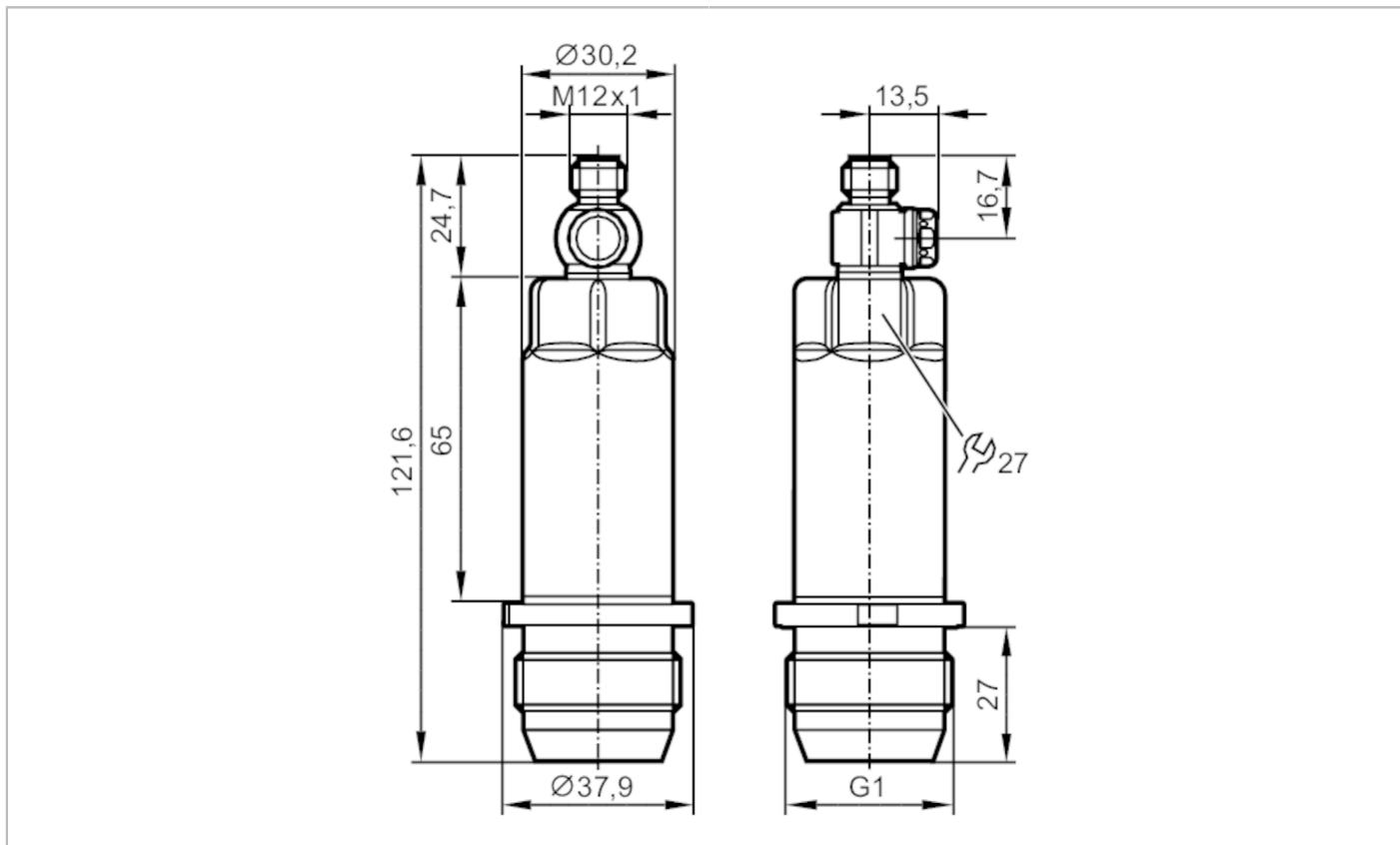


# PM1604



## Electronic pressure sensor

PM-010-REA01-E-ZVG/US



ACS



CRN



EHDG Tested

FCM



Reg31

### Product characteristics

Output signal	analogue signal; IO-Link; (configurable)			
Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Process connection	threaded connection G 1 external thread sealing cone			

### Application

Special feature	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...125; (150 max. 1h)			
Min. bursting pressure	150 bar	2175 psi	15 MPa	
Pressure rating	50 bar	725 psi	5 MPa	
Vacuum resistance [mbar]	-1000			
Type of pressure	relative pressure; vacuum			
No dead space	yes			
MAWP (for applications according to CRN) [bar]	50			

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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 analogue outputs: 1			
Outputs					
Total number of outputs		2			
Output signal		analogue signal; IO-Link; (configurable)			
Number of analogue outputs		1			
Analogue current output	[mA]	4...20; (scalable)			
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...10 bar	-14.5...145 psi	-100...1000 kPa	-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		
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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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
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
Profiles	Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)	
SIO mode	no	
Required master port type	A	
Process data analogue	3	
Min. process cycle time	[ms]	3.2
Supported DeviceIDs	Type of operation	DeviceID
	Default	662
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)
Note on approval	factory certificate available as download at <a href="http://www.factory-certificate.ifm">www.factory-certificate.ifm</a>	
UL approval	UL Approval no.	J022
Mechanical data		
Weight	[g]	337.7
Materials	stainless steel (1.4404 / 316L); PBT	
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; PTFE	
Min. pressure cycles	100 million	
Tightening torque	[Nm]	20
Process connection	threaded connection G 1 external thread sealing cone	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; Contacts: gold-plated		

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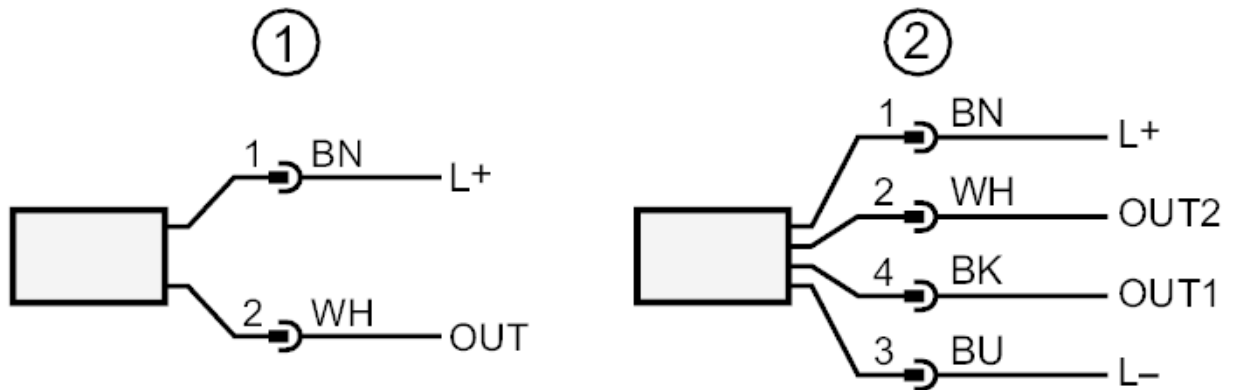


## Electronic pressure sensor

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### Connection



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