

PIM093



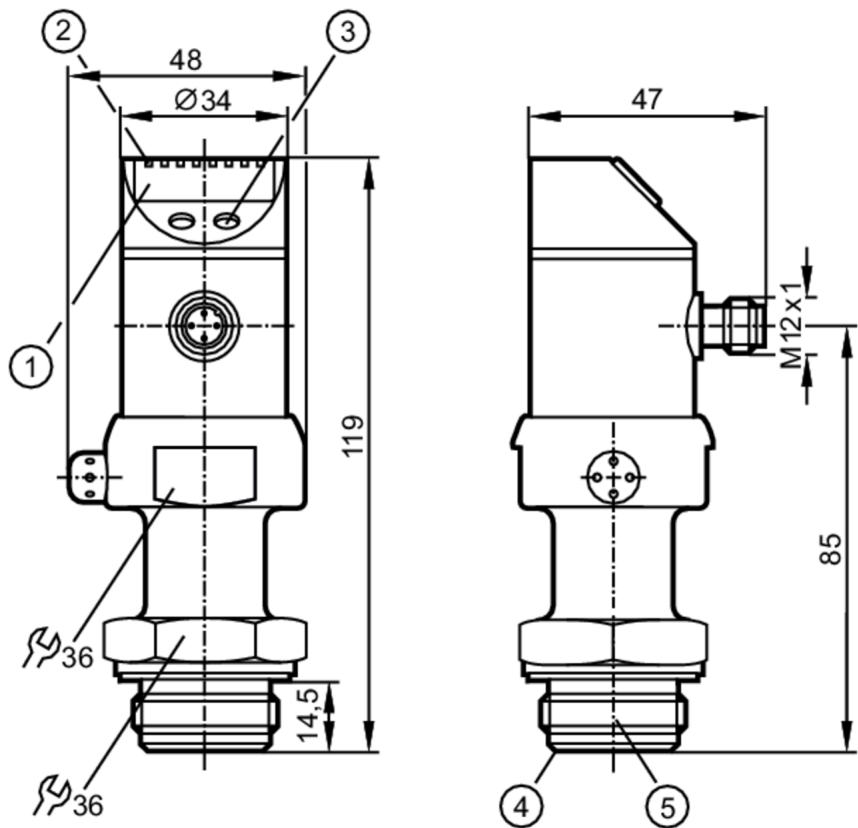
Pressure sensor with diagnostic function for pumps

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] (U _b - 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	[X21] < ± 0,2; (Turn down 1:1)
Repeatability	[X21] < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)



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Characteristics deviation	[X21]	< ± 0,2; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)	
Linearity deviation	[X21]	< ± 0,15; (Turn down 1:1)	
Hysteresis deviation	[X21]	< ± 0,15; (Turn down 1:1)	
Long-term stability	[X21]	< ± 0,1; (Turn down 1:1; per year)	
Temperature coefficient zero point	[X22]	< ± 0,15; (0...70 °C)	
Temperature coefficient span	[X22]	< ± 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	[ANN]	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	
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	

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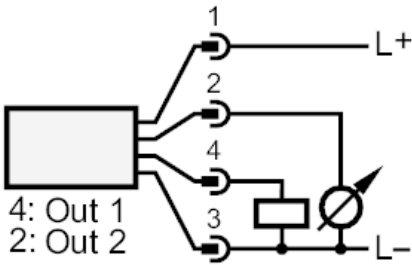
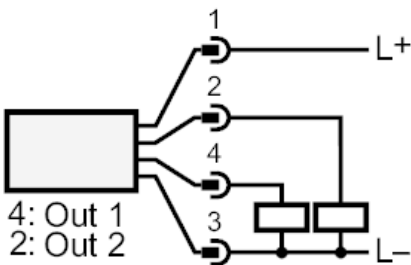
Remarks	
Remarks	pump diagnosis for pumps with constant rotational speed (+/- 10 % deviation of the taught rotational speed)
	speed range 40...3000 U/min
	minimum pressure for pump diagnosis 0,5 bar
	The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.
Notes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