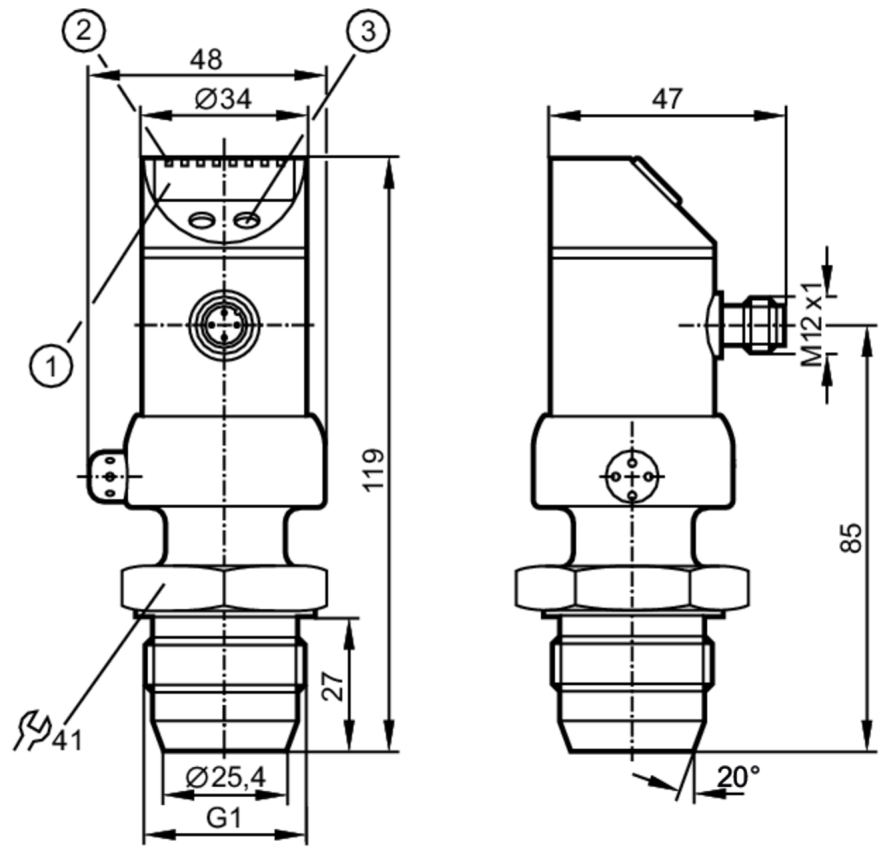


PIM694



Pressure sensor with diagnostic function for pumps

PIM010-REA01-KFPKG/US/ /P



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



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 G 1 external thread sealing cone		

Application

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

Electrical data

Operating voltage [V]	18...32 DC		
Current consumption [mA]	< 50		



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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
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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 [% of the span]	< ± 0,2; (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; (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	< ± 0,1; (Turn down 1:1; per year)

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[% of the span]		
Temperature coefficient zero point		$< \pm 0,15; (0...70\text{ }^{\circ}\text{C})$
[% of the span / 10 K]		
Temperature coefficient span		$< \pm 0,1; (0...70\text{ }^{\circ}\text{C})$
[% of the span / 10 K]		
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]	455.5
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 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles		100 million
Process connection		threaded connection G 1 external thread sealing cone
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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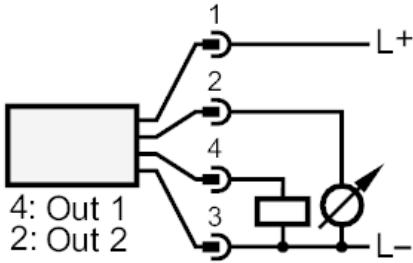
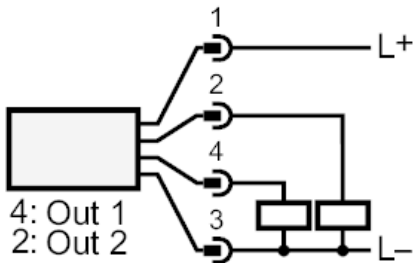
Remarks	
Remarks	pump diagnosis for pumps with constant rotational speed (+/- 10 % deviation of the taught rotational speed)
	Speed range 40...3000 U/min
	minimum pressure for pump diagnosis 0,5 bar
	The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.
Pack quantity	1 pcs.

Electrical connection

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



Connection



OUT1	pump diagnosis
OUT2	Pressure monitoring