

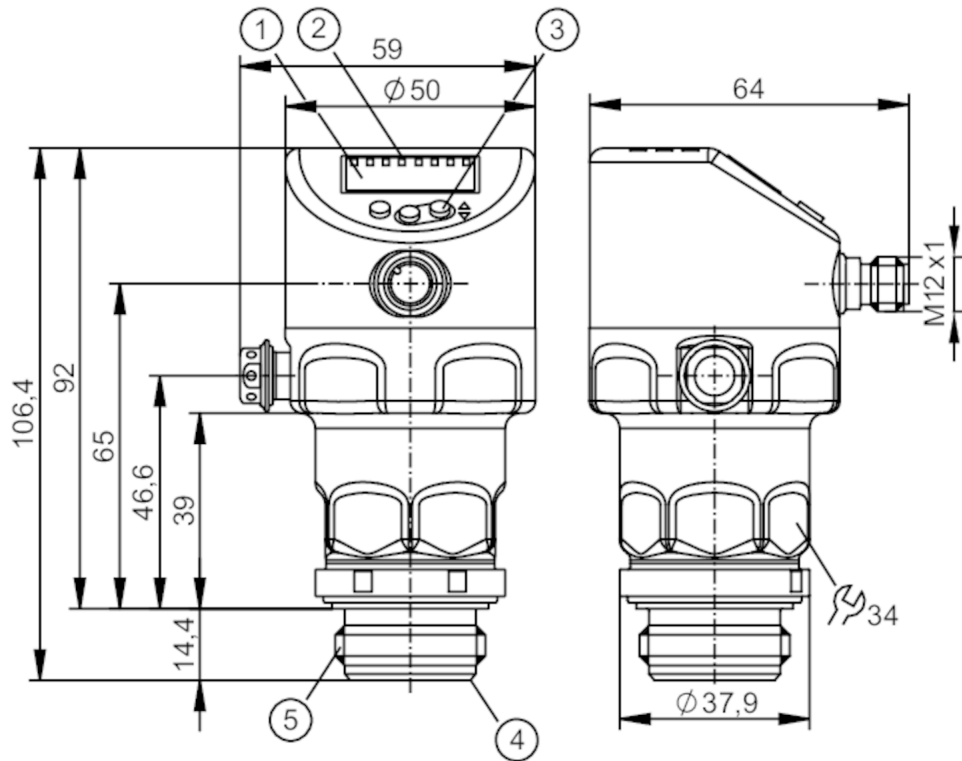
PI1005



Flush pressure sensor with display

PI-004-RES30-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



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
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. bursting pressure	100 bar	1450 psi	10000 kPa
Pressure rating	30 bar	435 psi	3000 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 _b - 10 V) / 21,5 mA; 650 Ω (U _b = 24 V)		
Measuring/setting range				
Measuring range		-1...4 bar	-14.5...58 psi	-100...400 kPa
Set point SP		-0.994...4 bar	-14.4...58 psi	-99.4...400 kPa
Reset point rP		-1...3.994 bar	-14.5...57.9 psi	-100...399.4 kPa
Analogue start point		-1...3.2 bar	-14.5...46.4 psi	-100...320 kPa
Analogue end point		0.2...4 bar	-2.9...58 psi	-20...400 kPa
Min. difference between SP and rP		0.006 bar	0.1 psi	0.6 kPa
In steps of		0.001 bar	0.1 psi	0.1 kPa

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Factory setting	SP1 = 1.00 bar	rP1 = 0.92 bar
	SP2 = 3.00 bar	rP2 = 2.92 bar
	ASP = 0.00 bar	AEP = 4.00 bar
	dAP = 2.00 s	dAA = 2.00 s

Temperature monitoring

Measuring range	-25...150 °C	-13...302 °F
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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 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	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

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
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3-wire

Min. response time of switching output (dAP) [ms]	3
Step response time analogue output [ms]	7

Interfaces

Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)

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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 [bar]	0.0002	
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	1155

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	

Mechanical data		
Weight [g]	348.6	
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 ₂ O ₃); 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	

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	

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Remarks

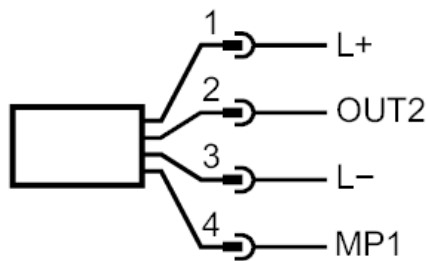
Notes	Please do not use for new projects.; no more adapters available as accessories
Pack quantity	1 pcs.

Electrical connection

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



Connection



2-wire

1	L+	
2	OUT2	AO

3-wire

1	L+	
2	OUT2	DO2 (NO/NC), AO
3	L-	
4	MP1	DO1 (NO/NC), IO-Link

parameter setting

1	L+	
3	L-	
4	MP1	IO-Link

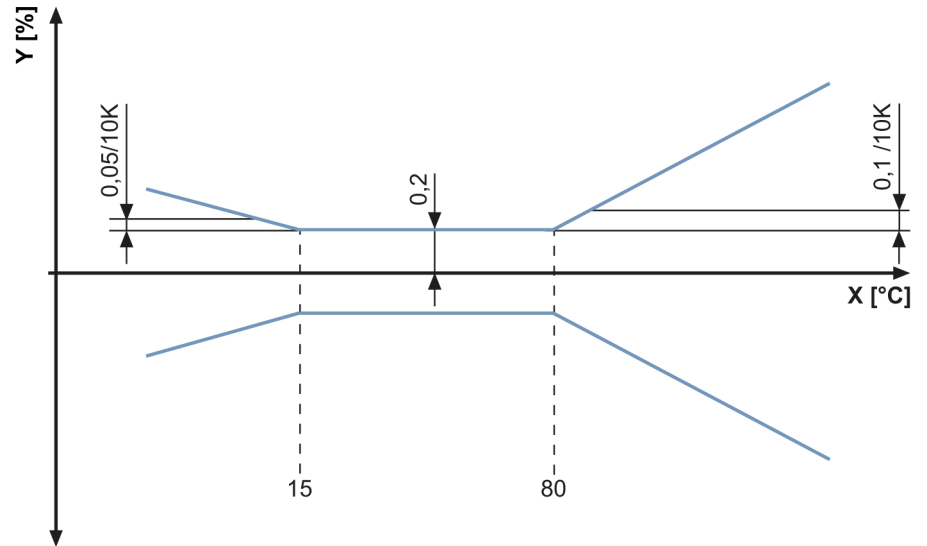


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Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation