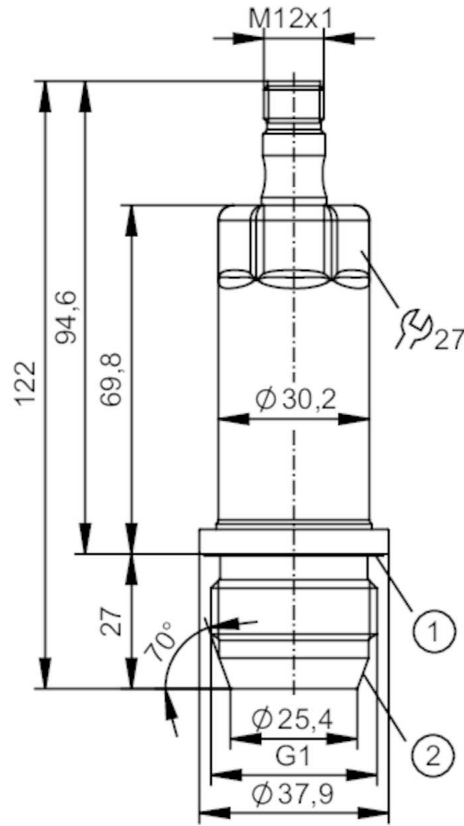


PM1602



Electronic pressure sensor

PM-100-REA01-E-ZVG/US



- 1 groove with sealing ring (DIN EN ISO 1179-2)
- 2 G1 sealing cone external thread



EC 1935/2004

EHDG Tested

FCM



Reg31

UK

CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1		
Measuring range	-1...100 bar	-15...1450 psi	-0.1...10 MPa
Process connection	threaded connection G 1 external thread sealing cone		

Application

System	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; use in gases at pressures > 25 bar only on request		
Medium temperature [°C]	-25...150		
Min. bursting pressure	650 bar	9425 psi	65 MPa
Pressure rating	200 bar	2900 psi	20 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		

PM1602



Electronic pressure sensor

PM-100-REA01-E-ZVG/US

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 digital outputs: 1; Number of analog outputs: 1	
Outputs			
Total number of outputs		2	
Output signal		analog signal; IO-Link; (configurable)	
Number of digital outputs		1; (IO-Link)	
Number of analog outputs		1	
Analog 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		-1...100 bar	-15...1450 psi
Analog start point		-1...80 bar	-15...1160 psi
Analog end point		19...100 bar	276...1450 psi
In steps of		0.05 bar	1 psi
Factory setting		ASP = 0.0 bar	AEP = 100.0 bar
			-0.1...10 MPa
			-0.1...8 MPa
			1.9...10 MPa
			0.005 MPa
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)	
Total deviation over temperature range		Temperature range	total deviation
		-25...15 °C	Characteristics deviation ± 0,15 % of the span / 10 K
		15...80 °C	Characteristics deviation
		80...150 °C	Characteristics deviation ± 0,2 % of the span / 10 K

PM1602



Electronic pressure sensor

PM-100-REA01-E-ZVG/US

Notes on the accuracy / deviation

for further details see section Diagrams and graphs

Reaction times

Damping for the analog output dAA	[s]	0...4
-----------------------------------	-----	-------

2-wire

Step response time analog output	[ms]	30
----------------------------------	------	----

3-wire

Step response time analog output	[ms]	7
----------------------------------	------	---

Interfaces

Communication interface	IO-Link
-------------------------	---------

Transmission type	COM2 (38,4 kBaud)
-------------------	-------------------

IO-Link revision	1.1
------------------	-----

SDCI standard	IEC 61131-9
---------------	-------------

Profiles	Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)
----------	--

SIO mode	no
----------	----

Required master port class	A
----------------------------	---

Process data analog	3
---------------------	---

Min. process cycle time	[ms]	3.2
-------------------------	------	-----

IO-Link resolution pressure	[bar]	0.02
-----------------------------	-------	------

IO-Link process data (cyclical)	Function	bit length
	pressure	16
	device status	4

IO-Link functions (acyclical)	application specific tag; internal temperature
-------------------------------	--

Supported DeviceIDs	Type of operation	DeviceID
	default	659

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 number	J023
-------------	--------------------	------

Mechanical data

Weight	[g]	330.15
--------	-----	--------

Material	stainless steel (1.4404 / 316L); PBT
----------	--------------------------------------

Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PTFE
--------------------------	--

Min. pressure cycles	100 million
----------------------	-------------

PM1602



Electronic pressure sensor

PM-100-REA01-E-ZVG/US

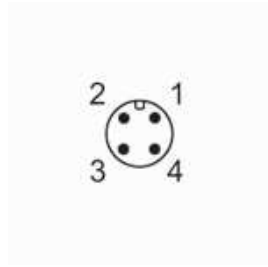
Tightening torque	[Nm]	20
Process connection		threaded connection G 1 external thread sealing cone

Remarks

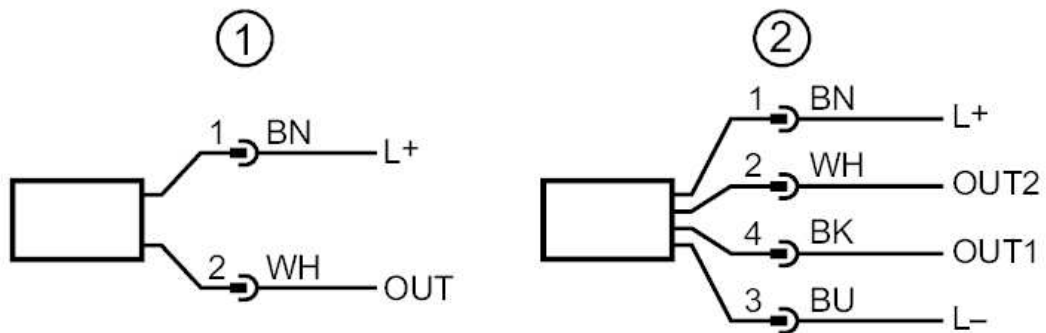
Pack quantity		1 pcs.
---------------	--	--------

Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection



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

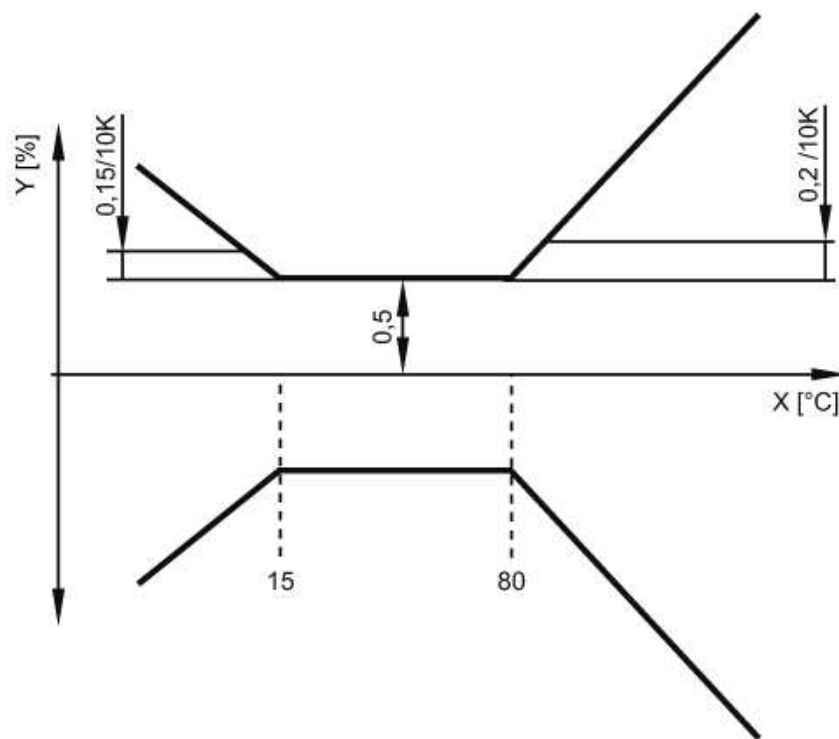
PM1602



Electronic pressure sensor

PM-100-REA01-E-ZVG/US

Diagrams and graphs



X temperature
Y total deviation