



Pressure sensor with display

PN-006-RER14-QFRKG/US/ IV



- 1 alphanumeric display 4-digit red/green
- 2 LEDs Display unit / switching status
- 3 programming button
- 4 upper part of the housing can be rotated 345°



| Product characteristics         |                                            |                |               |
|---------------------------------|--------------------------------------------|----------------|---------------|
| Number of inputs and outputs    | Number of digital outputs: 2               |                |               |
| Measuring range                 | -1...6 bar                                 | -14.5...87 psi | 100...600 kPa |
| Process connection              | threaded connection G 1/4 internal thread  |                |               |
| Application                     |                                            |                |               |
| Special feature                 | Gold-plated contacts                       |                |               |
| Measuring element               | ceramic-capacitive pressure measuring cell |                |               |
| Application                     | for industrial applications                |                |               |
| Media                           | liquids and gases                          |                |               |
| Medium temperature [°C]         | -25...80                                   |                |               |
| Min. bursting pressure          | 100 bar                                    | 1500 psi       | 10000 kPa     |
| Pressure rating                 | 40 bar                                     | 600 psi        | 4000 kPa      |
| Vacuum resistance [mbar]        | -1000                                      |                |               |
| Type of pressure                | relative pressure; vacuum                  |                |               |
| Electrical data                 |                                            |                |               |
| Operating voltage [V]           | 18...30 DC; (to SELV/PELV)                 |                |               |
| Current consumption [mA]        | < 35                                       |                |               |
| Min. insulation resistance [MΩ] | 100; (500 V DC)                            |                |               |
| Protection class                | III                                        |                |               |
| Reverse polarity protection     | yes                                        |                |               |
| Power-on delay time [s]         | < 0.3                                      |                |               |



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|                                                           |                                                                                           |                  |               |                    |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------|---------------|--------------------|
| 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]                 | 2.5                                                                                       |                  |               |                    |
| Permanent current rating of switching output DC [mA]      | 150; (200 (...60 °C) 250 (...40 °C))                                                      |                  |               |                    |
| Switching frequency DC [Hz]                               | < 170                                                                                     |                  |               |                    |
| Short-circuit protection                                  | yes                                                                                       |                  |               |                    |
| Type of short-circuit protection                          | pulsed                                                                                    |                  |               |                    |
| Overload protection                                       | yes                                                                                       |                  |               |                    |
| Measuring/setting range                                   |                                                                                           |                  |               |                    |
| Measuring range                                           | -1...6 bar                                                                                | -14.5...87 psi   | 100...600 kPa |                    |
| Set point SP                                              | -0.95...6 bar                                                                             | -13.8...87 psi   | -95...600 kPa | -0.09...1 MPa      |
| Reset point rP                                            | -0.98...5.97 bar                                                                          | -14.2...86.6 psi | -98...597 kPa | -0.095...0.995 MPa |
| Min. difference between SP and rP                         | 0.03 bar                                                                                  | 0.5 psi          | 3 kPa         |                    |
| In steps of                                               | 0.001 bar                                                                                 | 0.1 psi          | 1 kPa         |                    |
| 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; (0...80 °C)                                                                      |                  |               |                    |
| Temperature coefficient span [% of the span / 10 K]       | < ± 0,2; (0...80 °C)                                                                      |                  |               |                    |
| Response times                                            |                                                                                           |                  |               |                    |
| Response time [ms]                                        | < 3                                                                                       |                  |               |                    |
| Delay time programmable dS, dr [s]                        | 0...50                                                                                    |                  |               |                    |
| Damping process value dAP [s]                             | 0...4                                                                                     |                  |               |                    |



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| Software / programming            |                                                                                                                          |                     |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------|
| Parameter setting options         | hysteresis / window; normally open / normally closed; 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                                                                                                              |                     |
| Profiles                          | Smart Sensor ED2: Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)                               |                     |
| SIO mode                          | yes                                                                                                                      |                     |
| Required master port type         | A; (when pin 2 not connected: B)                                                                                         |                     |
| Process data analogue             | 1                                                                                                                        |                     |
| Process data binary               | 2                                                                                                                        |                     |
| Min. process cycle time [ms]      | 3                                                                                                                        |                     |
| IO-Link resolution pressure [bar] | 0.002                                                                                                                    |                     |
| IO-Link process data (cyclical)   | function                                                                                                                 | bit length          |
|                                   | pressure                                                                                                                 | 16                  |
|                                   | device status                                                                                                            | 4                   |
|                                   | binary switching information                                                                                             | 2                   |
| IO-Link functions (acyclical)     | application specific tag                                                                                                 |                     |
| Supported DeviceIDs               | Type of operation                                                                                                        | DeviceID            |
|                                   | default                                                                                                                  | 1199                |
| Note                              | For further information please see the IODD PDF file under "Downloads"                                                   |                     |
| Operating conditions              |                                                                                                                          |                     |
| Ambient temperature [°C]          | -25...80                                                                                                                 |                     |
| Storage temperature [°C]          | -40...100                                                                                                                |                     |
| Protection                        | IP 65; IP 67                                                                                                             |                     |
| 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]                      | 249                                                                                                                      |                     |
| UL approval                       | UL Approval no.                                                                                                          | J001                |
|                                   | File number UL                                                                                                           | E174189             |
| Pressure Equipment Directive      | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request                                    |                     |
| Mechanical data                   |                                                                                                                          |                     |
| Weight [g]                        | 244                                                                                                                      |                     |
| Materials                         | stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC                                                                 |                     |
| Materials (wetted parts)          | stainless steel (316L/1.4404); Al2O3 (ceramics); FKM                                                                     |                     |
| Min. pressure cycles              | 100 million                                                                                                              |                     |
| Tightening torque [Nm]            | 25...35; (recommended tightening torque; depends on lubrication, seal and pressure rating)                               |                     |
| Process connection                | threaded connection G 1/4 internal thread                                                                                |                     |
| Restrictor element integrated     | no (can be retrofitted)                                                                                                  |                     |

PN7015



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| Displays / operating elements                        |                  |                                         |
|------------------------------------------------------|------------------|-----------------------------------------|
| Display                                              | Display unit     | 3 x LED, green (bar, psi, MPa)          |
|                                                      | switching status | 2 x LED, yellow                         |
|                                                      | measured values  | alphanumeric display, red/green 4-digit |
| Remarks                                              |                  |                                         |
| Pack quantity                                        | 1 pcs.           |                                         |
| Electrical connection                                |                  |                                         |
| Connector: 1 x M12; coding: A; Contacts: gold-plated |                  |                                         |



Connection

```
graph LR
    subgraph Connector
        direction TB
        P1((1))
        P2((2))
        P4((4))
        P3((3))
    end
    P1 --- Lp[L+]
    P2 --- OUT2[OUT2]
    P4 --- OUT1[OUT1]
    P3 --- Lm[L-]
```

OUT1

switching output  
IO-Link

OUT2

switching output  
colours to DIN EN 60947-5-2  
Core colours :

BK =

black

BN =

brown

BU =

blue

WH =

white