# PN7004

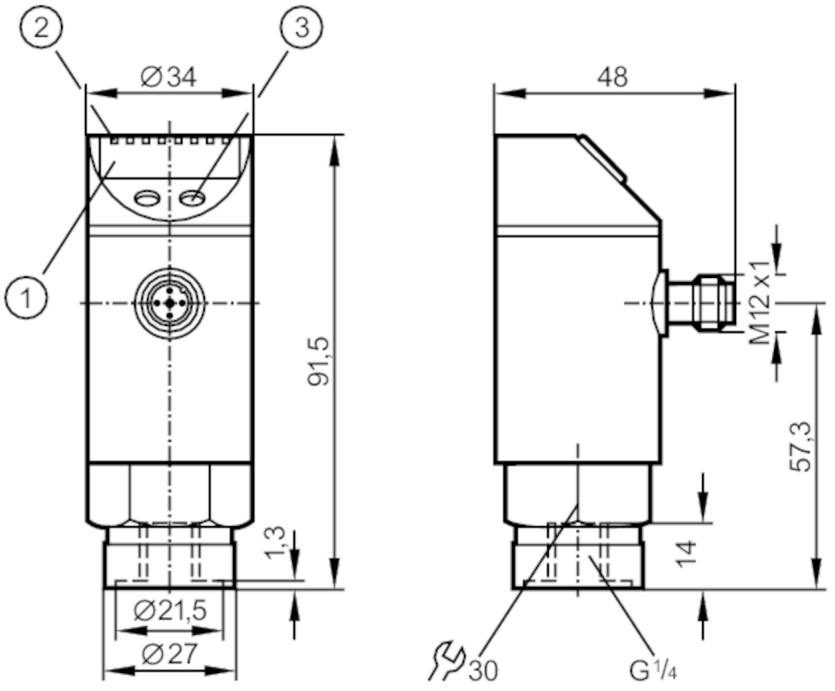
## Pressure sensor with display

PN-010-RBR14-QFRKG/US/ /V

Article no longer available - archive entry

Alternative articles: PN7094

When selecting an alternative article and accessories please note that technical data may differ!




1 alphanumeric display 4-digit
2 LEDs Display unit / switching status
3 programming button

IO-Link

| | | | | |
|---|---|---|---|---|
| **Product characteristics** | | | | |
| Number of inputs and outputs | | Number of digital outputs: 2 | | |
| Measuring range | | -1...10 bar | -14.5...145 psi | -0.1...1 MPa |
| Process connection | | threaded connection G 1/4 internal thread | | |
| **Application** | | | | |
| Special feature | | Gold-plated contacts | | |
| Application | | for industrial applications | | |
| Media | | liquids and gases | | |
| Medium temperature | [°C] | -25...80 | | |
| Min. burst pressure | | 150 bar | 2175 psi | 15 MPa |
| Pressure rating | | 75 bar | 1087 psi | 7.5 MPa |
| Type of pressure | | relative pressure | | |
| **Electrical data** | | | | |
| Operating voltage | [V] | 18...36 DC; (to SELV/PELV) | | |
| Current consumption | [mA] | < 35 | | |
| Min. insulation resistance | [MΩ] | 100; (500 V DC) | | |
| Protection class | | III | | |

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| | | | | |
|---|---|---|---|---|
| Reverse polarity protection | | yes | | |
| Overvoltage protection | | yes; (< 40 V) | | |
| Power-on delay time | [s] | 0.3 | | |
| Integrated watchdog | | yes | | |
| **Inputs / outputs** | | | | |
| Number of inputs and outputs | | Number of digital outputs: 2 | | |
| **Outputs** | | | | |
| Total number of outputs | | 2 | | |
| Output signal | | switching signal; IO-Link; (configurable) | | |
| Electrical design | | PNP/NPN | | |
| Number of digital outputs | | 2 | | |
| Output function | | normally open / normally closed; (parameterisable) | | |
| Max. voltage drop switching output DC | [V] | 2 | | |
| Permanent current rating of switching output DC | [mA] | 250 | | |
| Switching frequency DC | [Hz] | < 170 | | |
| Short-circuit protection | | yes | | |
| Type of short-circuit protection | | pulsed | | |
| **Measuring/setting range** | | | | |
| Measuring range | | -1...10 bar | -14.5...145 psi | -0.1...1 MPa |
| Set point SP | | -0.9...10 bar | -12...145 psi | -0.09...1 MPa |
| Reset point rP | | -0.95...9.95 bar | -13...144 psi | -0.095...0.995 MPa |
| In steps of | | 0.05 bar | 1 psi | 0.005 MPa |
| Factory setting | | | SP1 = 2.50 bar | rP1 = 2.30 bar |
| | | | SP2 = 7.50 bar | rP2 = 7.30 bar |
| **Accuracy / deviations** | | | | |
| Switch point accuracy | [% of the span] | < ± 0,5 | | |
| Repeatability | [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K) | | |
| Characteristics deviation | [% of the span] | < ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting) | | |
| Hysteresis deviation | [% of the span] | < ± 0,25 | | |
| Long-term stability | [% of the span] | < ± 0,05; (per 6 months) | | |
| Temperature coefficient zero point | [% of the span / 10 K] | 0,2; (-20...80 °C) | | |
| Temperature coefficient span | [% of the span / 10 K] | 0,2; (-20...80 °C) | | |
| **Response times** | | | | |
| Delay time programmable dS, dr | [s] | 0; 0,2...50 | | |

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| | | | |
|---|---|---|---|
| **Software / programming** | | | |
| Parameter setting options | | hysteresis / window; normally open / normally closed; diagnostic function; switching logic; switch-on/switch-off delay; Damping; Display unit | |
| **Interfaces** | | | |
| Communication interface | | IO-Link | |
| Transmission type | | COM2 (38,4 kBaud) | |
| IO-Link revision | | 1.1 | |
| SDCI standard | | IEC 61131-9 CDV | |
| SIO mode | | yes | |
| Required master port type | | A | |
| Process data analogue | | 1 | |
| Process data binary | | 2 | |
| Min. process cycle time | [ms] | 2.3 | |
| Supported DeviceIDs | | **Type of operation** | **DeviceID** |
| | | default | 311 |
| **Operating conditions** | | | |
| Ambient temperature | [°C] | -25...80 | |
| Storage temperature | [°C] | -40...100 | |
| Protection | | IP 65 | |
| **Tests / approvals** | | | |
| 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] | 219 | |
| Pressure Equipment Directive | | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request | |
| **Mechanical data** | | | |
| Weight | [g] | 262.6 | |
| Housing | | cylindrical | |
| Dimensions | [mm] | Ø 34 / L = 91.5 | |
| Materials | | stainless steel (304/1.4301); stainless steel (316L/1.4404); PC; PBT; PEI; FKM; PTFE | |
| Materials (wetted parts) | | stainless steel (303/1.4305); ceramics; FKM | |
| Min. pressure cycles | | 100 million | |
| Process connection | | threaded connection G 1/4 internal thread | |
| Restrictor element integrated | | no (can be retrofitted) | |
| **Displays / operating elements** | | | |
| Display | | Display unit | 3 x LED, green |
| | | switching status | 2 x LED, yellow |
| | | function display | alphanumeric display, 4-digit |
| | | measured values | alphanumeric display, 4-digit |
| **Remarks** | | | |
| Pack quantity | | 1 pcs. | |

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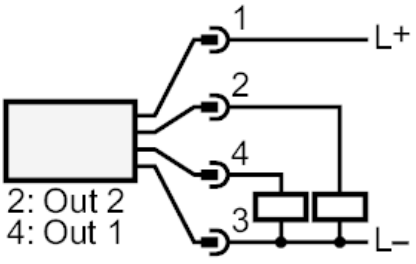
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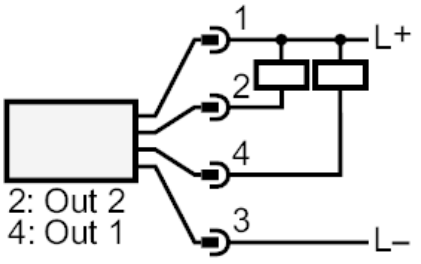
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## Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated




| | |
|---|---|
| OUT1 | switching output<br>IO-Link |
| OUT2 | switching output<br>Diagnostic output |