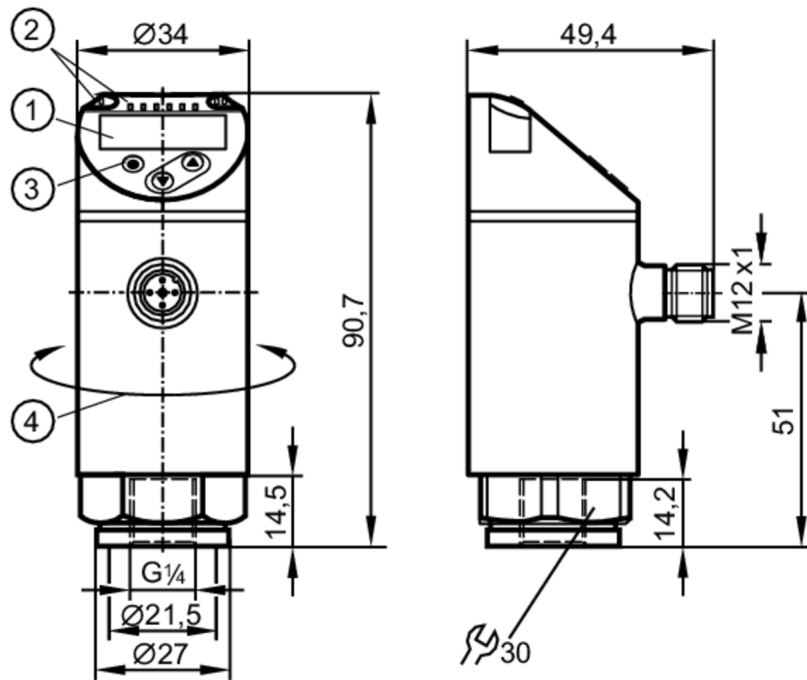




## Pressure sensor with display

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°



### Product characteristics

|                              |                                                               |                  |                  |                |
|------------------------------|---------------------------------------------------------------|------------------|------------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1   |                  |                  |                |
| Measuring range              | -0.0125...0.25 bar                                            | -12.5...250 mbar | -5...100.4 inH2O | -1.25...25 kPa |
| Process connection           | threaded connection G 1/4 internal thread (DIN EN ISO 1179-2) |                  |                  |                |

### 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   | 30000 mbar                                 | 12000 inH2O | 3000 kPa |
| Pressure rating          | 6000 mbar                                  | 2400 inH2O  | 600 kPa  |
| Vacuum resistance [mbar] | -1000                                      |             |          |
| Type of pressure         | relative pressure                          |             |          |

### 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                        |



## Pressure sensor with display

PN-,25-RER14-MFRKG/US/ IV

|                     |     |
|---------------------|-----|
| Integrated watchdog | yes |
|---------------------|-----|

### Inputs / outputs

|                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |
|------------------------------|-------------------------------------------------------------|

### 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      | -0.0125...0.25 bar | -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; (-0...80 °C)                                                                                    |
| Temperature coefficient span [% of the span / 10 K]       | < ± 0,2; (-0...80 °C)                                                                                    |
| Notes on the accuracy / deviation                         | switch point accuracy, linearity error under DNV GL: < ± 1%: < ± 1%                                      |



## Pressure sensor with display

PN-,25-RER14-MFRKG/US/ IV

| Response times                      |                                                                                                                                  |                                                                                            |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Response time                       | [ms]                                                                                                                             | < 1.5                                                                                      |
| Delay time programmable dS, dr      | [s]                                                                                                                              | 0...50                                                                                     |
| Damping process value 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 (38,4 kBaud)                                                                                                                |                                                                                            |
| IO-Link revision                    | 1.1                                                                                                                              |                                                                                            |
| SDCI standard                       | IEC 61131-9                                                                                                                      |                                                                                            |
| 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                                                                                        |
| Supported DeviceIDs                 | Type of operation                                                                                                                | DeviceID                                                                                   |
|                                     | Default                                                                                                                          | 466                                                                                        |
| 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]                                                                                                                              | 237.5                                                                                      |
| 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)                                                                    |                                                                                            |
| Restrictor element integrated       | no (can be retrofitted)                                                                                                          |                                                                                            |

PN2098



Pressure sensor with display

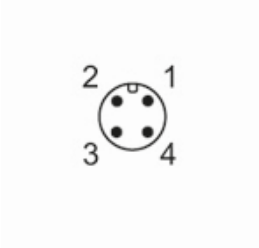
PN-,25-RER14-MFRKG/US/ /V

| 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 |

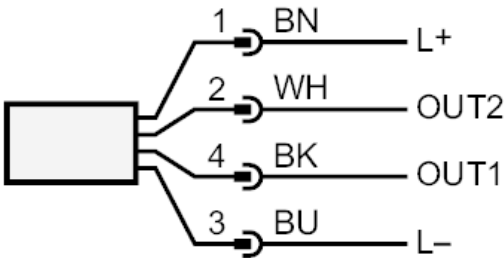
| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

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



Connection



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