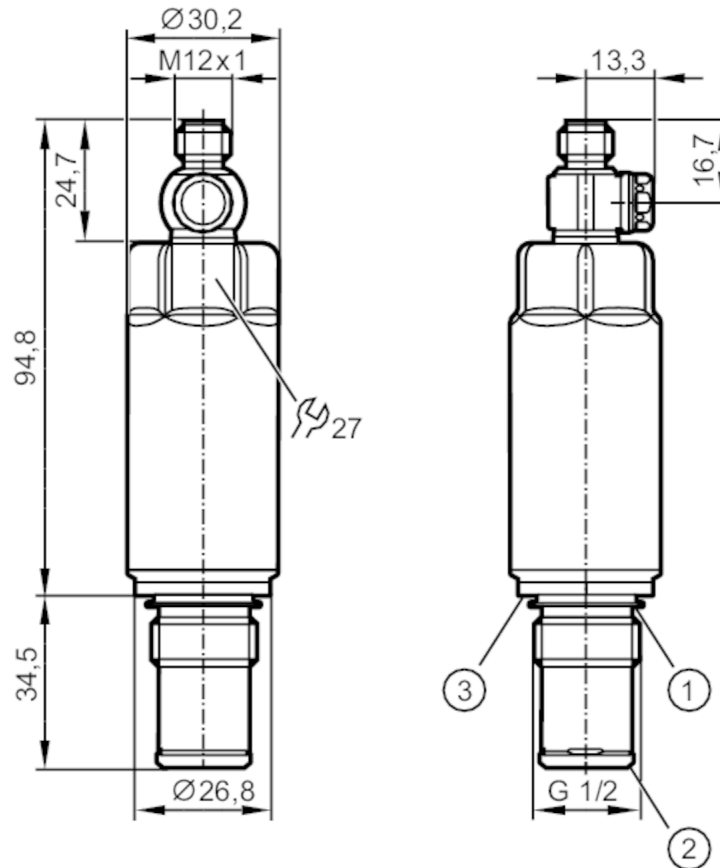


PM1504



Electronic pressure sensor

PM-010-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 3869-21

ACS
 EC 1935/2004
 EHEDG Certified
 FCM
 FDA
 IO-Link

Product characteristics

Output signal	analogue signal; IO-Link		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 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		
Application	hygienic systems		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...125; (< 1 h: 150)		
Pressure rating	75 bar	1100 psi	7.5 MPa
Min. bursting pressure	175 bar	2538 psi	17 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		

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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...10 bar	-14.5...145 psi -0.1...1 MPa
Analogue start point		-1...8 bar	-14.5...116 psi -0.1...0.8 MPa
Analogue 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
Temperature monitoring			
Measuring range		-25...150 °C	-13...302 °F
Accuracy / deviations			
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation	[% of the span]	< ± 0,5 (DIN EN 61298-2); (incl. zero point and span error, non-linearity, hysteresis; Turn down 1:1)	
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)	
Temperature monitoring			
Accuracy	[K]	± 2.5 K + (0.045 x (ambient temperature - medium temperature))	

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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	
IO-Link device ID	1021 d / 00 03 fd h	
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]	0.005	
IO-Link resolution temperature [K]	0.2	
IO-Link functions (cyclical)	function	bit length
	pressure	16
	temperature	16
	device status	4
IO-Link functions (acyclical)	application specific tag; internal temperature	
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	
Note on approval	factory certificate available as download at www.factory-certificate.ifm	

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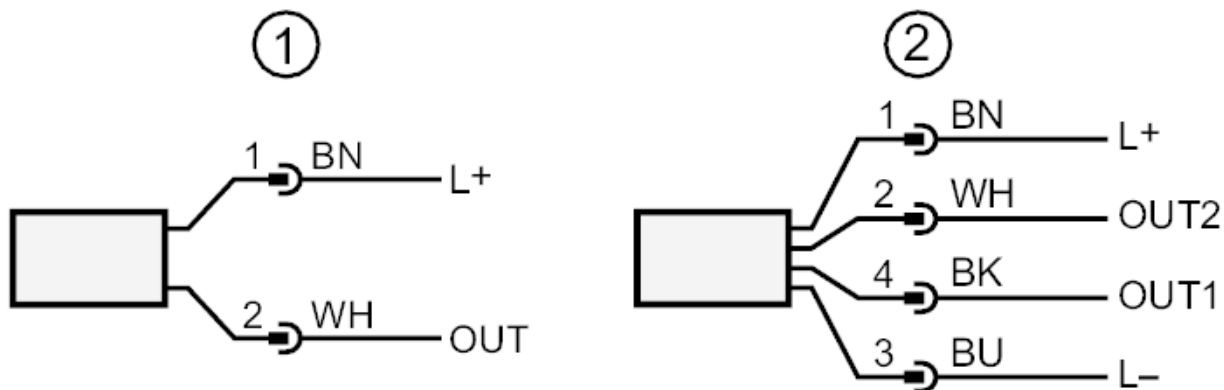
Mechanical data	
Weight [g]	253
Materials	stainless steel (1.4404 / 316L); PTFE; FKM
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); PTFE; stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PEEK
Min. pressure cycles	100 million
Tightening torque [Nm]	20
Process connection	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