

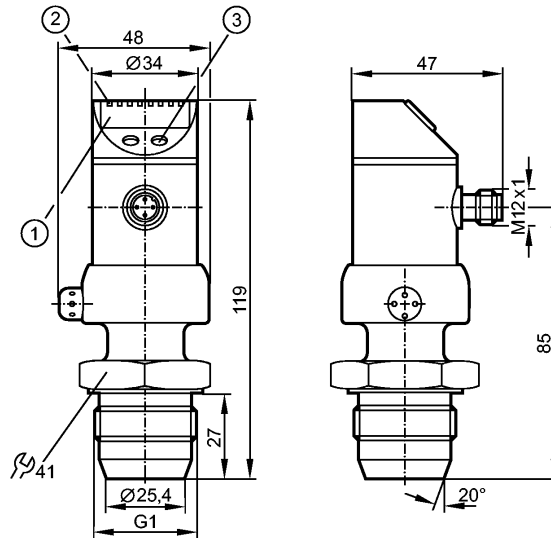


PIM693

PIM025-REA01-KFPKG/US/ /P



Pressure sensors



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



EC 1935/2004 EHEDG Certified



Product characteristics

Combined sensor for pump diagnosis and pressure monitoring

Quick disconnect

no dead space

Freely rotatable housing 350°

Zero and span adjustable

Function programmable

Sealing cone G 1 male

Process connection: Sealing cone G 1 male

2 outputs

OUT1 = pump diagnosis

OUT2 = pressure monitoring

4-digit alphanumeric display

Measuring range: -1.00...25.00 bar / -14.4...362.7 psi / -0.100...2.500 MPa

Application

Application

Type of pressure: relative pressure
Hygienic systems, viscous media and liquids with suspended particles
Liquids and gases

Pressure rating

100 bar

1450 psi

10 MPa

Bursting pressure min.

350 bar

5070 psi

35 MPa

Medium temperature

[°C]

-25...125 (145 max. 1h)

Electrical data

Electrical design

DC PNP

Operating voltage

[V]

18...32 DC

Current consumption

[mA]

< 50

Insulation resistance

[MΩ]

> 100 (500 V DC)

Protection class

III

Reverse polarity protection

yes

Outputs



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Output	2 outputs OUT1 = pump diagnosis OUT2 = pressure monitoring
Output function	1 x normally open / normally closed programmable + 1 x normally open / normally closed programmable or 1 x analog (4...20 / 20...4 mA, scalable)
Current rating [mA]	250
Voltage drop [V]	< 2
Short-circuit protection	yes (non-latching)
Overload protection	yes
Switching frequency [Hz]	350 (OUT2)
Analog output	I: 4...20 mA (Ineg: 20...4 mA)
Max. load [Ω]	I / Ineg: max. (U _b - 10 V) x 50

Measuring / setting range			
Measuring range	-1.00...25.00 bar	-14.4...362.7 psi	-0.100...2.500 MPa
Setting range			
Set point, SP	-0.96...25.00 bar	-13.8...362.7 psi	-0.096...2.500 MPa
Reset point, rP	-1.00...24.96 bar	-14.4...362.1 psi	-0.100...2.496 MPa
Analog start point, ASP	-1.00...18.74 bar	-14.4...271.8 psi	-0.100...1.874 MPa
Analog end point, AEP	5.24...25.00 bar	76.2...362.7 psi	0.524...2.500 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	
Accuracy / deviations (in % of the span) Turn down 1:1	
Switch point accuracy	< ± 0.2
Characteristics deviation *)	< ± 0.2
Linearity	< ± 0.15
Hysteresis	< ± 0.15
Repeatability **)	< ± 0.1
Long-term stability ***)	< ± 0.1
Temperature coefficients (TEMPCO) in the temperature range 0...70° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	< ± 0.15
Greatest TEMPCO of the span	< ± 0.1

Reaction times	
Power-on delay time [s]	0.2
Min. response time switching output [ms]	2.5
Damping for the switching output (dAP) [s]	0.00...10.00 (OUT2)
Damping for the analog output (dAA) [s]	0.00...10.00
Step response time analogue output [ms]	0.2
Integrated watchdog	yes

Environment	
Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



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Protection	IP 67 / IP 69K
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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

Process connection	Sealing cone G 1 male
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); PTFE; stainless steel 316L / 1.4435; surface characteristics: Ra < 0.4 / Rz 4
Housing materials	stainless steel 316L / 1.4404; PC (Makrolon); PBT (Pocan); PEI; FPM (Viton); PTFE
Switching cycles min.	100 million
Weight [kg]	0.45

Displays / operating elements


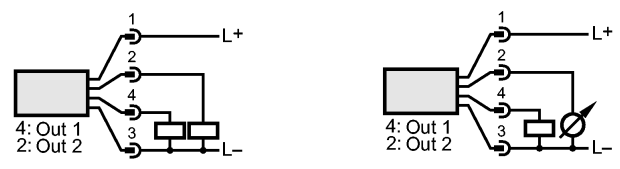
Display	Display unit 4 x LED green Switching status 2 x LED yellow Function display 4-digit alphanumeric display Measured values 4-digit alphanumeric display
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Electrical connection

Connection	M12 connector; gold-plated contacts
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Wiring

Programming of the output function
 -----OUT1-----
 - Switching output
 Fno = window function / normally open
 Fnc = window function / normally closed
 -----OUT2-----
 - Switching output
 Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed
 - Analog output
 I = current output (4...20 mA)
 InEG = current output (20...4 mA)

Remarks

Remarks	*) linearity, incl. hysteresis and repeatability; (limit value setting to DIN 16086) **) with temperature fluctuations < 10 K ***) in % of the span per year pump diagnosis for pumps with constant rotational speed (+/- 10 % deviation of the taught rotational speed)
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Pressure sensors

rotational speed range: 40...3000 rpm
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	[piece]	1
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