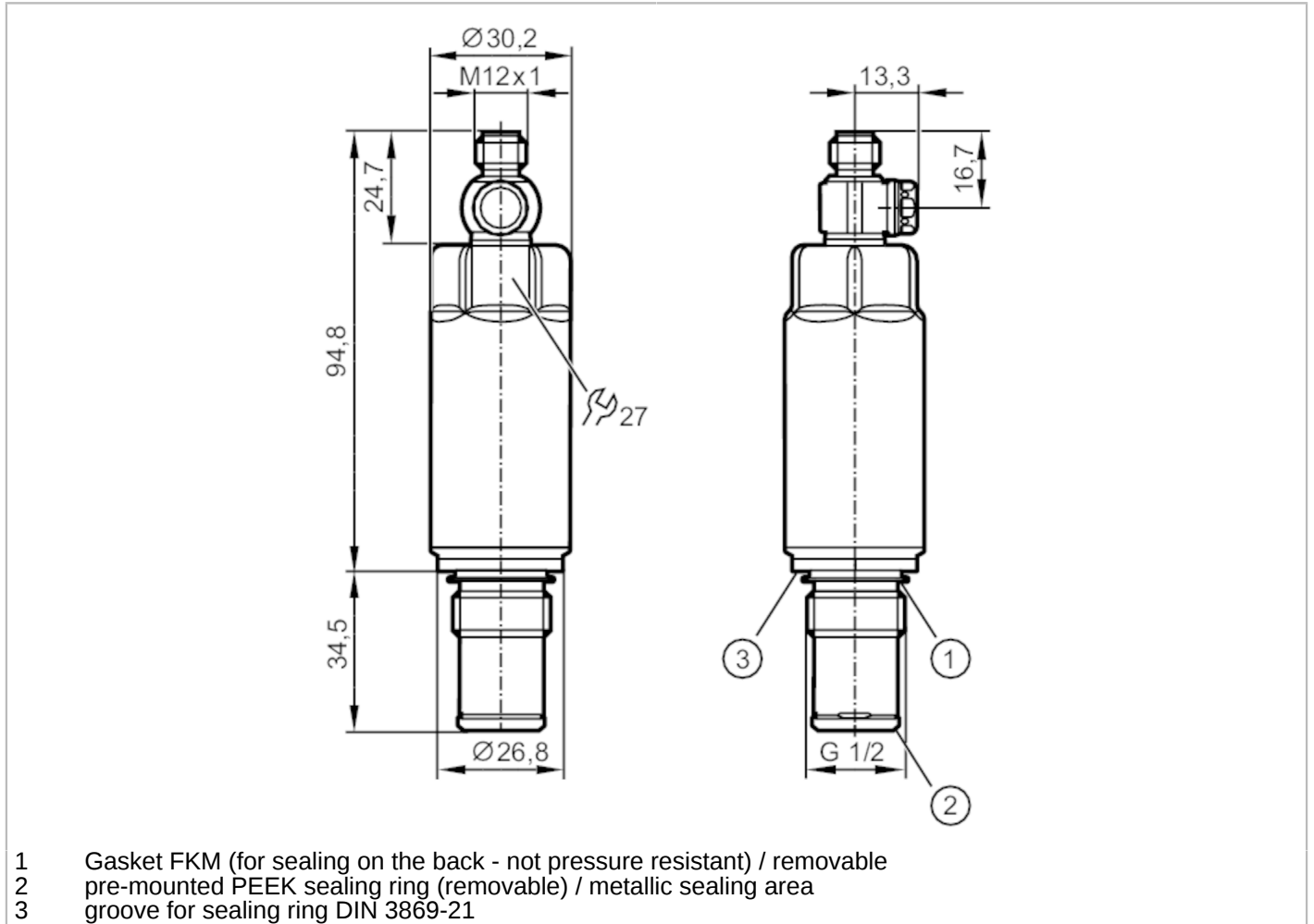


# PM1543



## 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...125; (< 1 h: 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		

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## Electronic pressure sensor

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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 <sub>b</sub> = 24 V; (U <sub>b</sub> - 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	[°C]	-25...150	
Measuring range	[°F]	-13...302	
Accuracy / deviations			
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)	
Temperature coefficient zero point	[% of the span / 10 K]	< ± 0,1 (-25...85 °C); < ± 0,3 (85...150 °C)	
Temperature coefficient span	[% of the span / 10 K]	< ± 0,1 (-25...85 °C); < ± 0,3 (85...150 °C)	

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Temperature monitoring		
Accuracy	[K]	$\pm 2.5 \text{ K} + (0.045 \times (\text{ambient temperature} - \text{medium temperature}))$
<b>Response times</b>		
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)
<b>Interfaces</b>		
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
<b>Operating conditions</b>		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 67; IP 68; IP 69K
<b>Tests / approvals</b>		
EMC		DIN EN 61326-1
Shock resistance		DIN EN 60068-2-27
Vibration resistance		DIN EN 60068-2-6
MTTF	[years]	322
UL approval	UL Approval no.	J024
	File number UL	E174189

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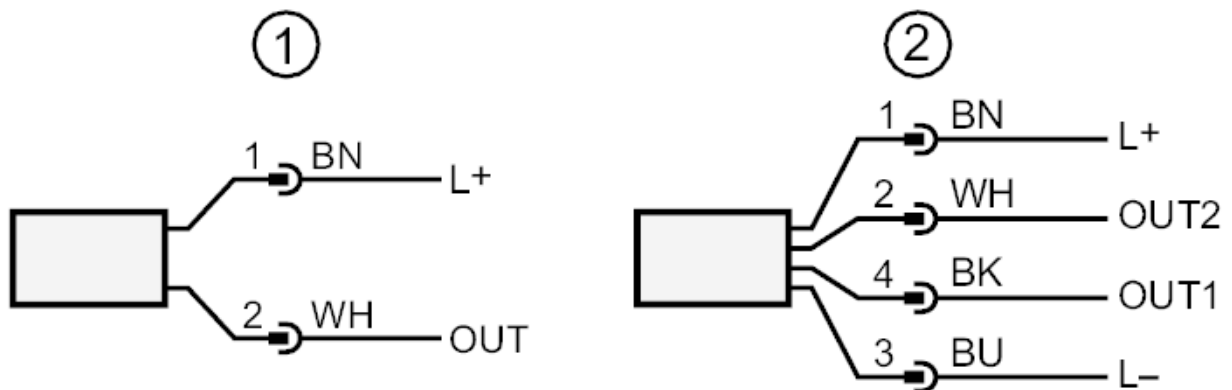
Mechanical data	
Weight [g]	252.1
Materials	stainless steel (1.4404 / 316L); PTFE; FKM
Materials (wetted parts)	ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PEEK; PTFE
Min. pressure cycles	100 million
Tightening torque [Nm]	20
Process connection	threaded connection G 1/2 external thread sealing cone
Remarks	
Pack quantity	1 pcs.

## Electrical connection

Connector: 1 x M12; 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