

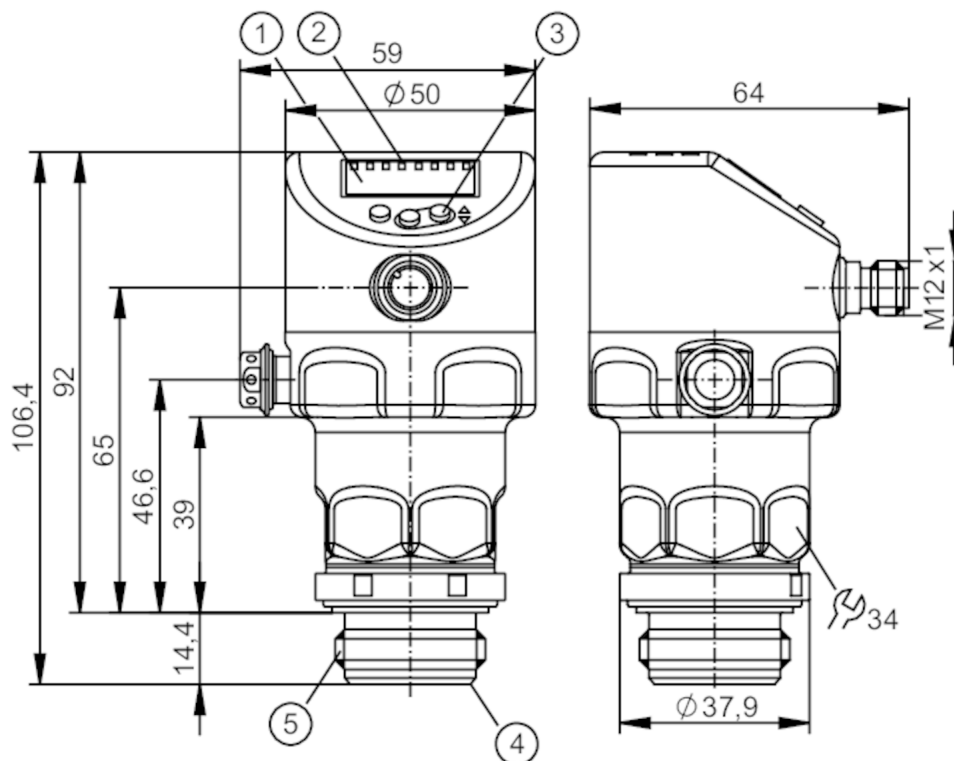
PI1003



Flush pressure sensor with display

PI-025-RES30-MFRKG/US/ /P

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 analog outputs: 1		
Measuring range	-1...25 bar	-14.5...362.5 psi	-0.1...2.5 MPa
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	350 bar	5075 psi	35 MPa
Pressure rating	100 bar	1450 psi	10 MPa
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 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]	(Ub - 10 V) / 21,5 mA; 650 Ω (Ub = 24 V)	
Measuring/setting range			
Measuring range	-1...25 bar	-14.5...362.5 psi	-0.1...2.5 MPa
Set point SP	-0.96...25 bar	-14...362.6 psi	-0.096...2.5 MPa
Reset point rP	-1...24.96 bar	-14.5...362.1 psi	-0.1...2.496 MPa
Analog start point	-1...20 bar	-14.5...290.1 psi	-0.1...2 MPa
Analog end point	4...25 bar	58...362.6 psi	0.4...2.5 MPa
Min. difference between SP and rP	0.04 bar	0.6 psi	0.004 MPa
In steps of	0.01 bar	0.1 psi	0.001 MPa



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Factory setting		SP1 = 6.25 bar	rP1 = 5.75 bar
		SP2 = 18.75 bar	rP2 = 18.25 bar
		ASP = 0.00 bar	AEP = 25.00 bar
		dAP = 0.06 s	dAA = 0.06 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 ± 0,05 % 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]	< 45 / < 200; (DIN EN 60751 water ; > 0,9 m/s)		



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PI-025-RES30-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	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 [bar]	0.001	
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	1157
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 number	J035
	File number UL	E174189
Mechanical data		
Weight [g]	348.9	
Housing	tubular	
Dimensions [mm]	Ø 50 / L = 106.4	
Material	stainless steel sleeve top: stainless steel (1.4404 / 316L); Pushbuttons: FKM; sealing: PTFE; M12 connector: PBT; M12 connector: PEI; Display: PFA	
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]	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	bar; psi; MPa	

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: 4, gold-plated	

Connection	

2-wire		
1	L+	AO
2	OUT	

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

Parameter setting		
1	L+	IO-Link
3	L-	
4	MP	

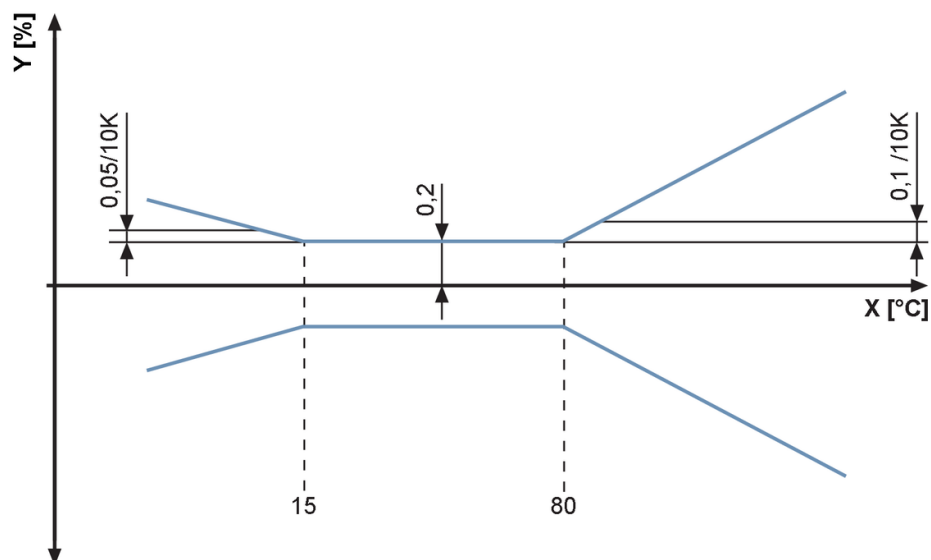


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Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation