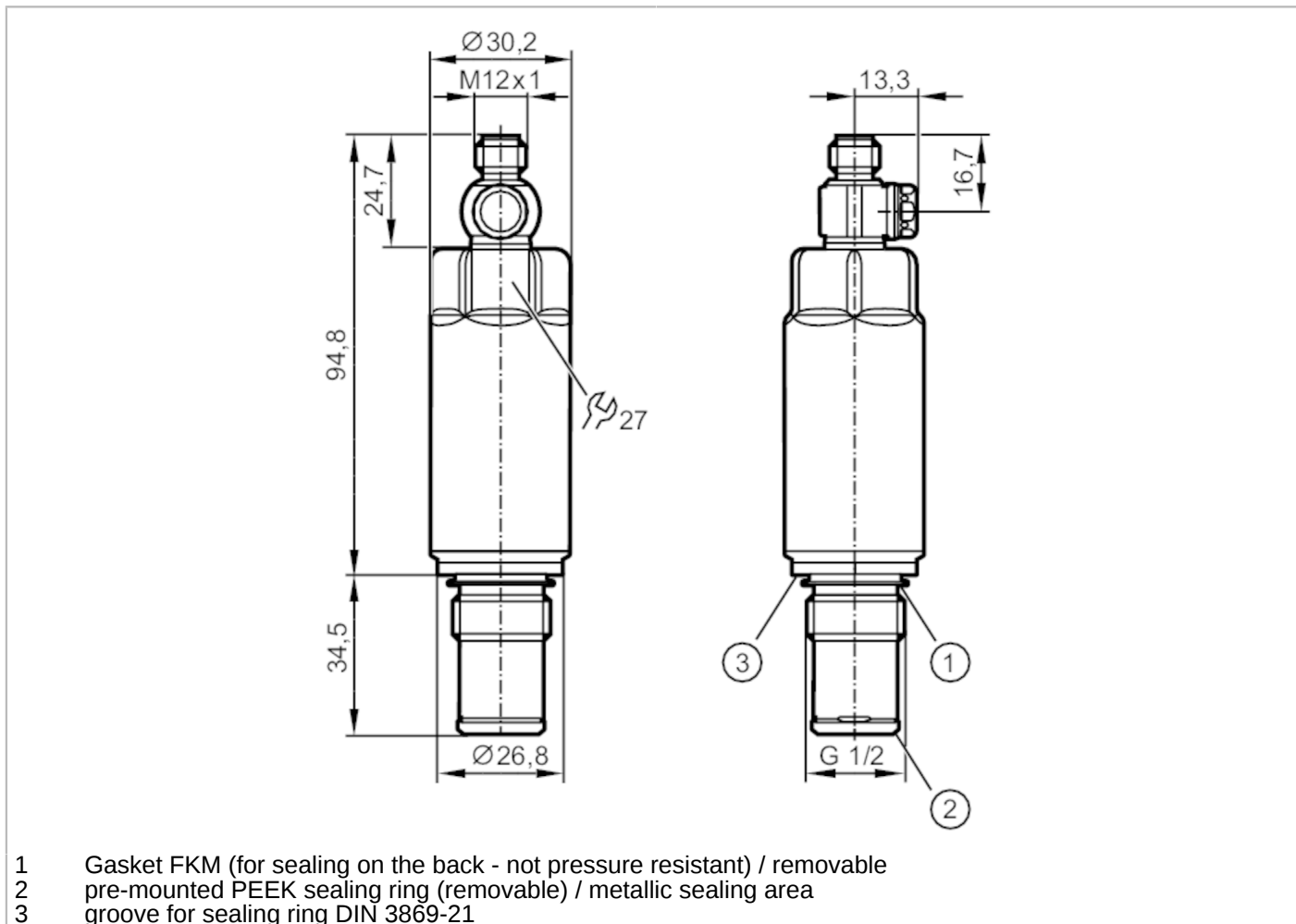


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Electronic pressure sensor

PM-040-REA12-A-ZVG/US



Product characteristics			
Measuring range	-1...40 bar	-14.6...580.2 psi	-0.1...4 MPa
Process connection	threaded connection G 1/2 external thread sealing cone		
Application			
Special feature	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		
Conditionally suitable for	use in gases at pressures > 25 bar only on request		
Medium temperature [°C]	-25...150		
Min. bursting pressure	300 bar	4350 psi	30 MPa
Pressure rating	200 bar	2900 psi	20 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	51.5		

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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		analogue signal; IO-Link		
Analogue current output	[mA]	4...20; (scalable; 1:5)		
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		-1...40 bar	-14.6...580.2 psi	-0.1...4 MPa
Analogue start point		-1...32 bar	-14.6...462.2 psi	-0.1...3.2 MPa
Analogue end point		7...40 bar	101.6...580.2 psi	0.7...4 MPa
In steps of		0.02 bar	0.2 psi	0.002 MPa
Factory setting		ASP = 0.0 bar	AEP = 40.0 bar	
Temperature monitoring				
Measuring range		-25...150 °C		-13...302 °F
Accuracy / deviations				
Repeatability	[K]	± 0,2		
Resolution	[K]	0.2		
Notes on the accuracy / deviation		for further details see section Diagrams and graphs		
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		< ± 0,1; (Turn down 1:1; per year)		

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	[% of the span]		
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
Temperature monitoring			
Accuracy	[K]	± 2.5 K + (0.045 x (ambient temperature - medium temperature))	
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	
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 type		A; (when pin 2 not connected: B)	
Min. process cycle time	[ms]	4.5	
IO-Link resolution pressure	[bar]	0.01	
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	1018
Operating conditions			
Ambient temperature	[°C]	-25...80	
Storage temperature	[°C]	-40...100	
Protection		IP 67; IP 68; IP 69K	

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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 no.	J024
	File number UL	E174189

Mechanical data		
Weight [g]		266.6
Materials	stainless steel (1.4404 / 316L); PTFE; FKM	
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); 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	

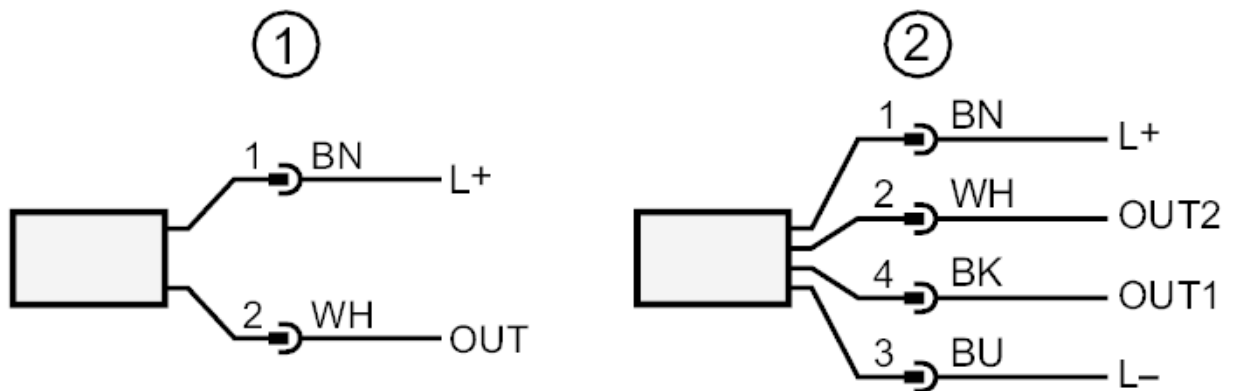
Remarks	
Pack quantity	1 pcs.

Electrical connection

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



Connection



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

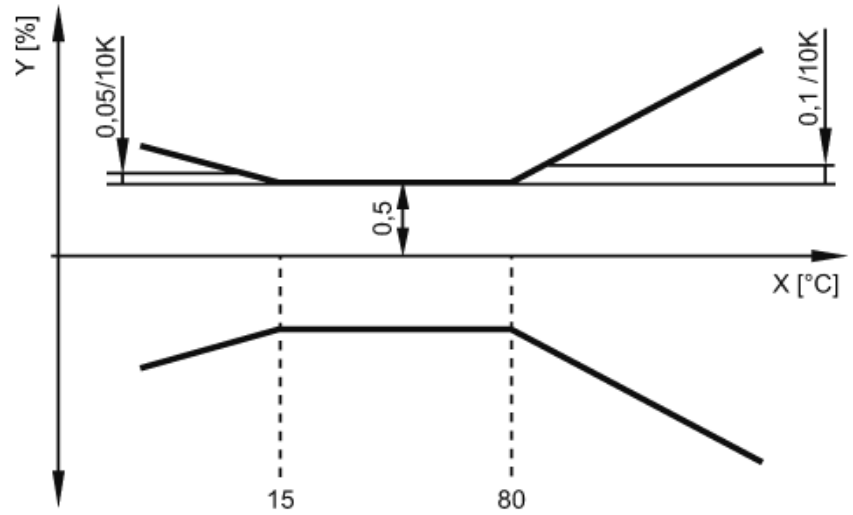
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Diagrams and graphs



X temperature
Y total deviation