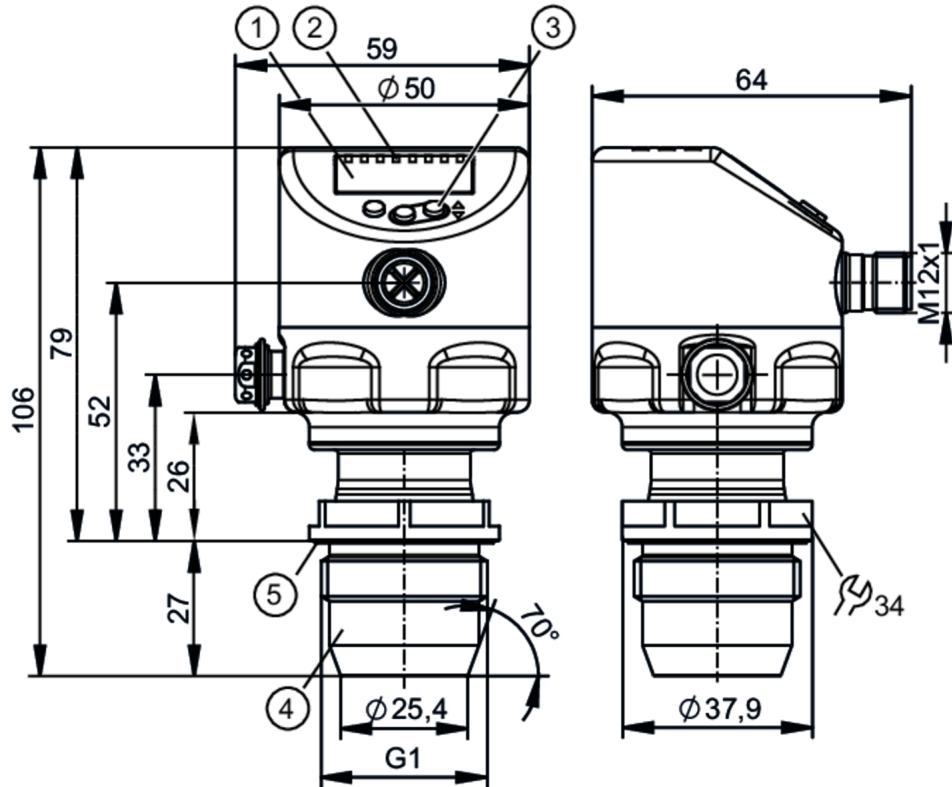


PI1808



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ IP



- 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



EC 1935/2004

FCM



Reg31

TSDP/TÜV



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-12.4...250 mbar	-5...100.4 inH2O	-1.24...25 kPa	-126...2550 mmWS
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. burst pressure	30000 mbar	12044 inH2O	3000 kPa
Pressure rating	6000 mbar	2400 inH2O	600 kPa
Vacuum resistance	-1000 mbar		-0.1 MPa
Type of pressure	relative pressure; vacuum		
No dead space	yes		

PI1808



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	6
--	-------	---

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	-12.4...250 mbar	-5...100.4 inH2O	-1.24...25 kPa	-126...2550 mmWS
Set point SP	-12...250 mbar	-4.8...100.4 inH2O	-1.2...25 kPa	-122...2549 mmWS
Reset point rP	-12.4...249.6 mbar	-5...100.2 inH2O	-1.24...24.96 kPa	-126...2545 mmWS
Analog start point	-12.4...199.4 mbar	-5...80.1 inH2O	-1.24...19.94 kPa	-126...2033 mmWS
Analog end point	38.2...250 mbar	15.3...100.4 inH2O	3.82...25 kPa	390...2549 mmWS

PI1808



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Min. difference between SP and rP	0.5 mbar	0.2 inH2O	0.05 kPa	5 mmWS
In steps of	0.1 mbar	0.1 inH2O	0.01 kPa	1 mmWS
Factory setting	SP1 = 62.5 mbar		rP1 = 57.5 mbar	
	SP2 = 187.5 mbar		rP2 = 182.5 mbar	
	ASP = 0.00 mbar		AEP = 250 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)	
Zero-point stabilization [% of the span]	IO-Link, analog output	0,15; (see operating instructions zero-point behavior)
	Display, Switching output	0,2
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 ± 0,1 % of the span / 10 K
	15...80 °C	Characteristics deviation
	80...150 °C	Characteristics deviation ± 0,15 % 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

PI1808



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Temperature monitoring		
Dynamic response T05 / T09	[s]	< 45 / < 200; (DIN EN 60751 water ; > 0,9 m/s)
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Common - I&D	Identification and Diagnosis
	Function	Measurement data, high resolution
SIO mode	yes	
Required master port class	A	
Min. process cycle time	[ms]	5.6
IO-Link resolution pressure	[mbar]	0.01
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; measuring cell diagnosis	
Supported DeviceIDs	Type of operation	DeviceID
	default	1152
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
UL approval	UL approval number	J049
	File number UL	E174189
Mechanical data		
Weight	[g]	382.9
Housing	tubular	
Dimensions	[mm]	Ø 50 / L = 106
Material	Housing: stainless steel (1.4404 / 316L); Pushbuttons: PBT; sealings: FKM; M12 connector: PEI; Display: PFA; ventilation diaphragm: PTFE	
Materials (wetted parts)	measuring cell: ceramics (99.9 % Al2O3); Process connection: stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; sealing: PTFE	
Min. pressure cycles	100 million	
Tightening torque	[Nm]	20

PI1808



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

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; kPa; inH2O; mmWS	

Remarks

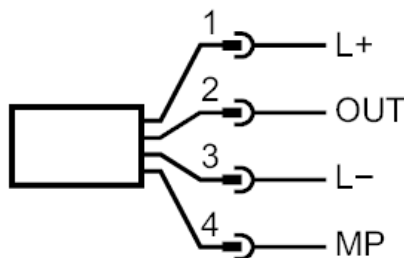
Pack quantity	1 pcs.
---------------	--------

Electrical connection

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



Connection



2-wire

1	L+	
2	OUT	AO

3-wire

1	L+	
2	OUT	DO2 (NO/NC), AO
3	L-	
4	MP	DO1 (NO/NC), IO-Link

Parameter setting

1	L+	
3	L-	
4	MP	IO-Link

PI1808

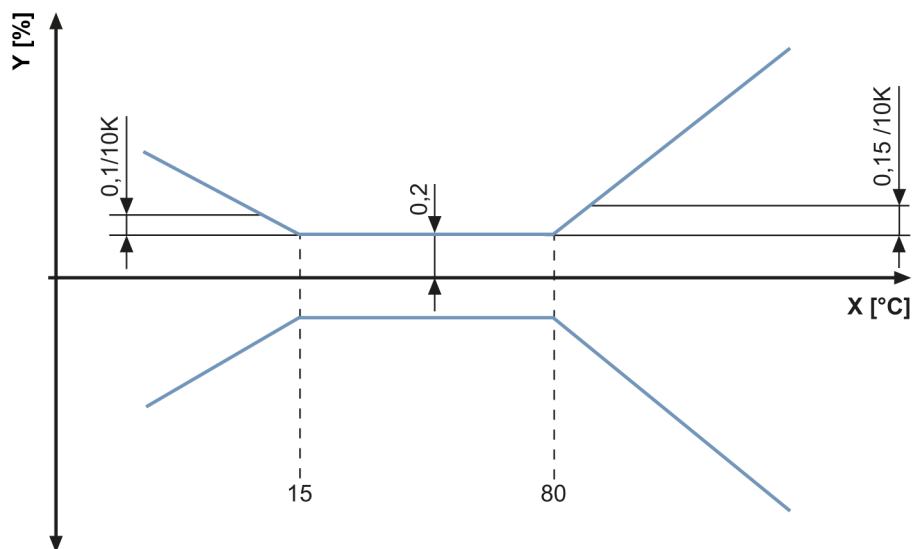


Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation