

PIM094



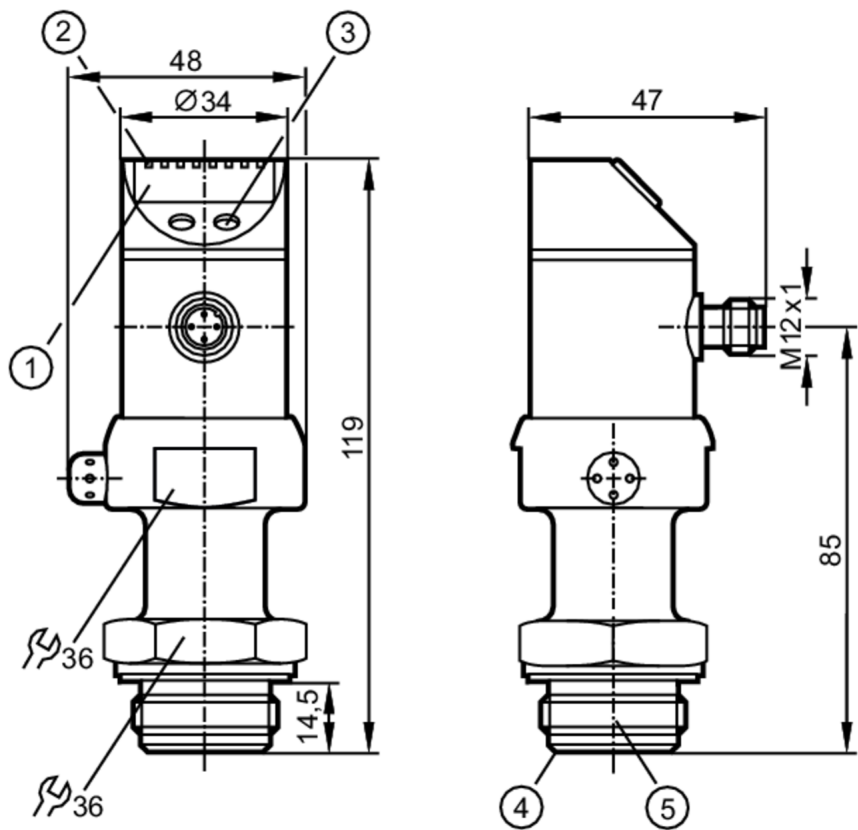
Pressure sensor with diagnostic function for pumps

PIM010-RES30-KFPKG/US/ /P

Article to be discontinued

Alternative articles: PI1004 or PI1704
When selecting an alternative article and accessories please note that technical data may differ!

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 edge
- 5 Aseptoflex thread



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	threaded connection Aseptoflex external thread Aseptoflex		

Application

Special feature	gold-plated contacts		
Application	flush mountable for the food and beverage industry		
Installation	Freely rotatable housing 350°		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature	[°C]	-25...125; (145 max. 1h)	

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Min. burst pressure	150 bar	2175 psi	15 MPa
Pressure rating	50 bar	725 psi	5 MPa
Type of pressure	relative pressure		
No dead space	yes		

Electrical data			
Operating voltage	[V]	18...32 DC	
Current consumption	[mA]	< 50	
Min. insulation resistance	[MΩ]	100; (500 V DC)	
Protection class		III	
Reverse polarity protection		yes	
Power-on delay time	[s]	0.2	
Integrated watchdog		yes	

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; (configurable)
Electrical design	PNP
Number of digital outputs	2
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC	[V] 2
Permanent current rating of switching output DC	[mA] 250
Switching frequency DC	[Hz] 350
Notes on switching frequency	[Hz] OUT2
Number of analog outputs	1
Analog current output	[mA] 4...20, invertible; (scalable)
Max. load	[Ω] (U _b - 10 V) / 20 mA
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Overload protection	yes

Measuring/setting range			
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Set point SP	-0.98...10 bar	-14.2...145 psi	-0.098...1 MPa
Reset point rP	-1...9.98 bar	-14.5...144.7 psi	-0.1...0.998 MPa
Analog start point	-1...7.25 bar	-14.5...105.1 psi	-0.1...0.725 MPa
Analog end point	1.5...10 bar	21.8...145 psi	0.15...1 MPa
In steps of	0.01 bar	0.1 psi	0.001 MPa
Factory setting		OU1 = Fnc	OU2 = I
		ASP = 0.00 bar	AEP = 10.00 bar

Accuracy / deviations	
Switch point accuracy	< ± 0,2; (Turn down 1:1)
[% of the span]	
Repeatability	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
[% of the span]	



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Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)	
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)	
Temperature coefficient zero point [% of the span / 10 K]	< ± 0,15; (0...70 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,1; (0...70 °C)	
Reaction times		
Response time [ms]	< 2.5	
Damping process value dAP [s]	0...10	
Damping for the analog output dAA [s]	0...10	
Step response time analog output [ms]	0.2	
Software / programming		
Parameter setting options	Zero point; span	
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 67; IP 69K	
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	188	
Mechanical data		
Weight [g]	414.5	
Housing	tubular	
Dimensions [mm]	Ø 34 / L = 119	
Material	stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM; PTFE	
Materials (wetted parts)	ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE	
Min. pressure cycles	100 million	
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Displays / operating elements		
Display	Display unit	4 x LED, green
	Switching status	2 x LED, yellow
	Function display	alphanumeric display, 4-digit
	Measured values	alphanumeric display, 4-digit

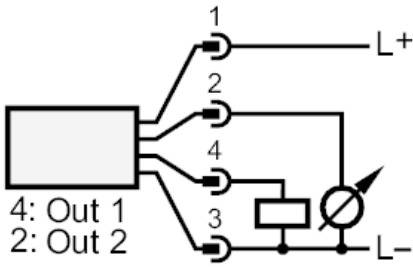
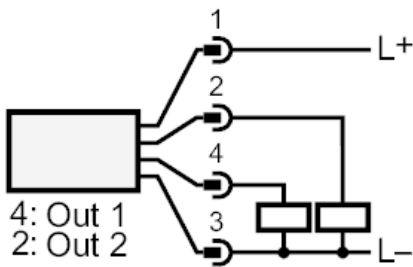
Remarks	
Remarks	pump diagnosis for pumps with constant rotational speed (+/- 10 % deviation of the taught rotational speed)
	Speed range 40...3000 U/min
	minimum pressure for pump diagnosis 0,5 bar
	The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.
Notes	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



OUT1	pump diagnosis
OUT2	Pressure monitoring