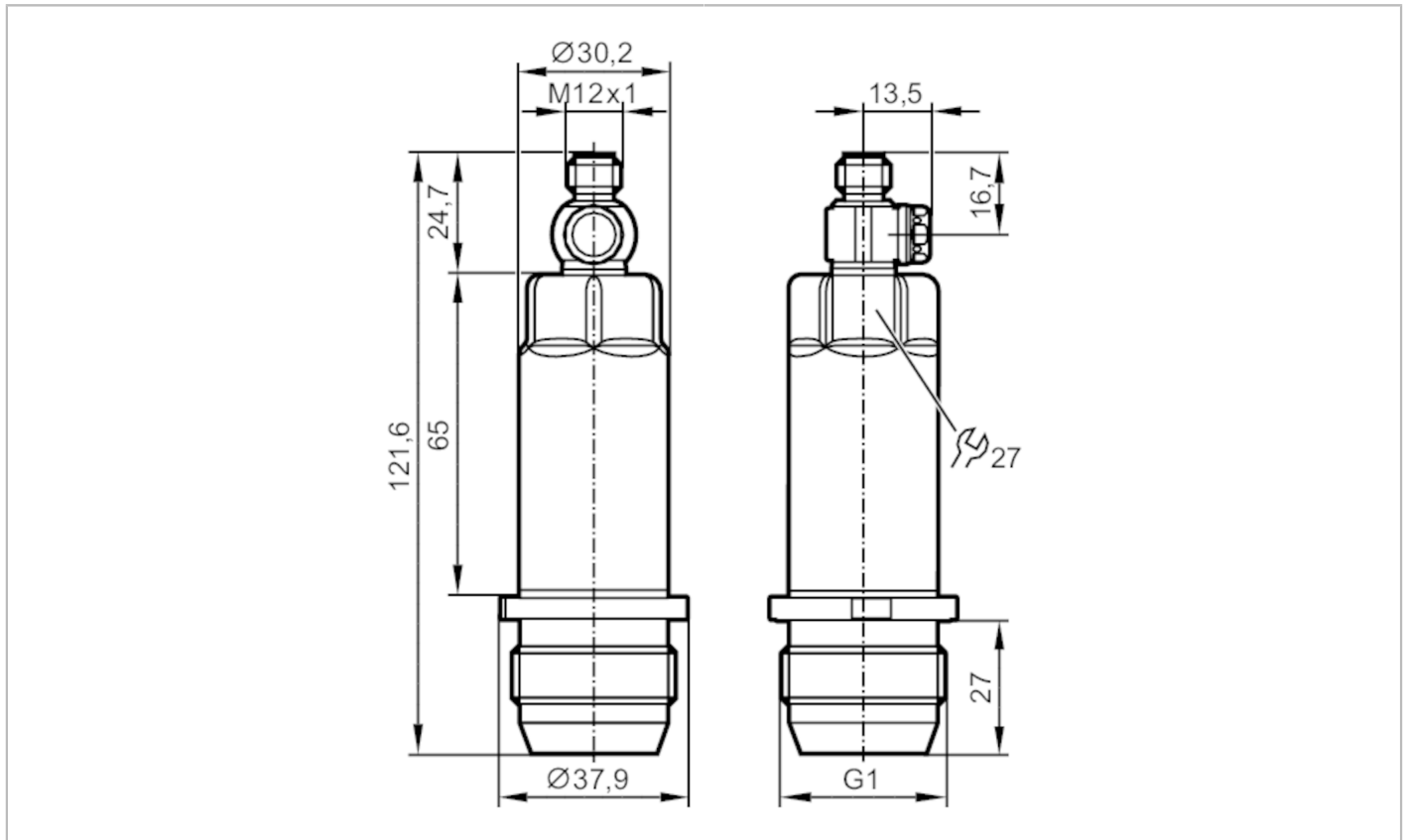


PM1689



Electronic pressure sensor

PM-,10BREA01-E-ZVG/US



ACS



CRN



EHEDG Tested

FCM



IO-Link



Reg31

Product characteristics

Output signal	analogue signal; (configurable)			
Measuring range	-0.005...0.1 bar	-5...100 mbar	-0.073...1.45 psi	-0.5...10 kPa
Process connection	threaded connection G 1 external thread sealing cone			

Application

Special feature	Gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Application	food and beverage industry		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...125; (150 max. 1h)		
Pressure rating	4000 mbar	58 psi	400 kPa
Min. bursting pressure	30000 mbar	435 psi	3000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	4		

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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		1			
Output signal		analogue signal; (configurable)			
Number of analogue outputs		1			
Analogue current output	[mA]	4...20; (scalable)			
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		-0.005...0.1 bar	-5...100 mbar	-0.073...1.45 psi	-0.5...10 kPa
Analogue start point		-5...80 mbar		-0.073...1.16 psi	-0.5...8 kPa
Analogue end point		15...100 mbar		0.218...1.45 psi	1.5...10 kPa
In steps of		0.05 mbar		0.001 psi	0.005 kPa
Factory setting		ASP = 0.0 mbar		AEP = 100 mbar	
Accuracy / deviations					
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)			
Characteristics deviation	[% of the span]	< ± 0,2 (DIN EN 61298-2); (incl. zero point and span error, non-linearity, hysteresis ; Turn down 1:1)			
Linearity deviation	[% of the span]	< ± 0,25; (Turn down 1:1)			
Hysteresis deviation	[% of the span]	< ± 0,2; (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; (0...70 °C)			
Temperature coefficient span	[% of the span / 10 K]	< ± 0,2; (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
IO-Link device ID		670 d / 00 02 9e h
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
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)
MTTF	[years]	323
Note on approval	factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL Approval no.	J022
Mechanical data		
Weight	[g]	302
Materials	stainless steel (1.4404 / 316L); PBT	
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); PTFE; stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4	
Min. pressure cycles	100 million	
Tightening torque	[Nm]	20
Process connection	threaded connection G 1 external thread sealing cone	
Displays / operating elements		
Display unit	mbar; psi; kPa; mmWS; inH ₂ O	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		

Connector: 1 x M12; Contacts: gold-plated

PM1689

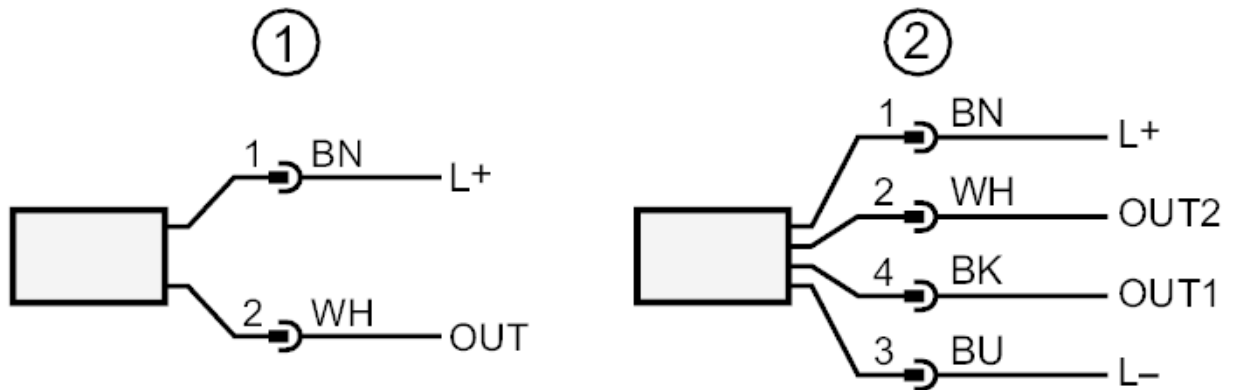


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Connection



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