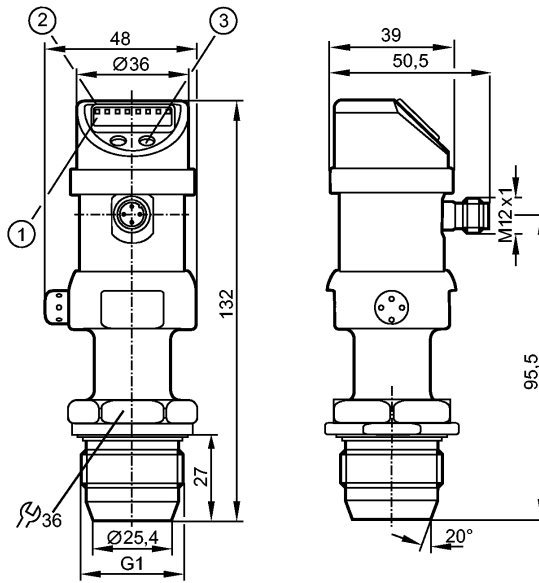


PI003A

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

Pressure sensors



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

CE EC 1935/2004 FDA

Product characteristics

Combined pressure sensor
Connector
Freely rotatable housing 350°
Zero and span adjustable
Function programmable
ATEX approval
Group II, category 3D/3G
Sealing cone G1 male
Process connection: Sealing cone G1 male
2 outputs OUT1 = switching output OUT2 = analogue output
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]	-20...60 *****)		

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	18...32 DC
Current consumption [mA]	< 50
Protection class	III
Reverse polarity protection	yes

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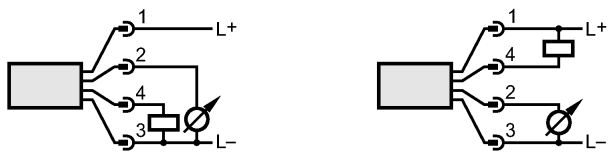
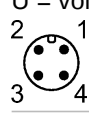
Pressure sensors

Outputs			
Output	2 outputs OUT1 = switching output OUT2 = analogue output		
Output function	1 x normally open / closed programmable + 1 x analogue (I / U, scaleable 1:4)		
Current rating [mA]	250		
Voltage drop [V]	< 2		
Short-circuit protection	pulsed		
Overload protection	yes		
Switching frequency [Hz]	6		
Analogue output	I: 4...20 mA (Ineg: 20...4 mA) / U: 0...10 V (Uneg: 10...0 V)		
Max. load [Ω]	I / Ineg: max. (Ub - 10 V) x 50; U / Uneg: min. 2000		
Measuring / setting range			
Display unit	bar, psi, MPa, % der Spanne		
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
Analogue start point, ASP	-1.00...18.74 bar	-14.4...271.8 psi	-0.100...1.874 MPa
Analogue 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
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	< ± 0.05		
Greatest TEMPCO of the span	< ± 0.15		
Response times			
Power-on delay time [s]	0.5		
Min. response time switching output [ms]	100		
Damping for the switching output (dAP) [s]	0.1...100.0		
Damping for the analogue output (dAA) [s]	0.1...100.0		
Step response time analogue output [ms]	25		
Integrated watchdog	yes		
Software / programming			
Programming options	hysteresis / window function; N.O. / N.C.; output polarity; current / voltage outputs; damping; calibration of displayed values; display can be rotated / deactivated; display unit		

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Pressure sensors

Environment	
Ambient temperature [°C]	-20...60 *****)
Storage temperature [°C]	-40...100
Protection	IP 65
Tests / approvals	
Marking of the unit	Ⓔ II 3D Ex tc IIIC T90°C Dc X Ⓔ II 3G Ex nA IIC T4 Gc X
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]	163
Mechanical data	
Process connection	Sealing cone G1 male
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel 316L / 1.4435; stainless steel 316L / 1.4404; surface characteristics: Ra < 0.4 / Rz 4; PTFE; EPDM
Housing materials	stainless steel 316L / 1.4404; PC (Makrolon); PBT (Pocan); PEI; FPM (Viton); PTFE
Switching cycles min.	100 million
Weight [kg]	0.513
Displays / operating elements	
Display	Display unit 4 x LED green Switching status LED yellow Function display 4-digit alphanumeric display Measured values 4-digit alphanumeric display
Electrical connection	
Connection	M12 connector; Gold-plated contacts
Wiring	
Programming of the output function -----OUT1----- - Switching output Hno = hysteresis / normally open Hnc = hysteresis / normally closed Fno = window function / normally open Fnc = window function / normally closed -----OUT2----- - Analogue output I = current output (4...20 mA) U = voltage output (0...10 V)	
	
Remarks	
Remarks	*) linearity, incl. hysteresis and repeatability; (limit value setting to DIN 16086) **) with temperature fluctuations < 10 K ***) in % of the span per year



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Pressure sensors

*****) When used outside hazardous areas:
Ambient temperature: -25...85°C
Medium temperature: -25...125°C (145°C max. 1h)

Pack quantity	[piece]	1
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