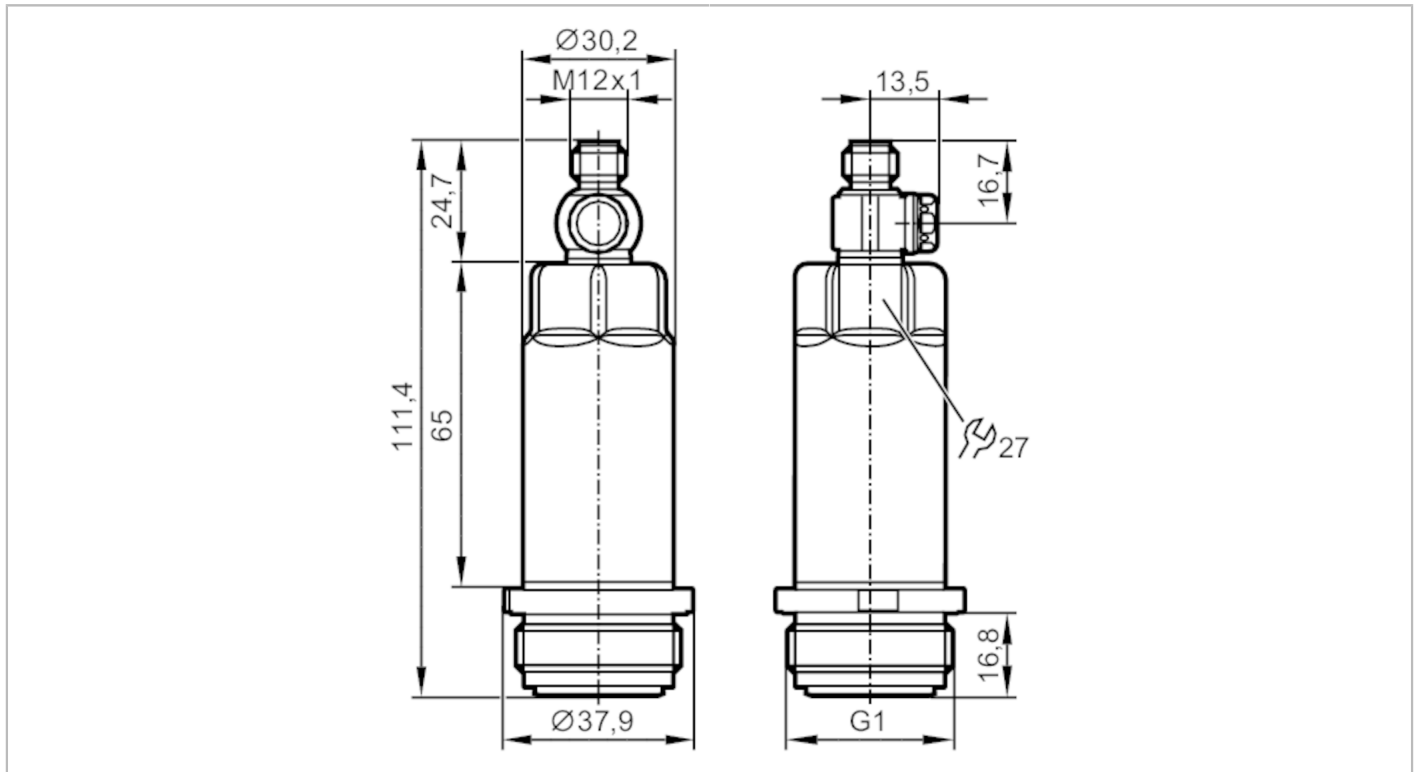


# PM1789



## Electronic pressure sensor

PM-,10BREA01-E-ZVG/US



### 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 Aseptoflex Vario			

### 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		

### 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

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<b>2-wire</b>					
Current consumption	[mA]	3.5...21.5			
Power-on delay time	[s]	1			
<b>3-wire</b>					
Current consumption	[mA]	< 45			
Power-on delay time	[s]	0.5			
<b>Inputs / outputs</b>					
Number of inputs and outputs		Number of analogue outputs: 1			
<b>Outputs</b>					
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 <sub>b</sub> = 24 V; (U <sub>b</sub> - 9 V) / 21.5 mA)			
Short-circuit proof		yes			
Overload protection		yes			
<b>Measuring/setting range</b>					
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	
<b>Accuracy / deviations</b>					
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)			
<b>Response times</b>					
Damping for the analogue output dAA	[s]	0...4			
<b>2-wire</b>					
Step response time analogue output	[ms]	30			
<b>3-wire</b>					
Step response time analogue output	[ms]	7			

# PM1789



## Electronic pressure sensor

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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
Vibration resistance	DIN EN 60068-2-6
MTTF [years]	323
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. J021

Mechanical data	
Weight [g]	279.5
Materials	stainless steel (1.4404 / 316L); PBT
Materials (wetted parts)	ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); PTFE; stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4
Min. pressure cycles	100 million
Tightening torque [Nm]	35
Process connection	threaded connection G 1 external thread Aseptoflex Vario

Displays / operating elements	
Display unit	mbar; psi; kPa; mmWS; inH <sub>2</sub> O

Remarks	
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; Contacts: gold-plated



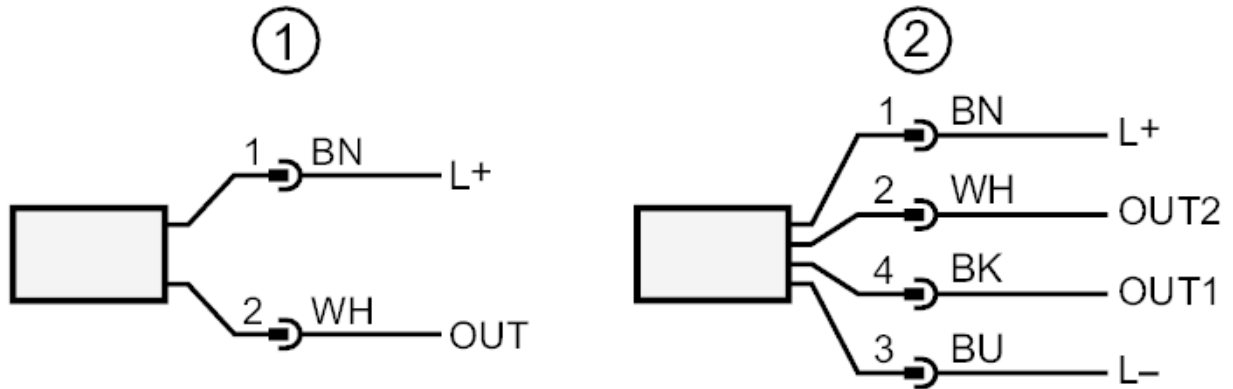
# PM1789



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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