

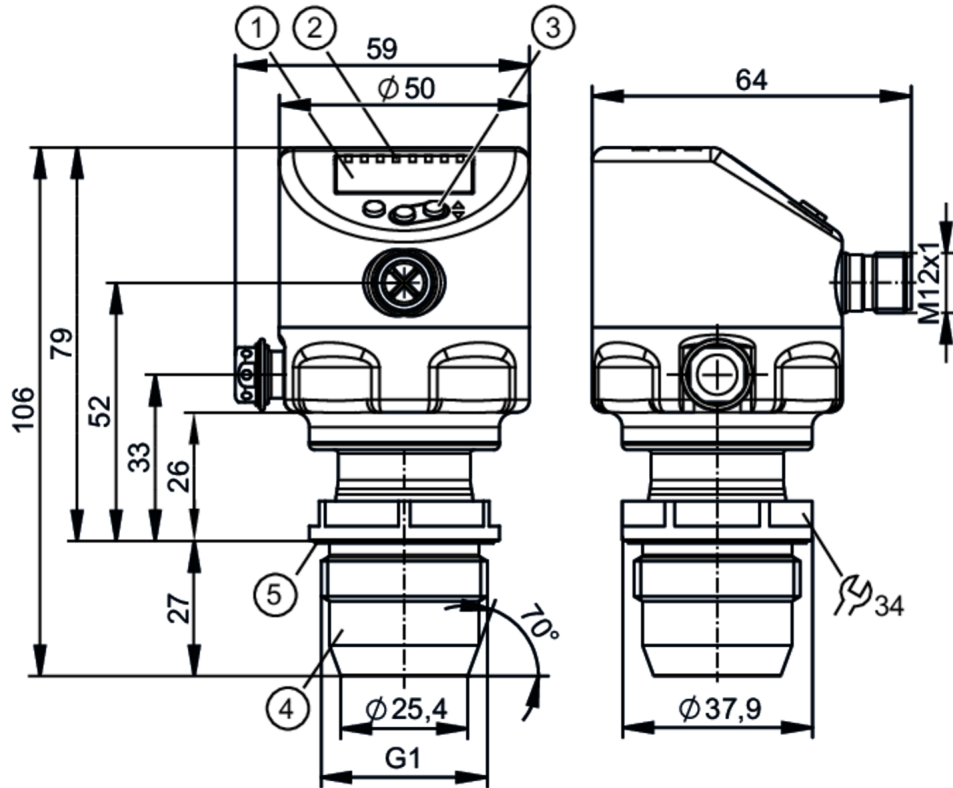
PI1808



Flush pressure sensor with display

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

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 CE CRN cUL^{us} LISTED EC 1935/2004 EHEDG Tested FCM FDA IO-Link Reg31 UK CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1			
Measuring range	-12.4...250 mbar	-5...100.4 inH ₂ O	-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

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	30000 mbar	12044 inH ₂ O	3000 kPa
Pressure rating	6000 mbar	2400 inH ₂ O	600 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		

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MAWP (for applications according to CRN)	[bar]	6
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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 analogue outputs: 1
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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
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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 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
Analogue start point	-12.4...199.4 mbar	-5...80.1 inH2O	-1.24...19.94 kPa	-126...2033 mmWS
Analogue end point	38.2...250 mbar	15.3...100.4 inH2O	3.82...25 kPa	390...2549 mmWS

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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)	
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

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
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	
Required master port type	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	
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	
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]	382.9	
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.	

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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; kPa; inH2O; mmWS	

Remarks	
Pack quantity	1 pcs.

Electrical connection

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

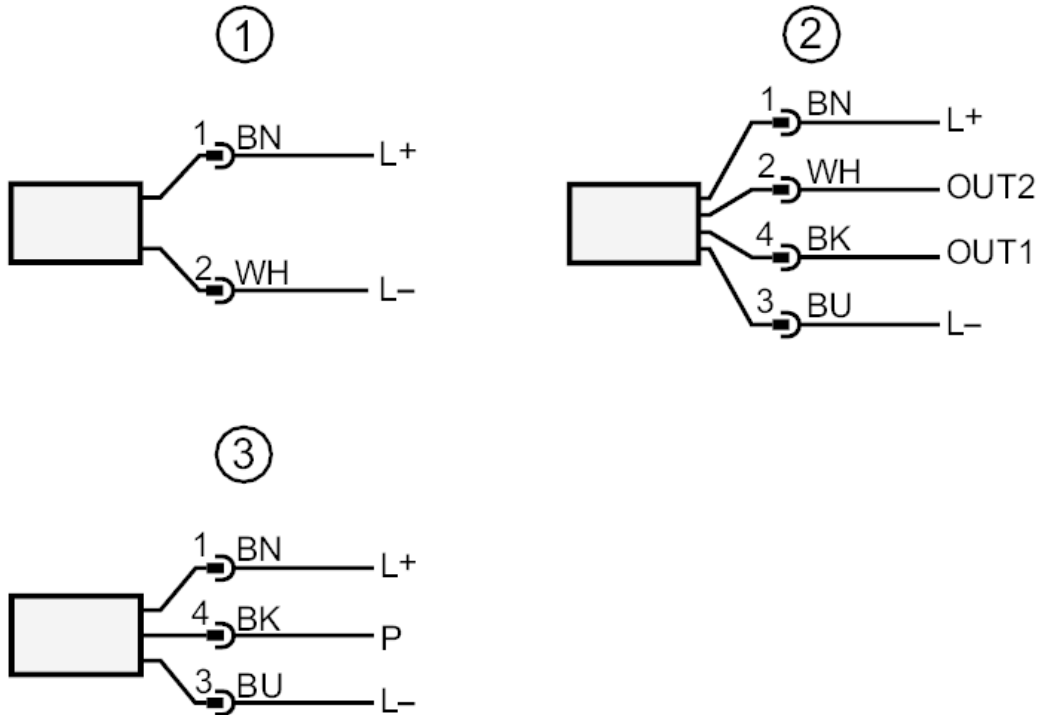




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Connection



- 1 connection for 2-wire operation
 - 2 connection for 3-wire operation
 - OUT1 switching output / IO-Link
 - OUT2 switching output / 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

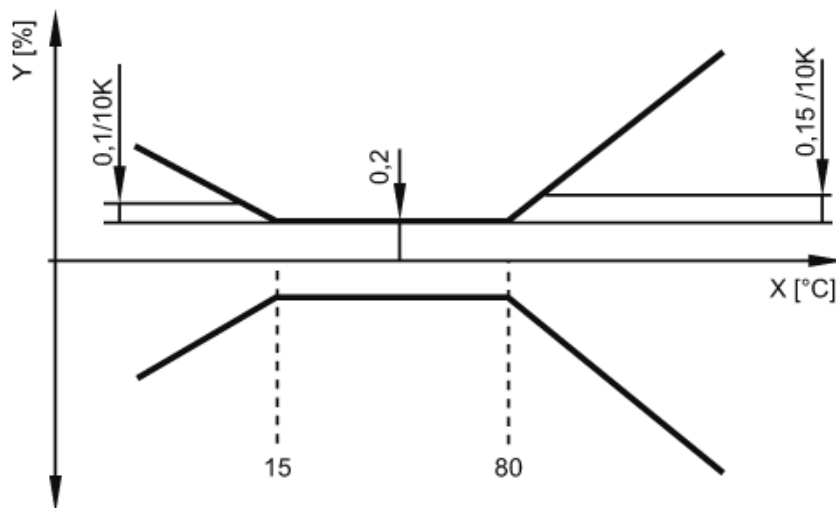


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Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation