

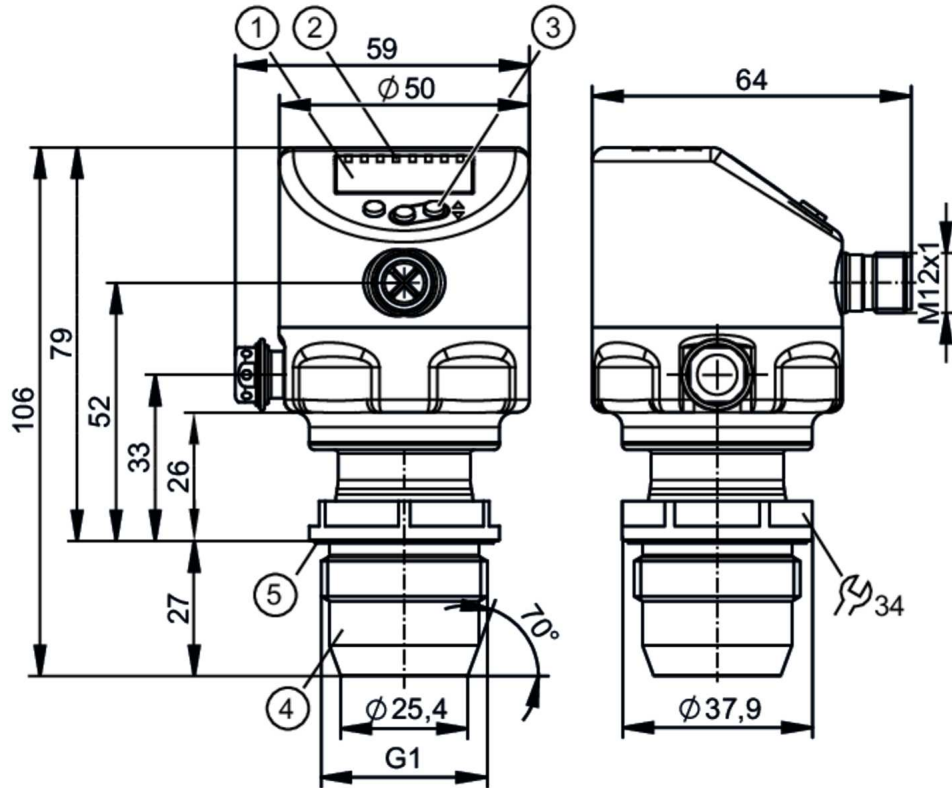
PI1806



Flush pressure sensor with display

PI-2,5-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

EHEDG

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	-0.124...2.5 bar	-1.8...36.25 psi	-50...1004 inH2O	-12.4...250 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	50 bar	725 psi	5000 MPa
Pressure rating	20 bar	290 psi	2000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		

PI1806



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ IP

MAWP (for applications according to CRN)	[bar]	20
--	-------	----

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		
------------------------------	---	--	--

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
-----------	-----	-----

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 V) / 21,5 mA; 650 Ω (U _b = 24 V)

Measuring/setting range

Measuring range	-0.124...2.5 bar	-1.8...36.25 psi	-50...1004 inH2O	-12.4...250 kPa
Set point SP	-0.12...2.5 bar	-1.74...36.26 psi	-48...1004 inH2O	-12...250 kPa
Reset point rP	-0.124...2.496 bar	-1.8...36.2 psi	-50...1002 inH2O	-12.4...249.6 kPa
Analog start point	-0.124...1.994 bar	-1.8...28.92 psi	-50...801 inH2O	-12.4...199.4 kPa
Analog end point	0.382...2.5 bar	5.54...36.26 psi	153...1004 inH2O	38.2...250 kPa

PI1806



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ IP

Min. difference between SP and rP	0.004 bar	0.06 psi	2 inH2O	0.4 kPa
In steps of	0.001 bar	0.01 psi	1 inH2O	0.1 kPa
Factory setting	SP1 = 0.625 bar		rP1 = 0.575 bar	
	SP2 = 1.875 bar		rP2 = 1.825 bar	
	ASP = 0.00 bar		AEP = 2.50 bar	
	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)	

PI1806



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ IP

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 [bar]	0.0001										
IO-Link resolution temperature [K]	0.2										
IO-Link process data (cyclical)	<table border="1"><thead><tr><th>Function</th><th>bit length</th></tr></thead><tbody><tr><td>pressure</td><td>32</td></tr><tr><td>temperature</td><td>32</td></tr><tr><td>device status</td><td>4</td></tr><tr><td>binary switching information</td><td>2</td></tr></tbody></table>	Function	bit length	pressure	32	temperature	32	device status	4	binary switching information	2
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	<table border="1"><thead><tr><th>Type of operation</th><th>DeviceID</th></tr></thead><tbody><tr><td>default</td><td>1154</td></tr></tbody></table>	Type of operation	DeviceID	default	1154						
Type of operation	DeviceID										
default	1154										
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]	384.8										
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.										

PI1806



Flush pressure sensor with display

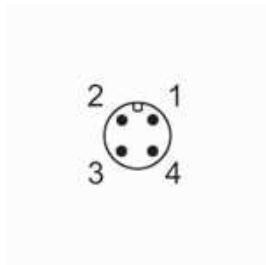
PI-2,5-REA01-MFRKG/US/ IP

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	bar; psi; kPa; inH2O	

Remarks	
Pack quantity	1 pcs.

Electrical connection

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



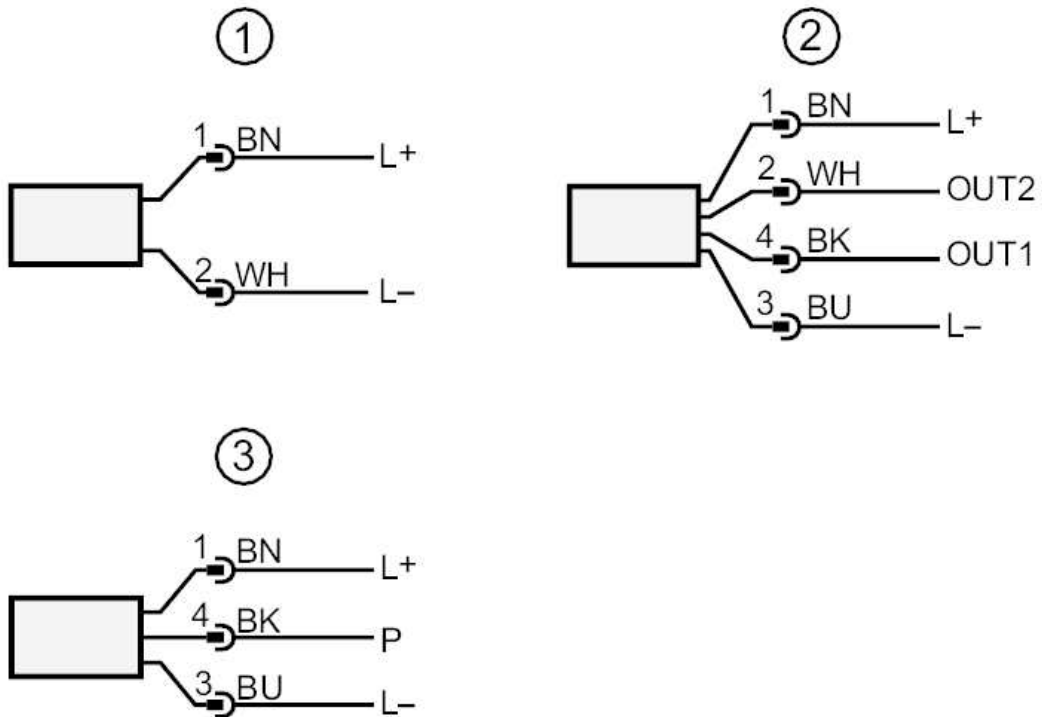
PI1806



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ IP

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

PI1806

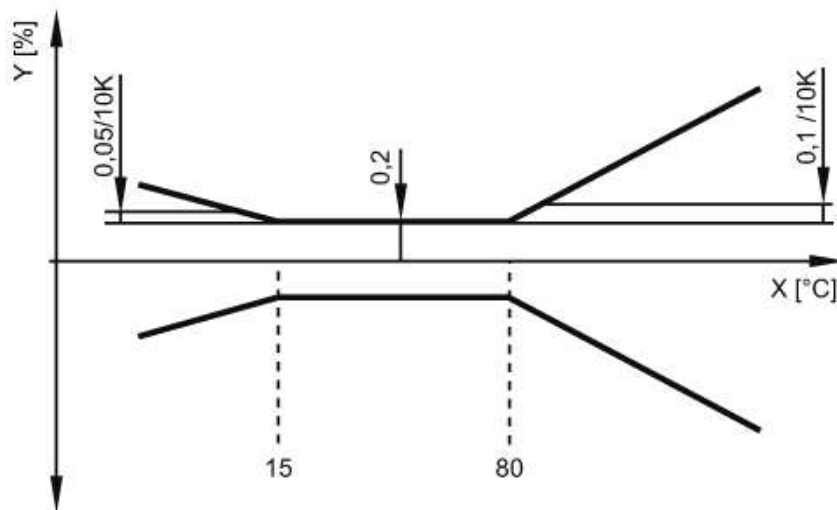


Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ IP

Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation