

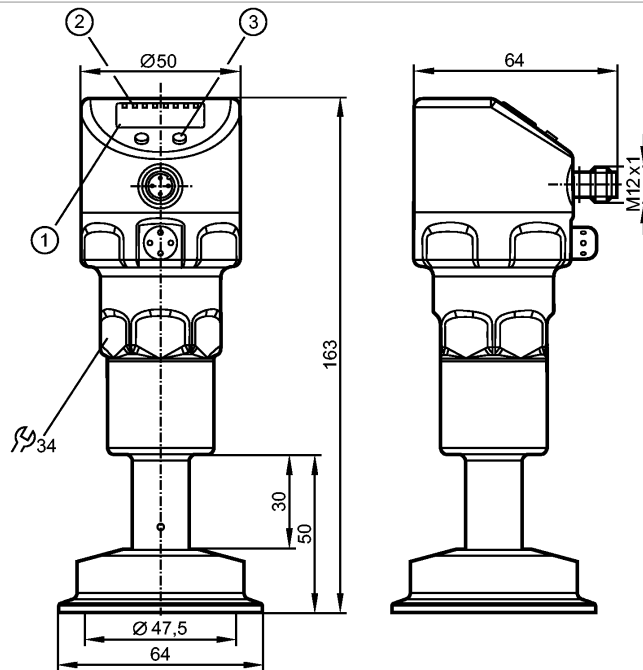


PI2305

PI-004-REZ02-MFRKG/US/ /P



Pressure sensors



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



EC 1935/2004 EHEDG Certified FDA

IO-Link

Including free 6-point calibration verification certificate.

Product characteristics

Combined pressure sensor
Quick disconnect
Function programmable
Membrane diameter: 47.5 mm
Fill liquid for pressure transmission: Food grade oil (FDA conforming)
Process connection: Clamp DN 51 / 2"
2-wire connection technology: analogue output
3-wire connection technology: 2 outputs OUT1 = switching output OUT2 = switching output or analogue output
4-digit alphanumeric display
Measuring range: -1.000...4.000 bar / -14.50...58.00 psi / -100.0...400.0 kPa

Application

Application	Type of pressure: relative pressure Hygienic systems, viscous media and liquids with suspended particles Liquids and gases		
Pressure rating	30 bar	435 psi	3000 kPa
Bursting pressure min.	50 bar	725 psi	5000 kPa
Medium temperature [°C]	-25...200 ****) / -25...160 *****)		

Electrical data

Electrical design	2 wires DC / 3 wires DC PNP/NPN		
Operating voltage [V]	20...32 DC (2L) / 18...32 DC (3L)		



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Pressure sensors

Current consumption	[mA]	3.6...21 (2L) / < 45 (3L)
Insulation resistance	[MΩ]	> 100 (500 V DC)
Protection class		III
Reverse polarity protection		yes

Outputs

Output		2-wire connection technology: analogue output 3-wire connection technology: 2 outputs OUT1 = switching output OUT2 = switching output or analogue output
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; (3L)
Voltage drop	[V]	2; (3L)
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	--- (2L) / 125 (3L)
Analog output		I: 4...20 mA (Ineg: 20...4 mA)
Max. load	[Ω]	2L: 300 3L: max. (U _b - 10 V) / 20 mA

Measuring / setting range

Display unit	bar, psi, kPa, % der Spanne		
Measuring range	-1.000...4.000 bar	-14.50...58.00 psi	-100.0...400.0 kPa
Setting range			
Set point, SP	-0.990...4.000 bar	-14.35...58.00 psi	-99.0...400.0 kPa
Reset point, rP	-1.000...3.990 bar	-14.50...57.85 psi	-100...399.0 kPa
Analog start point, ASP	-1.000...3.000 bar	-14.50...43.50 psi	-100.0...300.0 kPa
Analog end point, AEP	0.000...4.000 bar	0.00...58.00 psi	0.0...400.0 kPa
in steps of	0.005 bar	0.05 psi	0.5 kPa
Factory setting	SP1 = 1.000 bar; rP1 = 0.920 bar SP2 = 3.000 bar; rP2 = 2.920 bar ASP = 0.000 bar; AEP = 4.000 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	< ± 0.2
Greatest TEMPCO of the span	< ± 0.15

Reaction times

Power-on delay time	[s]	1 (2L) / 0.5 (3L)
Min. response time switching output	[ms]	--- (2L) / 3 (3L)



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Damping for the switching output (dAP) [s]	0.00...30.00
Damping for the analog output (dAA) [s]	0.01...99.99
Step response time analogue output [ms]	45 (2L) / 7 (3L)
Integrated watchdog	yes

Interfaces

IO-Link Device	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.0
SDCI standard	IO-Link Communication Specification, Version 1.0, January 2009, Ordner No: 10.002
IO-Link Device ID	104 d / 00 00 68 h
Profiles	no profile
SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	2
Min. process cycle time [ms]	2.3

Environment

Ambient temperature [°C]	-25...80, at max. 160 °C medium temperature (-25...60 °C at max. 200 °C medium temperature)
Storage temperature [°C]	-25...100
Protection	IP 67 / IP 68 / IP 69K

Tests / approvals

EMC	DIN EN 61000-6-2 DIN EN 61000-6-3
Shock resistance	DIN EN 60068-2-27 50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6 20 g (10...2000 Hz)
MTTF [Years]	149

Mechanical data

Process connection	Clamp DN 51 / 2"
Materials (wetted parts)	stainless steel 316L / 1.4435
Surface characteristics Ra / Rz of the wetted part(s)	< 0.38 / -
Housing materials	stainless steel 316L / 1.4404; stainless steel 316L / 1.4435; PBT; PEI; PFA
Switching cycles min.	10 million
Weight [kg]	1.06

Displays / operating elements

Display	Display unit LED green Switching status 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

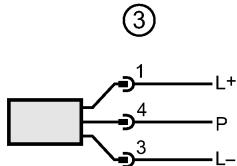
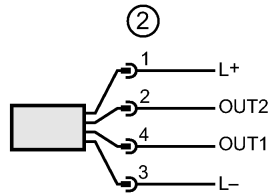
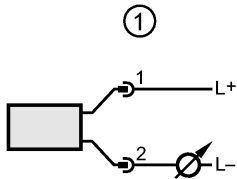


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Pressure sensors



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

Remarks

Remarks

(2L) = value for 2-wire operation
 (3L) = value for 3-wire operation
 *) linearity, incl. hysteresis and repeatability;
 (limit value setting to DIN 16086)
 **) with temperature fluctuations < 10 K
 ***) in % of the span per year
 ****) at max. 65 °C ambient temperature
 *****) at max. 80 °C ambient temperature

Pack quantity

[piece]

1