



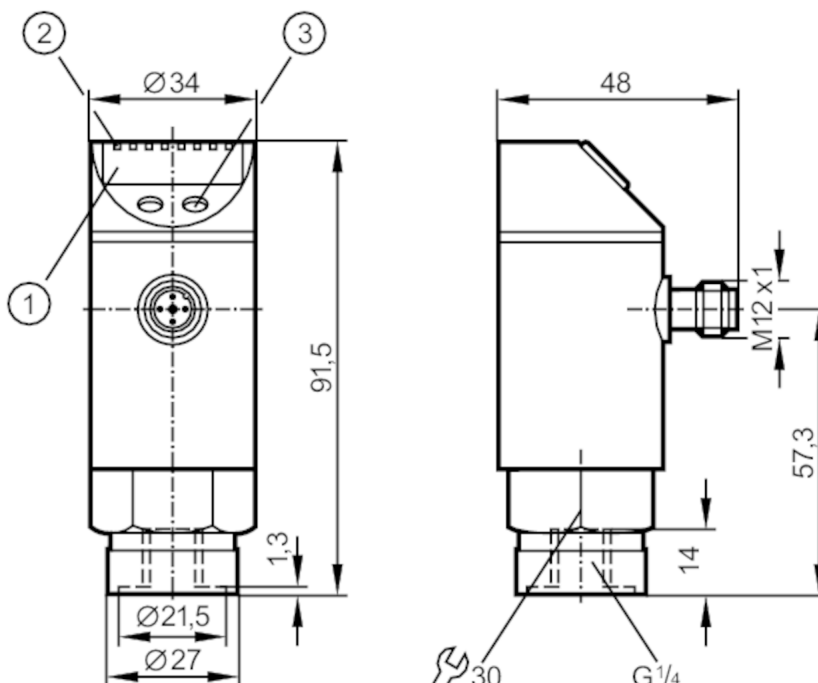
## Pressure sensor with display

PN-010-RBR14-MFPKG/US/ /V

phase-out article

Alternative articles: PN3094

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



### Product characteristics

|                              |                                                             |                 |              |
|------------------------------|-------------------------------------------------------------|-----------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |                 |              |
| 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. bursting 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]        | < 50                       |  |  |
| 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: 1; Number of analogue outputs: 1 |
|------------------------------|-------------------------------------------------------------|

### Outputs

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Total number of outputs                              | 2                                                  |
| Output signal                                        | switching signal; analogue signal; (configurable)  |
| Electrical design                                    | PNP                                                |
| Number of digital outputs                            | 1                                                  |
| 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                                              |
| Number of analogue outputs                           | 1                                                  |
| Analogue current output [mA]                         | 4...20; (0 bar = 4 mA; 10 bar = 20 mA)             |
| Max. load [Ω]                                        | 500                                                |
| Analogue voltage output [V]                          | 0...10; (0 bar = 0 V; 10 bar = 10 V)               |
| Min. load resistance [Ω]                             | 2000                                               |
| 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 MPa   |
| In steps of     | 0.05 bar         | 1 psi           | 0.005 MPa      |
| Factory setting |                  | SP1 = 2.50 bar  | rP1 = 2.30 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)                                                                        |



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| Response times                                                                      |                                                                                                                                  |                               |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Delay time programmable dS, dr                                                      | [s]                                                                                                                              | 0; 0,2...50                   |
| Max. response time analogue output                                                  | [ms]                                                                                                                             | 3                             |
| Software / programming                                                              |                                                                                                                                  |                               |
| Parameter setting options                                                           | hysteresis / window; normally open / normally closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output |                               |
| Operating conditions                                                                |                                                                                                                                  |                               |
| Ambient temperature                                                                 | [°C]                                                                                                                             | -20...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]                                                                                                                          | 213                           |
| Mechanical data                                                                     |                                                                                                                                  |                               |
| Weight                                                                              | [g]                                                                                                                              | 262.8                         |
| 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                                                                                        |                               |
| Displays / operating elements                                                       |                                                                                                                                  |                               |
| Display                                                                             | Display unit                                                                                                                     | 3 x LED, green                |
|                                                                                     | switching status                                                                                                                 | LED, yellow                   |
|                                                                                     | function display                                                                                                                 | alphanumeric display, 4-digit |
|                                                                                     | measured values                                                                                                                  | alphanumeric display, 4-digit |
| Remarks                                                                             |                                                                                                                                  |                               |
| Pack quantity                                                                       | 1 pcs.                                                                                                                           |                               |
| Electrical connection                                                               |                                                                                                                                  |                               |
| Connector: 1 x M12; coding: A; Contacts: gold-plated                                |                                                                                                                                  |                               |
|  |                                                                                                                                  |                               |

# PN3004



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### Connection

