

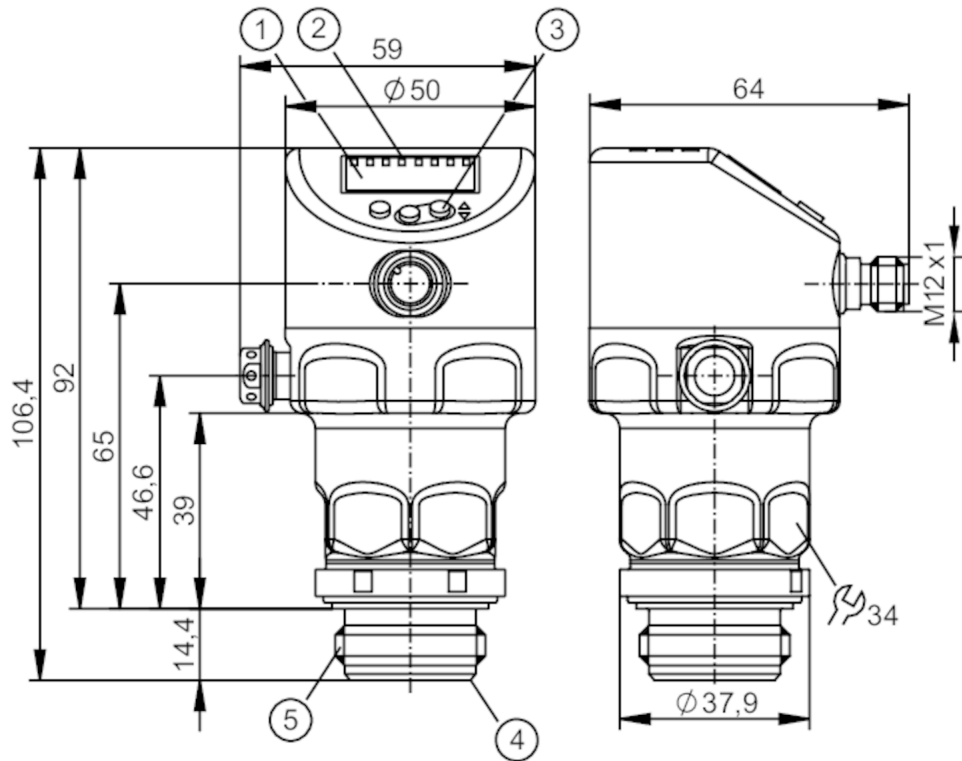
# PI1008



## Flush pressure sensor with display

PI-,25BRES30-MFRKG/US/ IP

Please do not use for new projects.  
no more adapters available as accessories



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button
- 4 Aseptoflex - sealing contour
- 5 external thread Aseptoflex S30x2



EC 1935/2004

FCM



TSDP/TÜV



### 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 inH2O	-1.24...25 kPa	-126...2550 mmWS
Process connection	threaded connection S30x2 external thread Aseptoflex			

### Application

Special feature	Gold-plated contacts		
Design	replacement for PI10xx, PI20xx, PI709x, PIM09x, PL205x, PM205x, PF205x		
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		



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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			
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]	(U <sub>b</sub> - 10 V) / 21,5 mA; 650 Ω (U <sub>b</sub> = 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
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



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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
<b>Temperature monitoring</b>			
Measuring range		-25...150 °C	-13...302 °F
<b>Accuracy / deviations</b>			
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 stabilisation [% of the span]		IO-Link, analogue output	0,15; (see operating instructions zero-point behaviour)
		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		<b>Temperature range</b>	<b>total deviation</b>
		-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	
<b>Temperature monitoring</b>			
Accuracy [K]		± 2,5+ (0,08 x ( Umgebungstemperatur - Mediumtemperatur ))	
Repeatability [K]		± 0,2	
Resolution [K]		0.2	
<b>Response times</b>			
Damping process value dAP [s]		0...99.99	
Damping for the analogue output dAA [s]		0...99.99	
<b>2-wire</b>			
Step response time analogue output [ms]		30	
<b>3-wire</b>			
Min. response time of switching output (dAP) [ms]		3	
Step response time analogue output [ms]		7	
<b>Temperature monitoring</b>			
Dynamic response T05 / T09 [s]		< 45 / < 200; (DIN EN 60751 water ; > 0,9 m/s)	



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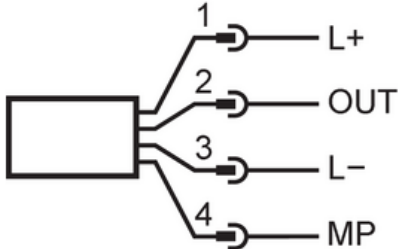
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Common - I&D	Identification and Diagnosis
	Function	Measurement data, high resolution
SIO mode	yes	
Required master port type	A	
Min. process cycle time [ms]	5.6	
IO-Link resolution pressure [mbar]	0.01	
IO-Link resolution temperature [K]	0.2	
IO-Link process data (cyclical)	<b>function</b>	<b>bit length</b>
	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	<b>Type of operation</b>	<b>DeviceID</b>
	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]	201	
UL approval	UL approval no.	J048
	File number UL	E174189
Mechanical data		
Weight [g]	347.9	
Housing	cylindrical	
Dimensions [mm]	Ø 50 / L = 106.4	
Materials	Stainless steel sleeve top: stainless steel (316L/1.4404); pushbuttons: FKM; Sealing: PTFE; M12 connector: PBT; M12 connector: PEI; Display: PFA	
Materials (wetted parts)	measuring cell: ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); Process connection: stainless steel (316L/1.4435) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; Sealing: PTFE	
Min. pressure cycles	100 million	
Tightening torque [Nm]	25	
Process connection	threaded connection S30x2 external thread Aseptoflex	

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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		
Notes	Please do not use for new projects.; no more adapters available as accessories	
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

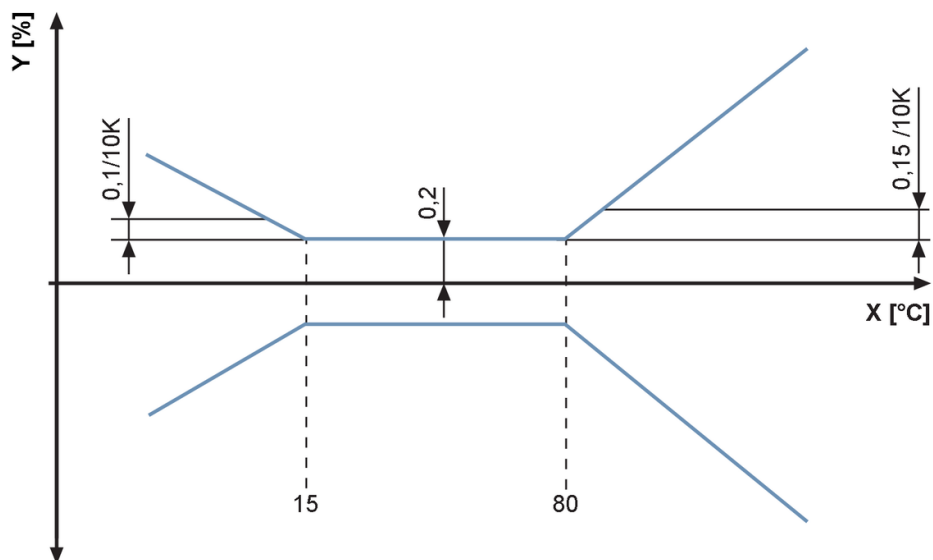


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### Diagrams and graphs

ambient temperature influence on the accuracy



X temperature  
Y total deviation