PIM093

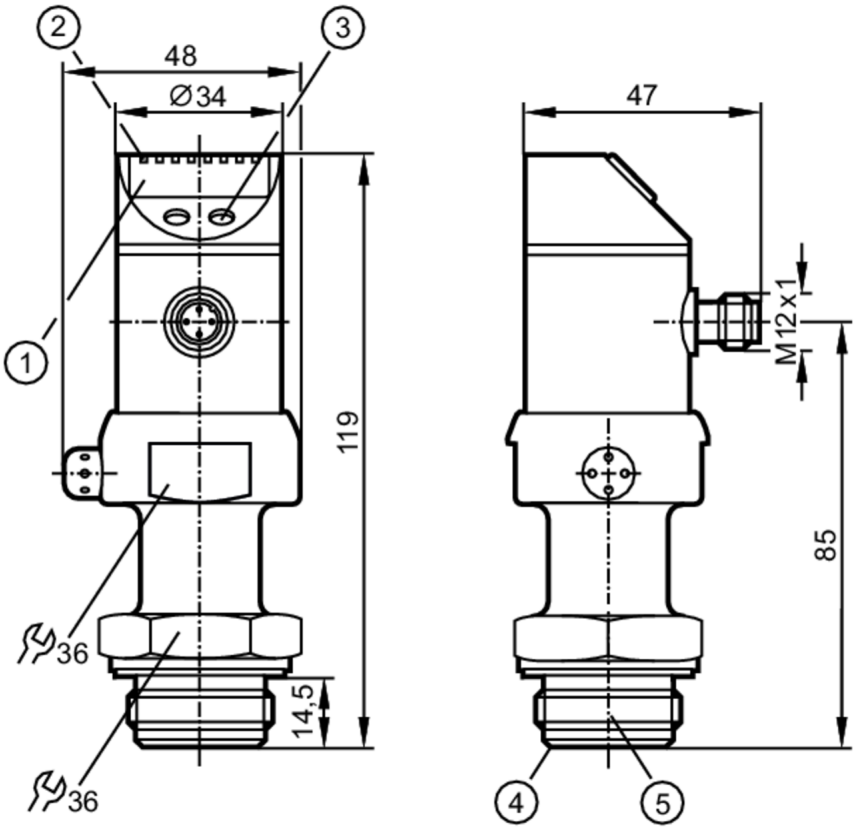
Pressure sensor with diagnostic function for pumps

PIM025-RES30-KFPKG/US/ /P

phase-out article
Discontinuation date: 03/31/2024

Alternative articles: PI1003 or PI1703
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 analogue outputs: 1		
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 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

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Medium temperature	[°C]	-25...125; (145 max. 1h)		
Min. bursting pressure		350 bar	5070 psi	35 MPa
Pressure rating		100 bar	1450 psi	10 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 analogue outputs: 1		
Outputs				
Total number of outputs		2		
Output signal		switching signal; analogue signal; (configurable)		
Electrical design		PNP		
Number of digital outputs		2		
Output function		normally open / normally closed; (parameterisable)		
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 analogue outputs		1		
Analogue current output	[mA]	4...20, invertible; (scalable)		
Max. load	[Ω]	(Ub - 10 V) / 20 mA		
Short-circuit protection		yes		
Type of short-circuit protection		pulsed		
Overload protection		yes		
Measuring/setting range				
Measuring range		-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
Set point SP		-0.96...25 bar	-13.8...362.7 psi	-0.096...2.5 MPa
Reset point rP		-1...24.96 bar	-14.4...362.1 psi	-0.1...2.469 MPa
Analogue start point		-1...18.74 bar	-14.4...271.8 psi	-0.1...1.874 MPa
Analogue end point		5.24...25 bar	76.2...362.7 psi	0.524...2.5 MPa
In steps of		0.02 bar	0.3 psi	0.002 MPa
Factory setting			OU1 = Fnc	OU2 = I
			ASP = 0.00 bar	AEP = 25.00 bar
Accuracy / deviations				
Switch point accuracy	[% of the span]	< ± 0,2; (Turn down 1:1)		

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Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
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)
Response times		
Response time	[ms]	< 2.5
Damping process value dAP	[s]	0...10
Damping for the analogue output dAA	[s]	0...10
Step response time analogue 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]	413
Materials		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 / Rz 4; PTFE
Min. pressure cycles		100 million
Process connection		threaded connection Aseptoflex external thread Aseptoflex

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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

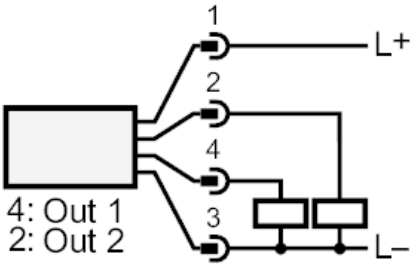
Remarks	
Remarks	pump diagnosis for pumps with constant rotational speed (+/- 10 % deviation of the taught rotational speed)
	speed range 40...3000 U/min
	minimum pressure for pump diagnosis 0,5 bar
	The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.
Notes	Please do not use for new projects.; no more adapters available as accessories
Pack quantity	1 pcs.

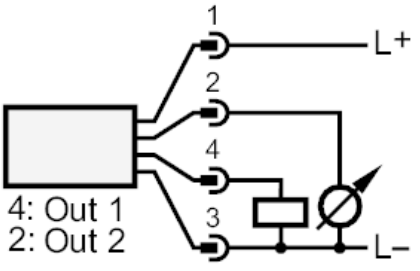
Electrical connection

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



Connection





OUT1	pump diagnosis
OUT2	pressure monitoring