFE; FKM
Materials (wetted parts)		ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PEEK; PTFE
Min. pressure cycles		100 million
Tightening torque	[Nm]	20
Process connection		threaded connection G 1/2 external thread sealing cone
Remarks		
Pack quantity		1 pcs.

Electrical connection

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



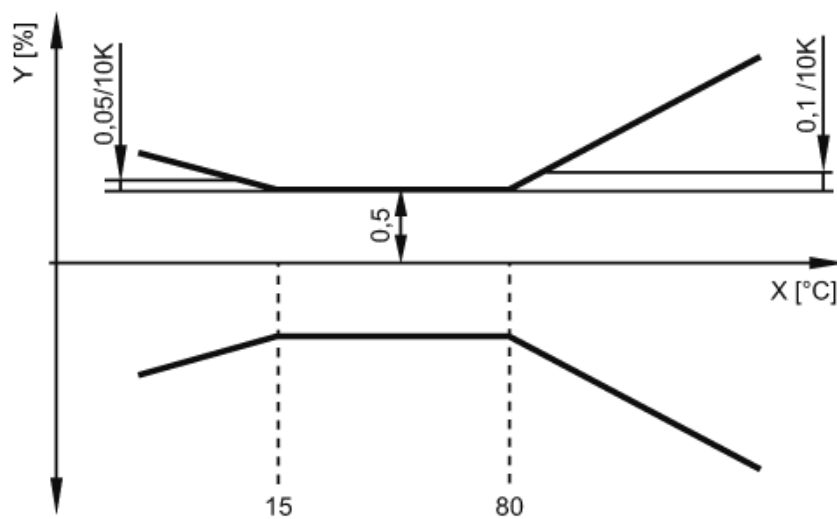
Connection



- 1
- connection for 2-wire operation (analog)
- 2
- connection for 3-wire operation (analog / IO-Link)
OUT1: IO-Link
OUT2: analog output



Diagrams and graphs



X temperature
Y total deviation