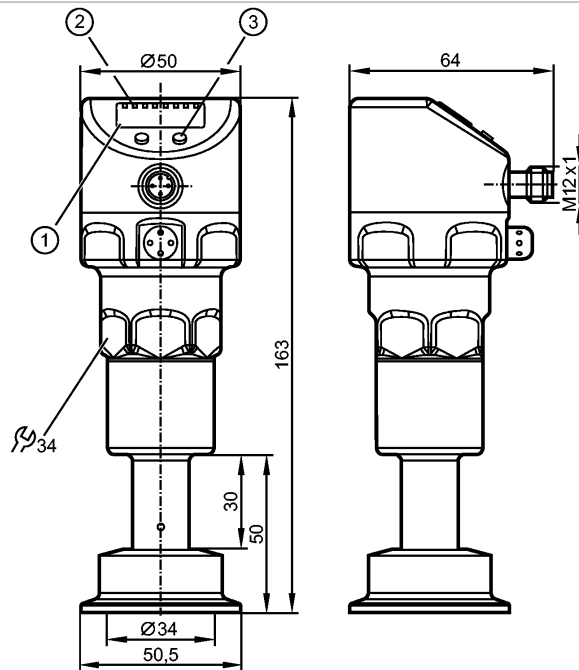


PI2204

PI-010-REZ01-MFRKG/US/ /P

Pressure sensors



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



IO-Link

Including free 6-point calibration verification certificate.

Product characteristics

| |
|---|
| Combined pressure sensor |
| Quick disconnect |
| Function programmable |
| Membrane diameter: 34 mm |
| Fill liquid for pressure transmission: Food grade oil (FDA conforming) |
| Process connection: Clamp DN 38 / 1½" |
| 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: -1.00...10.00 bar / -14.50...145.0 psi / -0.100...1.000 MPa |

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 | 5 MPa |
| Bursting pressure min. | 100 bar | 1450 psi | 10 MPa |
| 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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| | | |
|-----------------------------|------|---------------------------|
| 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, MPa, % der Spanne | | |
| Measuring range | -1.00...10.00 bar | -14.50...145.0 psi | -0.100...1.000 MPa |
| Setting range | | | |
| Set point, SP | -0.98...10.00 bar | -14.2...145.0 psi | -0.098...1.000 MPa |
| Reset point, rP | -1.00...9.98 bar | -14.5...144.7 psi | -0.100...0.998 MPa |
| Analog start point, ASP | -1.00...7.50 bar | -14.5...108.7 psi | -0.100...0.750 MPa |
| Analog end point, AEP | 1.50...10.00 bar | 21.8...145.0 psi | 0.150...1.000 MPa |
| in steps of | 0.01 bar | 0.1 psi | 0.001 MPa |
| Factory setting | SP1 = 2.50 bar; rP1 = 2.30 bar SP2 = 7.50 bar; rP2 = 7.30 bar ASP = 0.00 bar; AEP = 10.00 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...200° 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 | 103 d / 00 00 67 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] | 142 |

Mechanical data

| | |
|---|--|
| Process connection | Clamp DN 38 / 1½" |
| Materials (wetted parts) | 1.4435; (V4A / 316L) |
| Surface characteristics Ra / Rz of the wetted part(s) | < 0.38 / - |
| Housing materials | 316L stainless steel / 1.4404 (V4A / 316L); 1.4435 (V4A / 316L); PBT; PEI; PFA |
| Switching cycles min. | 10 million |
| Weight [kg] | 0.923 |

Displays / operating elements

| | |
|---------|--|
| Display | Display unit 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 |
|------------|-------------------------------------|

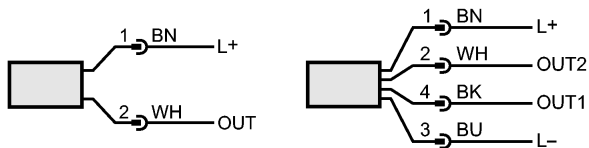
Wiring

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Core colors
 BK black
 BN brown
 BU blue
 WH white



(2L)= OUT: 4...20 mA / 20...4 mA
 (3L)= OUT1: switching output or IO-Link
 (3L)= OUT2: switching output / 4...20 mA / 20...4 mA
 Colours to DIN EN 60947-5-2

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 1) Depends on lubrication, seal and pressure rating |
|---------|---|

| | | |
|---------------|---------|---|
| Pack quantity | [piece] | 1 |
|---------------|---------|---|