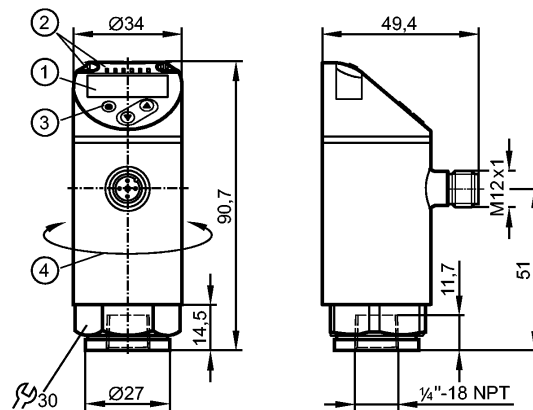


PN7294

PN-010-REN14-QFRKG/US/ IV

Pressure sensors



- 1: 4-digit alphanumeric display / alternating indication of red and green
- 2: LEDs (display unit / switching status)
- 3: Programming button
- 4: Upper part of the housing can be rotated by 345°



Product characteristics

| |
|--|
| Electronic pressure monitor |
| M12 connector |
| Function programmable |
| Measuring element: ceramic-capacitive pressure measuring cell |
| Process connection: 1/4" NPT I |
| 2 outputs OUT1 = switching output OUT2 = switching output |
| 4-digit alphanumeric display / alternating indication of red and green |
| Measuring range: -14.5...145 psi / -1...10 bar / -0.1...1.0 MPa |

Application

| | | | |
|-------------------------|--|---------|---------|
| Application | Type of pressure: relative pressure liquids and gases of the fluid group 2 according to Article 9 of the Pressure Equipment Directive (PED) | | |
| Pressure rating | 1087 psi | 75 bar | 7.5 MPa |
| Bursting pressure min. | 2175 psi | 150 bar | 15 MPa |
| Medium temperature [°C] | -25...80 | | |

Electrical data

| | |
|-----------------------------|------------------|
| Electrical design | DC PNP/NPN |
| Operating voltage [V] | 18...30 DC 1) |
| Current consumption [mA] | < 35 |
| Insulation resistance [MΩ] | > 100 (500 V DC) |
| Protection class | III |
| Reverse polarity protection | yes |

Outputs

| | |
|---------------------|---|
| Output | 2 outputs OUT1 = switching output OUT2 = switching output |
| Output function | 2 x normally open / closed programmable |
| Current rating [mA] | 150; 200 (...60 °C); 250 (...40 °C) |

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Pressure sensors

| | | |
|--------------------------|------|--------------------|
| Voltage drop | [V] | < 2.5 |
| Short-circuit protection | | yes (non-latching) |
| Overload protection | | yes |
| Switching frequency | [Hz] | ≤ 170 |

| Measuring / setting range | | | |
|---------------------------|-----------------|------------------|--------------------|
| Measuring range | -14.5...145 psi | -1...10 bar | -0.1...1.0 MPa |
| Setting range | | | |
| Set point, SP | -13.5...145 psi | -0.90...10 bar | -0.09...1 MPa |
| Reset point, rP | -14...144.5 psi | -0.95...9.95 bar | -0.095...0.995 MPa |
| in steps of | 0.5 psi | 0.05 bar | 0.005 MPa |

| Accuracy / deviations | |
|--|--------------------------------|
| Accuracy / deviations (in % of the span) | |
| Switch point accuracy | < ± 0.5 |
| Characteristics deviation *) | < ± 0.25 (BFSL) / < ± 0.5 (LS) |
| Hysteresis | < ± 0.25 |
| Repeatability **) | < ± 0.1 |
| Long-term stability ***) | < ± 0.05 |
| Temperature coefficients (TEMPCO) in the temperature range -25...80° C (in % of the span per 10 K) | |
| Greatest TEMPCO of the zero point | 0.2 |
| Greatest TEMPCO of the span | 0.2 |

| Reaction times | |
|-------------------------------------|------------|
| Power-on delay time | [s] < 0.3 |
| Min. response time switching output | [ms] < 3 |
| Delay time programmable dS, dr | [s] 0...50 |
| Integrated watchdog | yes |

| Software / programming | |
|------------------------|---|
| Programming options | hysteresis / window function; N.O. / N.C; output polarity; on delay, off delay; damping; display unit |

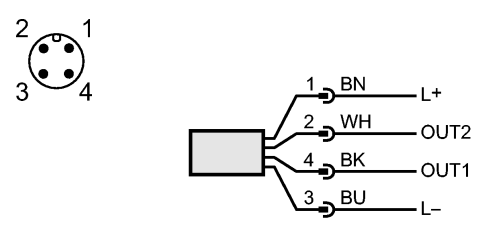
| Interfaces | |
|----------------------------|--|
| IO-Link Device | |
| Transfer type | COM2 (38.4 kBaud) |
| IO-Link revision | 1.1 |
| SDCI standard | IEC 61131-9 |
| IO-Link Device ID | 403 d / 00 01 93 h |
| Profiles | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis |
| 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 |
| Storage temperature | [°C] -40...100 |
| Protection | IP 65 / IP 67 |

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Pressure sensors

| Tests / approvals | |
|---|---|
| Pressure equipment directive | article 3, section 3 - sound engineering practice |
| 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] | 224.01 |
| UL approval number | J001 |
| Mechanical data | |
| Process connection | ¼" NPT I |
| Materials (wetted parts) | 316L stainless steel / 1.4404; ceramics; FKM |
| Housing materials | 316L stainless steel / 1.4404; PBT+PC-GF 30; PBT-GF 20; PC |
| Switching cycles min. | 100 million |
| Tightening torque [Nm] | (2...3 turns after finger tightened (recommended tightening torque ²⁾) |
| Weight [kg] | 0.222 |
| Displays / operating elements | |
| Display | Display unit 3 x LED green (bar, psi, MPa) Switching status 2 x LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green |
| Electrical connection | |
| Connection | M12 connector; gold-plated contacts |
| Wiring Core colors BK black BN brown BU blue WH white |  <p>OUT1: switching output or IO-Link OUT2: switching output Colours to DIN EN 60947-5-2</p> |
| Remarks | |
| Remarks | 1) to EN50178, SELV, PELV 2) Depends on lubrication, seal and pressure rating *) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in% of the span / 6 months |
| Pack quantity [piece] | 1 |