

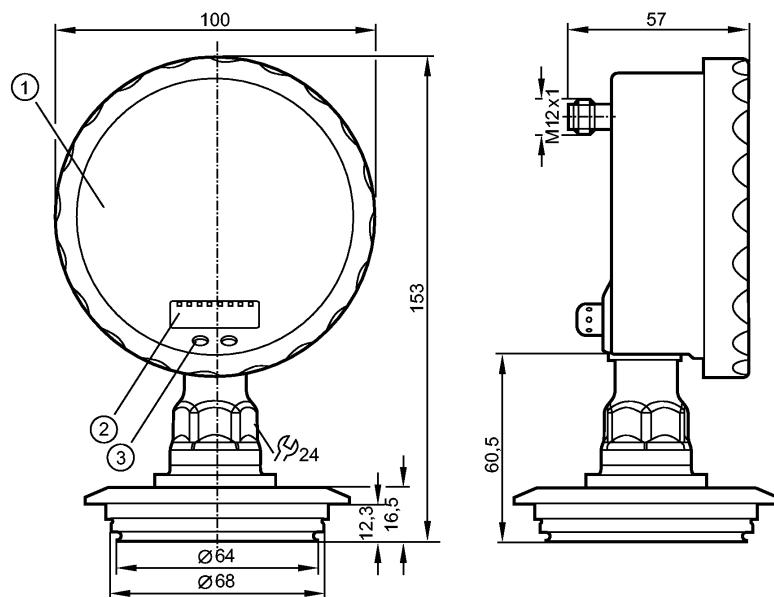


PH4004

PH-010-REA01-MFRKG/US/ /P



Pressure sensors



- 1: Analogue display
- 2: 4-digit alphanumeric display
- 3: Touch pad (programming button)

CE

Product characteristics

Electronic pressure sensor
with analog display

Quick disconnect

DN40 (1.5"), D = 68

Suitable for all standard CIP and SIP processes

Analog display 0...350° rotatable

Resolution 0.25%

Pointer not visible when unit disconnected

Process connection: Varivent type N

2 Output

OUT1 = Switching output

OUT2 = Analog output

analog display, 4-digit alphanumeric display

Measuring range: -1.00...10.00 bar / -14.5...145.0 psi

Application

Application

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

Pressure rating

50 bar

725 psi

Bursting pressure min.

150 bar

2175 psi

Medium temperature

[°C]

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

Electrical data

Electrical design

DC PNP/NPN

Operating voltage [V]

18...32 DC

Current consumption [mA]

> 70 (24 V)

Insulation resistance [MΩ]

> 100 (500 V DC)

Protection class

III



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Pressure sensors

Reverse polarity protection		yes
Outputs		
Output		2 Output OUT1 = Switching output OUT2 = Analog output
Output function		1 x normally open / closed programmable + 1 x analogue (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]	50
Analog output		I: 4...20 mA (Ineg: 20...4 mA)
Max. load	[Ω]	I / Ineg: max. (Ub - 10 V) x 50
Measuring / setting range		
Measuring range		-1.00...10.00 bar -14.5...145.0 psi
Setting range		
Set point, SP		-0.98...16.00 bar -14.2...232.0 psi
Reset point, rP		-1.00...15.98 bar -14.5...231.8 psi
Analog start point, ASP		-1.00...13.50 bar -14.5...195.7 psi
Analog end point, AEP		1.50...16.00 bar 21.8...232.0 psi
in steps of		0.01 bar 0.1 psi
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
Reaction times		
Power-on delay time	[s]	6
Min. response time switching output	[ms]	10
Damping for the switching output (dAP)	[s]	0.01...30
Damping for the analog output (dAA)	[s]	0.01...30
Step response time analogue output	[ms]	25
Integrated watchdog		yes
Environment		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100



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Pressure sensors

Protection

IP 67 / IP 69K

Tests / approvals

EMC	EN 61000-4-2 ESD: EN 61000-4-3 HF radiated: EN 61000-4-4 Burst: EN 61000-4-5 Surge: EN 61000-4-6 HF conducted:	4 kV CD / 8 kV AD 10 V/m 2 kV 0.5/1 kV 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)

Mechanical data

Process connection	Varivent type N
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; PA; FPM (Viton); PTFE; viewing glass: laminated safety glass 4 mm
Switching cycles min.	100 million
Weight [kg]	1.02

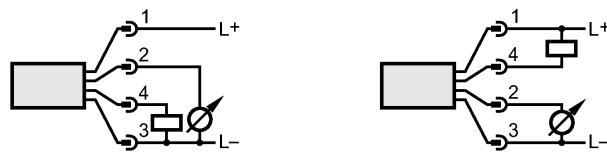
Displays / operating elements

Display	Display unit 2 x LED green Switching status LED yellow Switch points LED ring Function display 4-digit alphanumeric display Measured values analog display, 4-digit alphanumeric display
Extended display range (max.)	16 bar 232 psi

Electrical connection

Connection	M12 connector; gold-plated contacts
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Wiring



Remarks

Remarks	*) linearity, incl. hysteresis and repeatability; (limit value setting to DIN 16086) characteristics deviation in the extended display range: 1.5 % of the span switch point accuracy in the extended display range: 1.5 % of the span **) with temperature fluctuations < 10 K ***) in % of the span per year
Pack quantity	[piece]