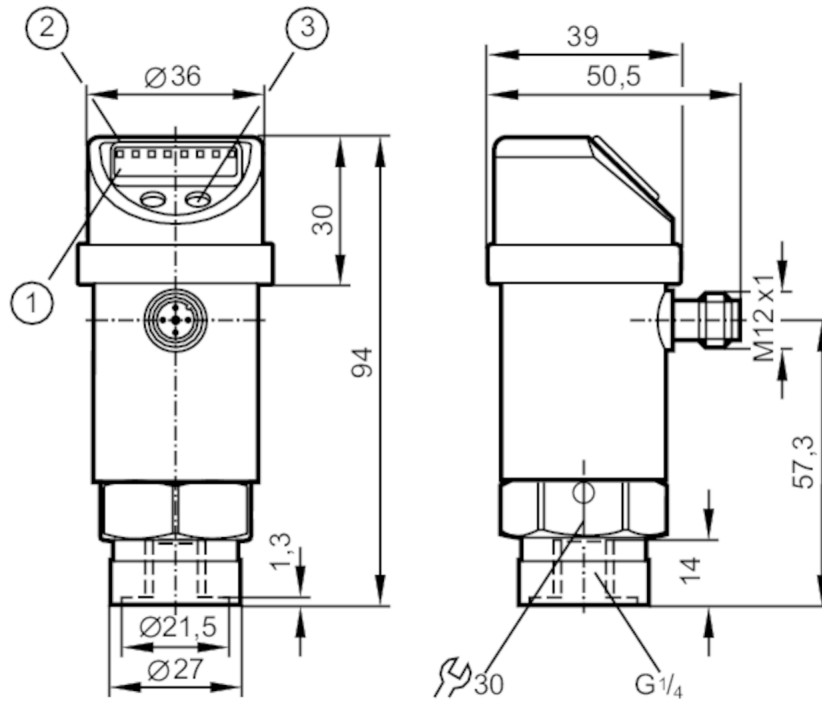


# PN004A



## Pressure sensor with display

PN-010-RBR14-KFPKG/US/3D /V



- 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 analog outputs: 1 |                 |                 |              |
| Measuring range              | -1...10 bar                                               | -14.5...145 psi | -100...1000 kPa | -0.1...1 MPa |
| Process connection           | threaded connection G 1/4 Internal thread                 |                 |                 |              |

### Application

|                         |                             |          |         |
|-------------------------|-----------------------------|----------|---------|
| System                  | gold-plated contacts        |          |         |
| Application             | for industrial applications |          |         |
| Media                   | liquids and gases           |          |         |
| Medium temperature [°C] | -20...60                    |          |         |
| 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                       |  |  |
| Protection class            | III                        |  |  |
| Reverse polarity protection | yes                        |  |  |
| Overvoltage protection      | yes; (< 40 V)              |  |  |
| Power-on delay time [s]     | 0.3                        |  |  |
| Integrated watchdog         | yes                        |  |  |



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| Inputs / outputs                                             |      |                                                                                           |                 |                                 |
|--------------------------------------------------------------|------|-------------------------------------------------------------------------------------------|-----------------|---------------------------------|
| Number of inputs and outputs                                 |      | Number of digital outputs: 1; Number of analog outputs: 1                                 |                 |                                 |
| Outputs                                                      |      |                                                                                           |                 |                                 |
| Total number of outputs                                      |      | 2                                                                                         |                 |                                 |
| Output signal                                                |      | switching signal; analog signal; (configurable)                                           |                 |                                 |
| Electrical design                                            |      | PNP                                                                                       |                 |                                 |
| Number of digital outputs                                    |      | 1                                                                                         |                 |                                 |
| Output function                                              |      | normally open / closed; (configurable)                                                    |                 |                                 |
| Max. voltage drop switching output DC                        | [V]  | 2                                                                                         |                 |                                 |
| Permanent current rating of switching output DC              | [mA] | 250                                                                                       |                 |                                 |
| Switching frequency DC                                       | [Hz] | < 170                                                                                     |                 |                                 |
| Number of analog outputs                                     |      | 1                                                                                         |                 |                                 |
| Analog current output                                        | [mA] | 4...20                                                                                    |                 |                                 |
| Max. load                                                    | [Ω]  | 500                                                                                       |                 |                                 |
| Analog voltage output                                        | [V]  | 0...10                                                                                    |                 |                                 |
| Min. load resistance                                         | [Ω]  | 2000                                                                                      |                 |                                 |
| Short-circuit protection                                     |      | yes                                                                                       |                 |                                 |
| Type of short-circuit protection                             |      | yes (non-latching)                                                                        |                 |                                 |
| Measuring/setting range                                      |      |                                                                                           |                 |                                 |
| Measuring range                                              |      | -1...10 bar                                                                               | -14.5...145 psi | -100...1000 kPa    -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  |                                 |
| Accuracy / deviations                                        |      |                                                                                           |                 |                                 |
| Switch point accuracy<br>[% of the span]                     |      | < ± 0,5                                                                                   |                 |                                 |
| Repeatability<br>[% of the span]                             |      | < ± 0,1; (with temperature fluctuations < 10 K)                                           |                 |                                 |
| Characteristics deviation<br>[% of the span]                 |      | < ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting) |                 |                                 |
| Hysteresis deviation<br>[% of the span]                      |      | < ± 0,25                                                                                  |                 |                                 |
| Long-term stability<br>[% of the span]                       |      | < ± 0,05; (per 6 months)                                                                  |                 |                                 |
| Temperature coefficient zero point<br>[% of the span / 10 K] |      | 0,2; (0...60 °C)                                                                          |                 |                                 |
| Temperature coefficient span<br>[% of the span / 10 K]       |      | 0,2; (0...60 °C)                                                                          |                 |                                 |
| Reaction times                                               |      |                                                                                           |                 |                                 |
| Delay time programmable dS, dr<br>[s]                        |      | 0; 0,2...50                                                                               |                 |                                 |
| Max. response time analog output<br>[ms]                     |      | 3                                                                                         |                 |                                 |

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| Software / programming                                                                         |                           |                                                                                                                         |
|------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Parameter setting options                                                                      |                           | hysteresis / window; normally open / closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output |
| Operating conditions                                                                           |                           |                                                                                                                         |
| Ambient temperature                                                                            | [°C]                      | -20...60                                                                                                                |
| Storage temperature                                                                            | [°C]                      | -40...100                                                                                                               |
| Protection                                                                                     |                           | IP 65                                                                                                                   |
| Tests / approvals                                                                              |                           |                                                                                                                         |
| ATEX marking                                                                                   |                           |  II 3D Ex tc IIIC T80°C Dc X           |
| 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                                                                                                                     |
| Pressure equipment directive                                                                   |                           | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request                                   |
| Mechanical data                                                                                |                           |                                                                                                                         |
| Weight                                                                                         | [g]                       | 302.5                                                                                                                   |
| Housing                                                                                        |                           | tubular                                                                                                                 |
| Dimensions                                                                                     | [mm]                      | Ø 36 / L = 94                                                                                                           |
| Material                                                                                       |                           | stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM; PTFE                                |
| Materials (wetted parts)                                                                       |                           | stainless steel (1.4305 / 303); 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          | 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                                           |                           |                                                                                                                         |
| <div></div> |                           |                                                                                                                         |

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### Connection

