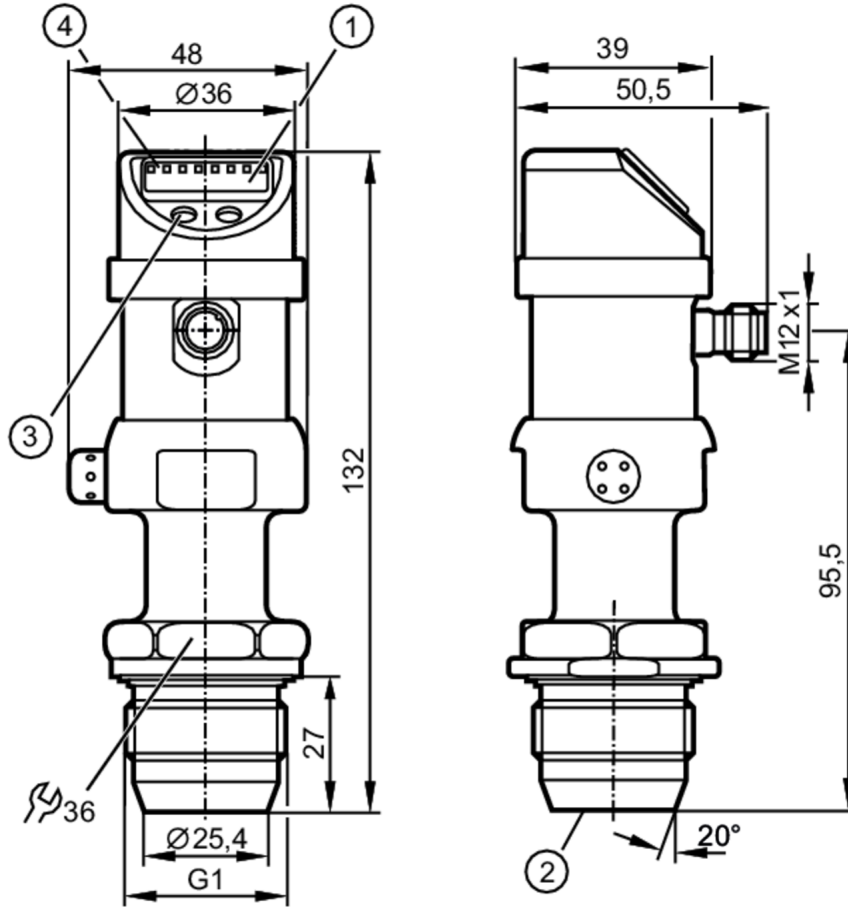


# PI003A



## Pressure sensor with display

PI-025-REA01-MFRKG/US/3D/3G /P



- 1 alphanumeric display 4-digit
- 2 recessed non flush mount measuring cell
- 3 programming button
- 4 status LEDs



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1		
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 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]	-20...60; (when used outside the hazardous area; Ambient temperature: -25...85 °C; Medium temperature: -25...125 °C / 145 °C < 1h)		
Min. burst pressure	350 bar	5070 psi	35 MPa
Pressure rating	100 bar	1450 psi	10 MPa
Type of pressure	relative pressure; vacuum		

### Electrical data

Operating voltage [V]	18...32 DC		
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Current consumption	[mA]	< 50
Protection class		III
Reverse polarity protection		yes
Power-on delay time	[s]	0.5
Integrated watchdog		yes

### Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
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### Outputs

Total number of outputs		2
Output signal		switching signal; analogue signal; (configurable)
Electrical design		PNP/NPN
Number of digital outputs		1
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]	6
Number of analogue outputs		1
Analogue current output	[mA]	4...20, invertible; (scalable 1:4)
Max. load	[Ω]	(U <sub>b</sub> - 10 V) / 20 mA
Analogue voltage output	[V]	0...10, invertible; (scalable 1:4)
Min. load resistance	[Ω]	2000
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...2.496 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

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

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Temperature coefficient zero point [% of the span / 10 K]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Response times	
Response time [ms]	< 100
Damping process value dAP [s]	0.1...100
Damping for the analogue output dAA [s]	0.1...100
Step response time analogue output [ms]	25

Software / programming	
Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; current/voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; zero point; span

Operating conditions	
Ambient temperature [°C]	-20...60
Storage temperature [°C]	-40...100
Protection	IP 65

Tests / approvals											
ATEX marking	<div style="display: flex; align-items: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px; margin-right: 5px;">Ex</span>           II 3D Ex tc IIIC T90°C Dc X         </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px; margin-right: 5px;">Ex</span>           II 3G Ex nA IIC T4 Gc X         </div>										
EMC	<table border="1"> <tr> <td>EN 61000-4-2 ESD</td> <td>4 kV CD / 8 kV AD</td> </tr> <tr> <td>EN 61000-4-3 HF radiated</td> <td>10 V/m</td> </tr> <tr> <td>EN 61000-4-4 Burst</td> <td>2 kV</td> </tr> <tr> <td>EN 61000-4-5 Surge</td> <td>0,5/1 kV</td> </tr> <tr> <td>EN 61000-4-6 HF conducted</td> <td>10 V</td> </tr> </table>	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
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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]	163										

Mechanical data	
Weight [g]	512.5
Housing	cylindrical
Dimensions [mm]	Ø 36 / L = 132
Materials	stainless steel (316L/1.4404); PC; PBT; PEI; FKM; PTFE
Materials (wetted parts)	ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); stainless steel (316L/1.4435); stainless steel (316L/1.4404) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE; EPDM
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	LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit	bar; psi; MPa; % of the span	

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### Remarks

Pack quantity

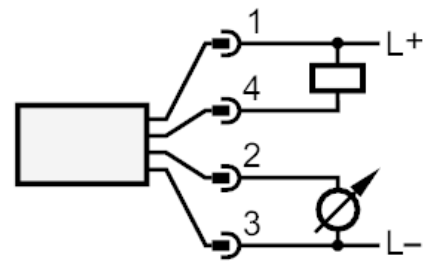
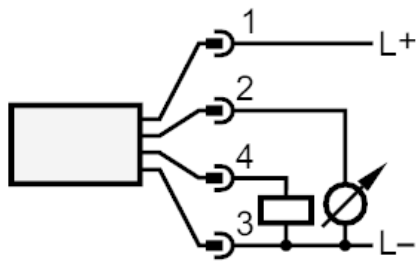
1 pcs.

### Electrical connection

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



### Connection



OUT1

switching output

OUT2

analogue output