

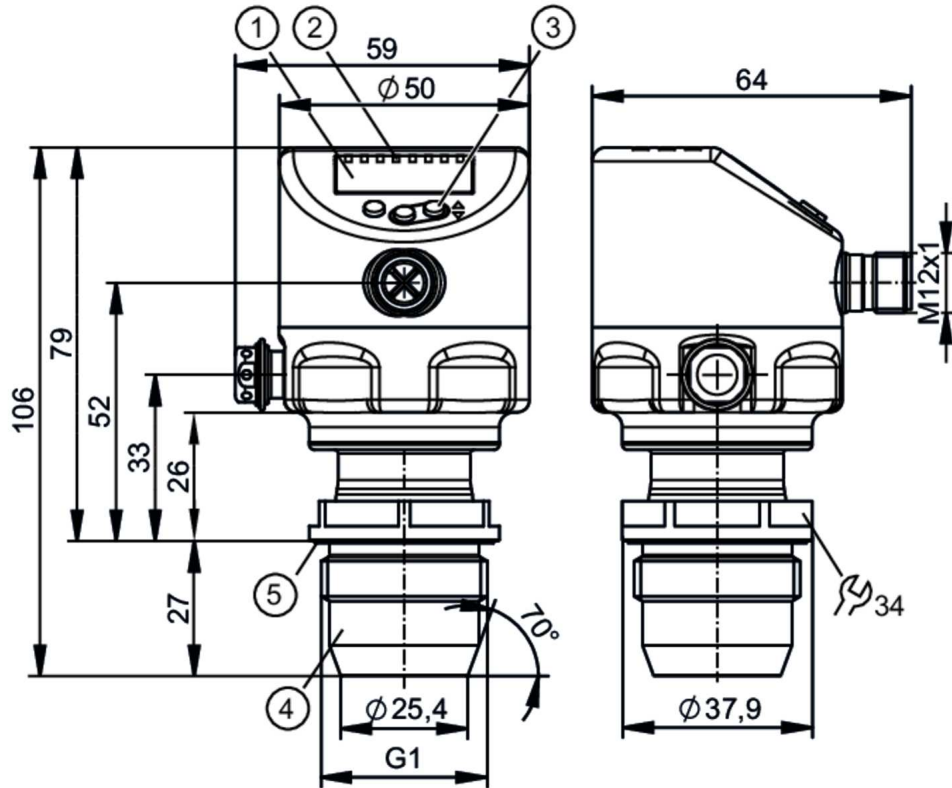
PI1817



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ IP

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button
- 4 G1 sealing cone external thread
Attention: The unit must only be installed in a process connection for G1 sealing cone.
The G1A sealing cone of the unit is only suited for adapters with metal end stop.
- 5 groove with sealing ring



ACS



CRN



US

EC 1935/2004

EHDG

Tested

FCM



IO-Link

Reg31



UK

CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-100...1600 mbar	-1.46...23.2 psi	-40...642.5 inH2O	-10...160 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.			

Application

System	gold-plated contacts		
Application	flush mountable for the food and beverage industry		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...150		
Min. bursting pressure	40000 mbar	580 psi	4000 kPa
Pressure rating	15000 mbar	215 psi	1500 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		

PI1817



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MAWP (for applications according to CRN)	[bar]	15
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Electrical data

Min. insulation resistance	[MΩ]	100; (500 V DC)
Protection class		III
Reverse polarity protection		yes
Integrated watchdog		yes

2-wire

Operating voltage	[V]	20...30 DC
Current consumption	[mA]	3.5...21.5
Power-on delay time	[s]	< 1

3-wire

Operating voltage	[V]	18...30 DC
Current consumption	[mA]	5...45; (430 bei max. Laststrom)
Power-on delay time	[s]	< 0.5

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
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Outputs

Total number of outputs	2		
Output signal	switching signal; analog signal; IO-Link		
Electrical design	PNP/NPN		
Number of digital outputs	2		
Output function	normally open / closed; (configurable)		
Number of analog outputs	1		
Analog current output	[mA]	4...20, invertible; (scalable)	
Short-circuit protection	yes		
Type of short-circuit protection	yes (non-latching)		
Overload protection	yes		

2-wire

Max. load	[Ω]	300
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3-wire

Max. voltage drop switching output DC	[V]	2
Permanent current rating of switching output DC	[mA]	100
Switching frequency DC	[Hz]	125
Max. load	[Ω]	($U_b - 10 \text{ V}$) / 21,5 mA; 650 Ω ($U_b = 24 \text{ V}$)

Measuring/setting range

Measuring range	-100...1600 mbar	-1.46...23.2 psi	-40...642.5 inH2O	-10...160 kPa
Set point SP	-98...1600 mbar	-1.42...23.21 psi	-39.2...642.3 inH2O	-9.8...160 kPa
Reset point rP	-100...1598 mbar	-1.45...23.17 psi	-40.1...641.4 inH2O	-10...159.8 kPa
Analog start point	-100...1272 mbar	-1.45...18.45 psi	-40.1...510.6 inH2O	-10...127.2 kPa
Analog end point	228...1600 mbar	3.31...23.21 psi	91.6...642.3 inH2O	22.8...160 kPa

PI1817



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Min. difference between SP and rP	3 mbar	0.04 psi	1 inH2O	0.3 kPa
In steps of	1 mbar	0.01 psi	0.1 inH2O	0.1 kPa
Factory setting	SP1 = 400 mbar		rP1 = 368 mbar	
	SP2 = 1200 mbar		rP2 = 1168 mbar	
	ASP = 0.00 mbar		AEP = 1600 mbar	
	dAP = 2.00 s		dAA = 2.00 s	

Temperature monitoring	
Measuring range	-25...150 °C -13...302 °F

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (DIN EN IEC 62828-1; Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (DIN IEC EN 62828-1 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)	
Total deviation over temperature range	Temperature range	total deviation
	-25...15 °C	Characteristics deviation ± 0,05 % of the span / 10 K
	15...80 °C	Characteristics deviation
	80...150 °C	Characteristics deviation ± 0,1 % of the span / 10 K
Notes on the accuracy / deviation	for further details see section Diagrams and graphs	

Temperature monitoring	
Accuracy [K]	± 2,5+ (0,08 x (Umgebungstemperatur - Mediumtemperatur))
Repeatability [K]	± 0,2
Resolution [K]	0.2

Reaction times

Damping process value dAP [s]	0...99.99
Damping for the analog output dAA [s]	0...99.99

2-wire	
Step response time analog output [ms]	30
3-wire	
Min. response time of switching output (dAP) [ms]	3
Step response time analog output [ms]	7

Temperature monitoring	
Dynamic response T05 / T09 [s]	< 35 / < 135; (DIN EN 60751 water ; > 0,9 m/s)

PI1817



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Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Identification and Diagnosis (0x4000), Measurement Data Channel (0x800A)	
SIO mode	yes	
Required master port class	A	
Min. process cycle time [ms]	5.6	
IO-Link resolution pressure [mbar]	0.05	
IO-Link resolution temperature [K]	0.2	
IO-Link process data (cyclical)	Function	bit length
	pressure	32
	temperature	32
	device status	4
	binary switching information	2
IO-Link functions (acyclical)	application specific tag; internal temperature; operating hours counter; switching cycles counter; Pressure peak counter	
Supported DeviceIDs	Type of operation	DeviceID
	default	1149
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]	214	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J049
	File number UL	E174189
Mechanical data		
Weight [g]	385.5	
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
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	
Tightening torque [Nm]	20	
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.	

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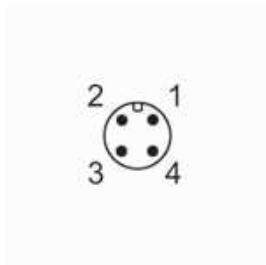
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Displays / operating elements		
Display	Display unit	LED, green
	Switching status	LED, yellow
	Function display	alphanumeric display, 4-digit
	Measured values	alphanumeric display, 4-digit
Display unit	mbar; psi; kPa; inH2O	

Remarks	
Pack quantity	1 pcs.

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



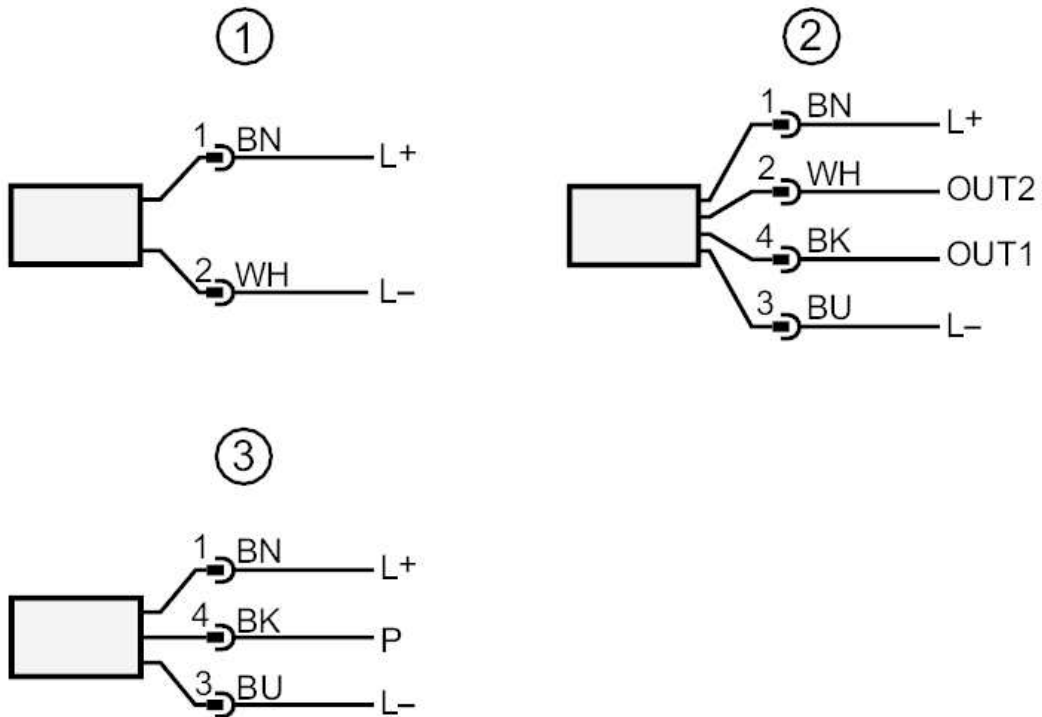
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Connection



- 1 connection for 2-wire operation
2 connection for 3-wire operation
OUT1 Switching output / IO-Link
OUT2 Switching output / analog output
3 connection for IO-Link parameter setting (P = communication via IO-Link)
Colors to DIN EN 60947-5-2
Core colors
BK = black
BN = brown
BU = blue
WH = white

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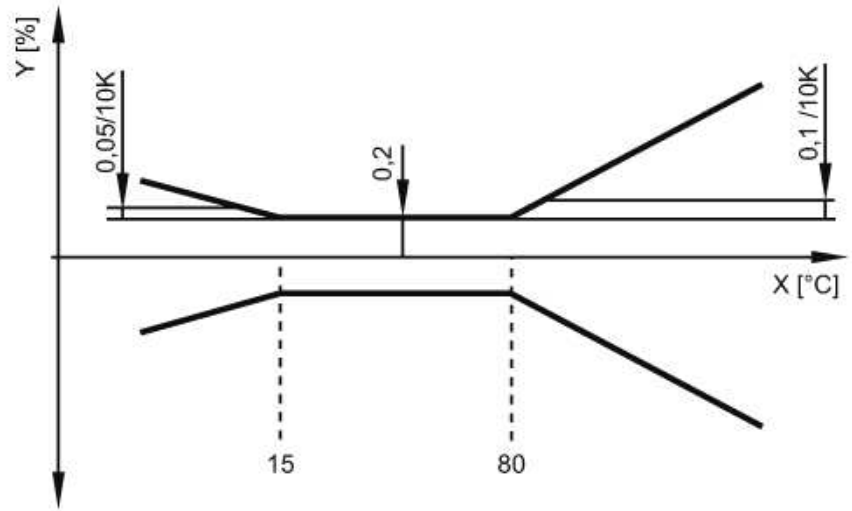


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Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation