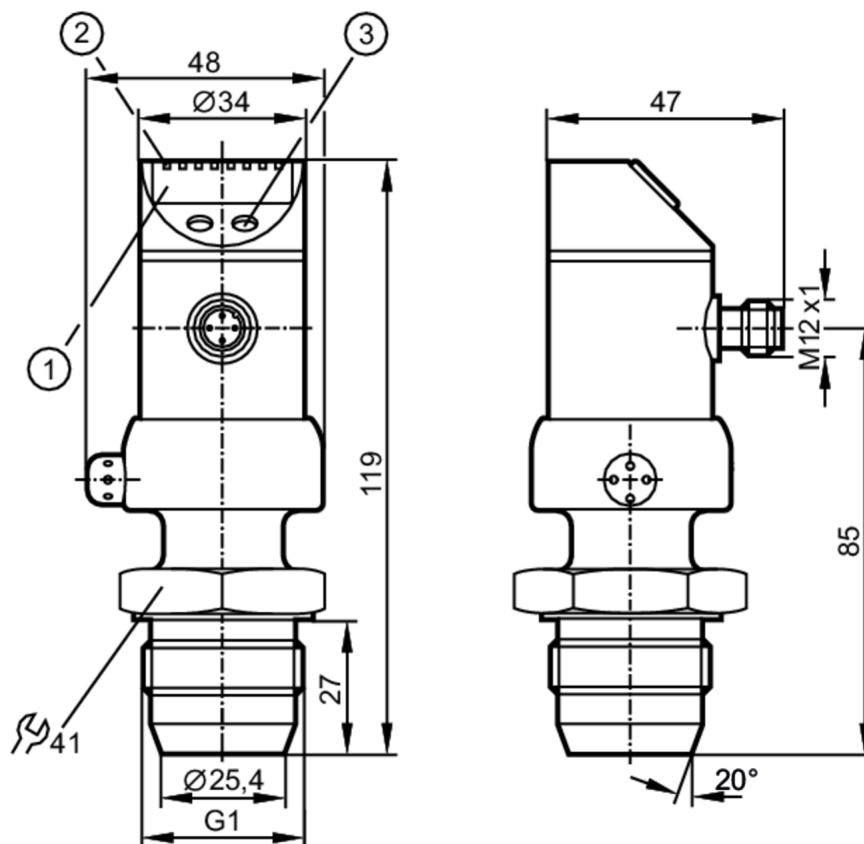




Pressure sensor with diagnostic function for pumps

PIM010-REA01-KFPKG/US/ /P



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



EC 1935/2004 EHEDG Tested FCM FDA

Product characteristics

Output signal	switching signal; analogue signal; (configurable)		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	threaded connection G 1 external thread sealing cone		

Application

Special feature	Gold-plated contacts		
Application	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)		
Pressure rating	50 bar	725 psi	5 MPa
Min. bursting pressure	150 bar	2175 psi	15 MPa
Type of pressure	relative pressure; vacuum		
No dead space	yes		



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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		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...10 bar	-14.5...145 psi
Set point SP		-0.98...10 bar	-14.2...145 psi
Reset point rP		-1...9.98 bar	-14.5...144.7 psi
Analogue start point		-1...7.25 bar	-14.5...105.1 psi
Analogue end point		1.5...10 bar	21.8...145 psi
In steps of		0.01 bar	0.1 psi
Factory setting			OU1 = Fnc
			ASP = 0.00 bar
			OU2 = I
			AEP = 10.00 bar
Accuracy / deviations			
Switch point accuracy		< ± 0,2; (Turn down 1:1)	
	[% of the span]		
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation		< ± 0,2; (Turn down 1:1 linearity, incl. hysteresis and repeatability limit value setting to DIN 16086)	
	[% of the span]		
Linearity deviation		< ± 0,15; (Turn down 1:1)	



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	[% of the span]	
Hysteresis deviation	[% of the span]	$< \pm 0,15$; (Turn down 1:1)
Long-term stability	[% of the span]	$< \pm 0,1$; (Turn down 1:1; per year)
Temperature coefficient zero point	[% of the span / 10 K]	$< \pm 0,15$; (0...70 °C)
Temperature coefficient span	[% of the span / 10 K]	$< \pm 0,1$; (0...70 °C)
Response times		
Response time	[ms]	< 2.5
Damping for the switching output 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]	451.2
Materials		stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM; PTFE
Materials (wetted parts)		ceramics (99.9 % Al ₂ O ₃); PTFE; stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4
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

PIM694



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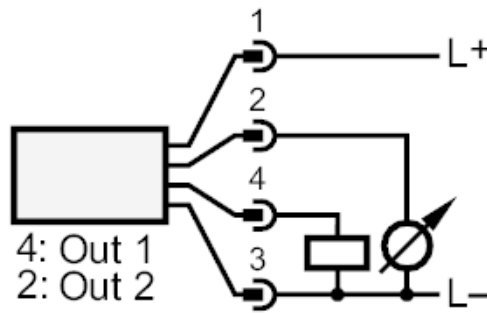
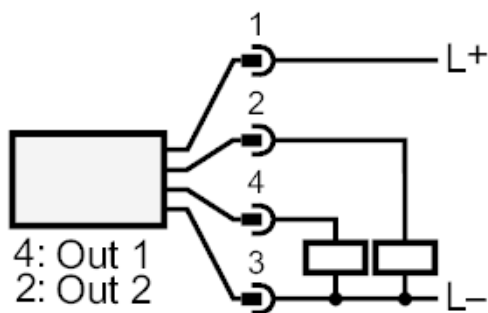
Remarks	
Remarks	pump diagnosis for pumps with constant rotational speed (+/- 10 % deviation of the taught rotational speed)
	speed range 40...3000 U/min
	minimum pressure for pump diagnosis 0,5 bar
	The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



Connection



OUT1	pump diagnosis
OUT2	pressure monitoring