



## Pressure sensor with display

PN-,25-RER14-MFRKG/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°



### Application

|                          |                                            |             |          |
|--------------------------|--------------------------------------------|-------------|----------|
| Measuring element        | ceramic-capacitive pressure measuring cell |             |          |
| Application              | for industrial applications                |             |          |
| Media                    | liquids and gases                          |             |          |
| Medium temperature [°C]  | -25...80                                   |             |          |
| Pressure rating          | 6000 mbar                                  | 2400 inH2O  | 600 kPa  |
| Min. bursting pressure   | 30000 mbar                                 | 12000 inH2O | 3000 kPa |
| Vacuum resistance [mbar] | -300                                       |             |          |
| Type of pressure         | relative pressure                          |             |          |

### Electrical data

|                                 |                                               |  |  |
|---------------------------------|-----------------------------------------------|--|--|
| Operating voltage [V]           | 18...30 DC; (according to EN 50178 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                                           |  |  |
| Integrated watchdog             | yes                                           |  |  |



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| Outputs                                                   |                                                                                                          |                    |                  |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------|------------------|
| Total number of outputs                                   | 2                                                                                                        |                    |                  |
| Output signal                                             | switching signal; analogue 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]                               | < 500                                                                                                    |                    |                  |
| Number of analogue outputs                                | 1                                                                                                        |                    |                  |
| Analogue current output [mA]                              | 4...20; (scalable 1:5)                                                                                   |                    |                  |
| Max. load [Ω]                                             | 500                                                                                                      |                    |                  |
| Analogue voltage output [V]                               | 0...10; (scalable 1:5)                                                                                   |                    |                  |
| Min. load resistance [Ω]                                  | 2000                                                                                                     |                    |                  |
| Short-circuit protection                                  | yes                                                                                                      |                    |                  |
| Type of short-circuit protection                          | pulsed                                                                                                   |                    |                  |
| Overload protection                                       | yes                                                                                                      |                    |                  |
| Measuring/setting range                                   |                                                                                                          |                    |                  |
| Measuring range                                           | -12.5...250 mbar                                                                                         | -5...100.4 inH2O   | -1.25...25 kPa   |
| Set point SP                                              | -11.5...250 mbar                                                                                         | -4.6...100.4 inH2O | -1.15...25 kPa   |
| Reset point rP                                            | -12...249.5 mbar                                                                                         | -4.8...100.2 inH2O | -1.2...24.95 kPa |
| Analogue start point                                      | -12.5...200 mbar                                                                                         | -5...80.2 inH2O    | -1.25...20 kPa   |
| Analogue end point                                        | 37.5...250 mbar                                                                                          | 15...100.4 inH2O   | 3.75...25 kPa    |
| In steps of                                               | 0.5 mbar                                                                                                 | 0.2 inH2O          | 0.05 kPa         |
| Accuracy / deviations                                     |                                                                                                          |                    |                  |
| Switch point accuracy [% of the span]                     | < ± 0,4; (Turn down 1:1)                                                                                 |                    |                  |
| Repeatability [% of the span]                             | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                           |                    |                  |
| Characteristics deviation [% of the span]                 | < ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting) |                    |                  |
| Hysteresis deviation [% of the span]                      | < ± 0,1; (Turn down 1:1)                                                                                 |                    |                  |
| Long-term stability [% of the span]                       | < ± 0,05; (Turn down 1:1; per 6 months)                                                                  |                    |                  |
| Temperature coefficient zero point [% of the span / 10 K] | 0,2; (-25...80 °C)                                                                                       |                    |                  |
| Temperature coefficient span [% of the span / 10 K]       | 0,2; (-25...80 °C)                                                                                       |                    |                  |



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| Response times                       |                                                                                                                                  |                                                                                            |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Response time                        | [ms]                                                                                                                             | < 1.5                                                                                      |
| Delay time programmable dS, dr       | [s]                                                                                                                              | 0...50                                                                                     |
| Damping for the switching output dAP | [s]                                                                                                                              | 0...4                                                                                      |
| Damping for the analogue output dAA  | [s]                                                                                                                              | 0...4                                                                                      |
| 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 |                                                                                            |
| Interfaces                           |                                                                                                                                  |                                                                                            |
| Communication interface              | IO-Link                                                                                                                          |                                                                                            |
| Transmission type                    | COM2                                                                                                                             |                                                                                            |
| IO-Link revision                     | 1.1                                                                                                                              |                                                                                            |
| SDCI standard                        | IEC 61131-9                                                                                                                      |                                                                                            |
| IO-Link device ID                    | 466 d / 00 01 d2 h                                                                                                               |                                                                                            |
| Profiles                             | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis                                                     |                                                                                            |
| SIO mode                             | yes                                                                                                                              |                                                                                            |
| Required master port type            | A                                                                                                                                |                                                                                            |
| Process data analogue                | 1                                                                                                                                |                                                                                            |
| Process data binary                  | 2                                                                                                                                |                                                                                            |
| Min. process cycle time              | [ms]                                                                                                                             | 2.3                                                                                        |
| 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]                                                                                                                          | 145                                                                                        |
| UL approval                          | UL Approval no.                                                                                                                  | J012                                                                                       |
| Pressure Equipment Directive         | Sound Engineering Practice; can be used for group 2 fluids; group 1 fluids on request                                            |                                                                                            |
| Mechanical data                      |                                                                                                                                  |                                                                                            |
| Weight                               | [g]                                                                                                                              | 222.2                                                                                      |
| Materials                            | stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC                                                                       |                                                                                            |
| Materials (wetted parts)             | stainless steel (1.4404 / 316L); 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 (DIN EN ISO 1179-2)                                                                    |                                                                                            |

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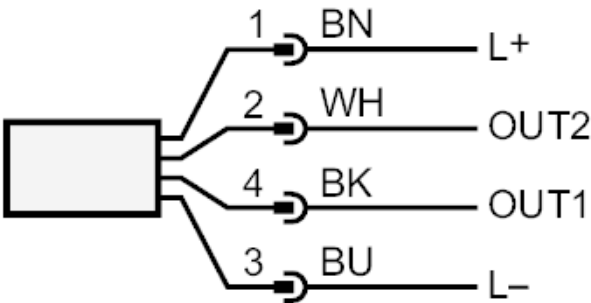
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| Displays / operating elements             |                  |                                         |
|-------------------------------------------|------------------|-----------------------------------------|
| Display                                   | Display unit     | 4 x LED, green (mbar, mmWS, kPa, inH2O) |
|                                           | 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; Contacts: gold-plated |                  |                                         |



Connection



|                |                  |
|----------------|------------------|
| OUT1           | switching output |
| OUT2           | switching output |
|                | analogue output  |
| Core colours : |                  |
| BK =           | black            |
| BN =           | brown            |
| BU =           | blue             |
| WH =           | white            |