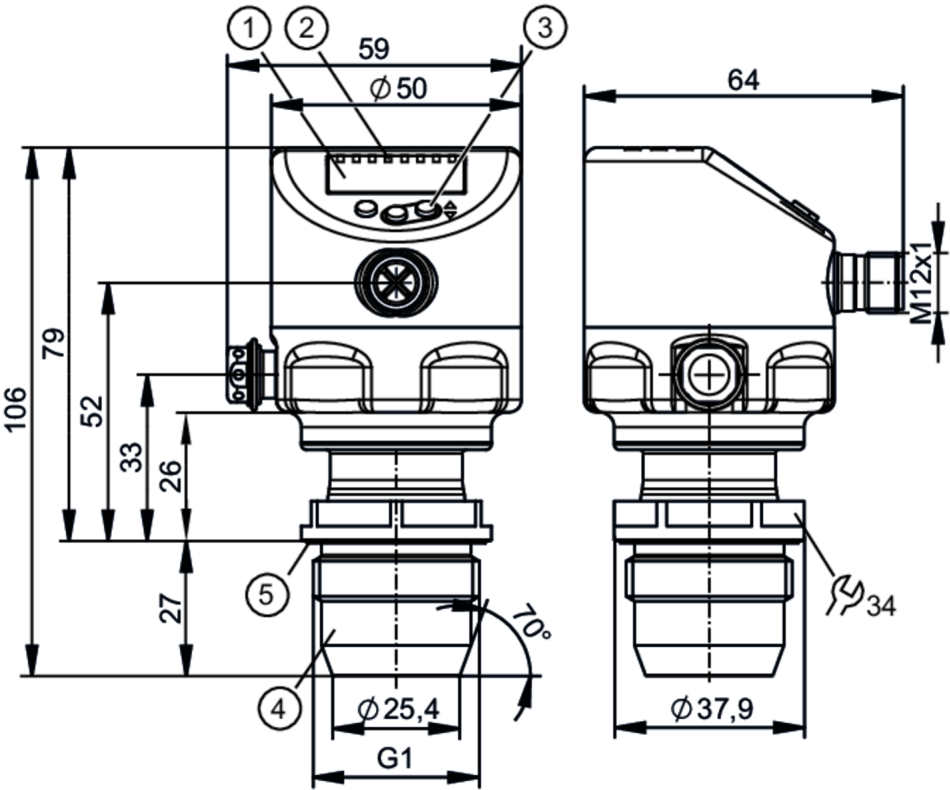




Flush pressure sensor with display

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



- 1 alphanumeric display 4-digit
 - 2 status LEDs
 - 3 programming button
 - 4 G1 sealing cone external thread
 - 5 groove with sealing ring
- 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.



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue 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			
Special feature	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		
MAWP (for applications according to CRN) [bar]	15		



Flush pressure sensor with display

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

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 analogue outputs: 1			
Outputs					
Total number of outputs		2			
Output signal		switching signal; analogue signal; IO-Link			
Electrical design		PNP/NPN			
Number of digital outputs		2			
Output function		normally open / normally closed; (parameterisable)			
Number of analogue outputs		1			
Analogue current output	[mA]	4...20, invertible; (scalable)			
Short-circuit protection		yes			
Type of short-circuit protection		pulsed			
Overload protection		yes			
2-wire					
Max. load	[Ω]	300			
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]	(Ub - 10 V) / 21,5 mA; 650 Ω (Ub = 24 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
Analogue start point		-100...1272 mbar	-1.45...18.45 psi	-40.1...510.6 inH2O	-10...127.2 kPa
Analogue end point		228...1600 mbar	3.31...23.21 psi	91.6...642.3 inH2O	22.8...160 kPa
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



Flush pressure sensor with display

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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
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Accuracy / deviations

Switch point accuracy	[X21]	< ± 0,2; (DIN EN IEC 62828-1; Turn down 1:1)
Repeatability	[X21]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation	[X21]	< ± 0,2; (DIN IEC EN 62828-1 incl. zero point and span error, non-linearity, hysteresis; Turn down 1:1)
Linearity deviation	[X21]	< ± 0,15; (Turn down 1:1)
Hysteresis deviation	[X21]	< ± 0,15; (Turn down 1:1)
Long-term stability	[X21]	< ± 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
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Temperature monitoring

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

Response times

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

2-wire

Step response time analogue output	[ms]	30
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3-wire

Min. response time of switching output (dAP)	[ms]	3
Step response time analogue output	[ms]	7

Temperature monitoring

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



Flush pressure sensor with display

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

Required master port type	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 [ANN]	214	
Note on approval	factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL Approval no.	J049
	File number UL	E174189

Mechanical data

Weight [g]	385.5	
Materials	stainless steel (316L/1.4404); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (316L/1.4435); 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.	

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; inH ₂ O	

Remarks

Pack quantity	1 pcs.
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Flush pressure sensor with display

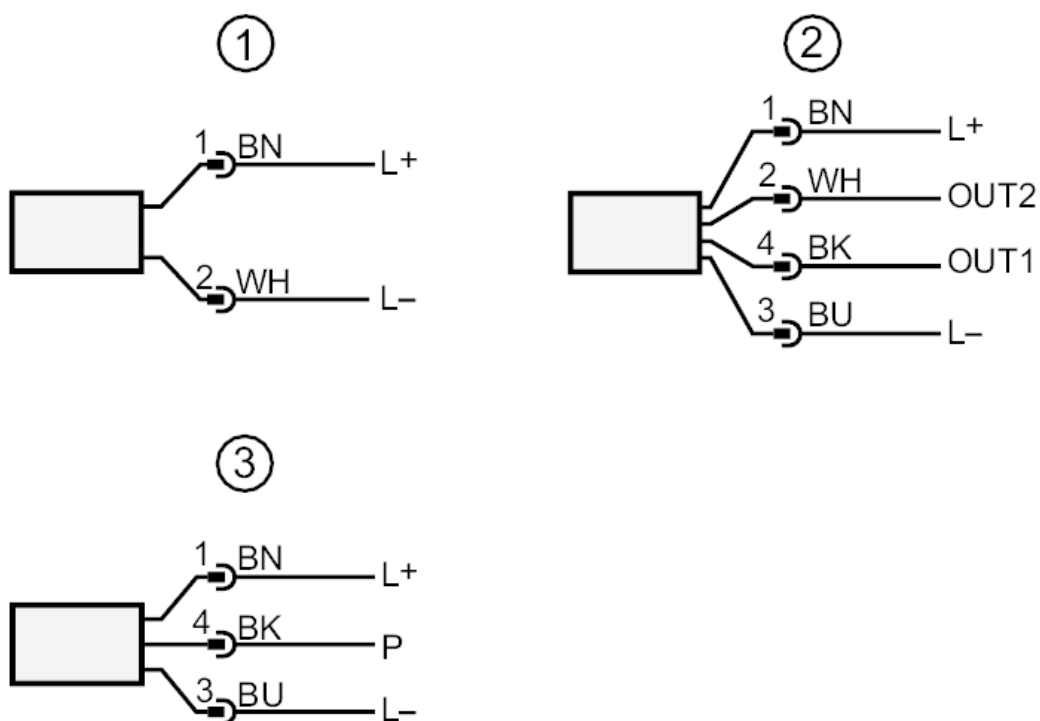
PI-1,6-REA01-MFRKG/US/ /P

Electrical connection

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



Connection



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

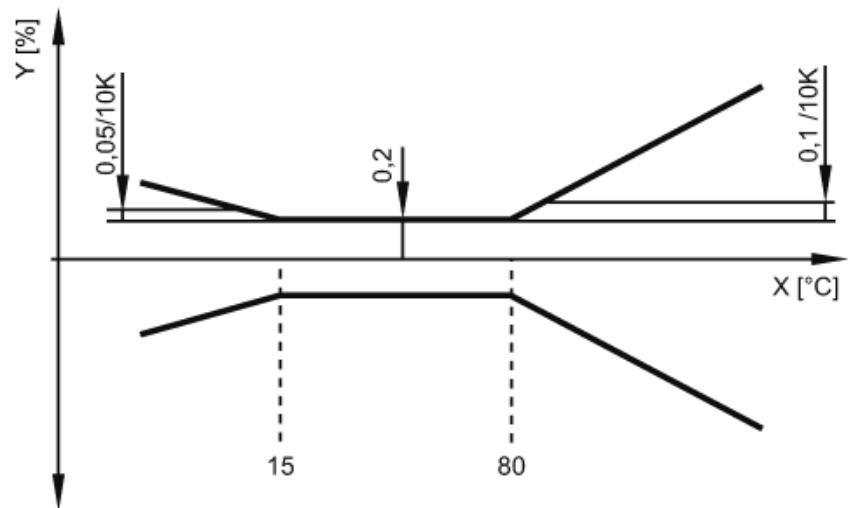


Flush pressure sensor with display

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

Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation