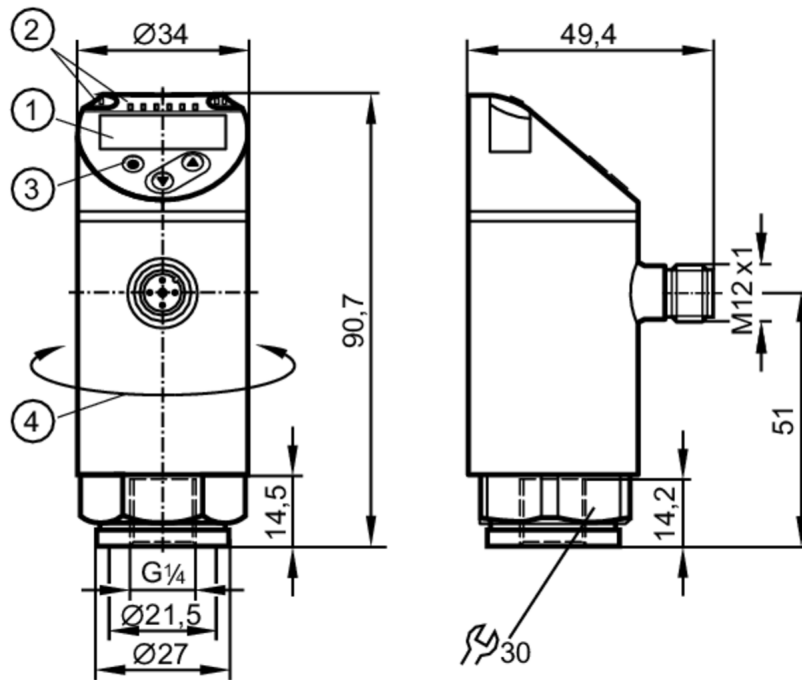


# PE2096



## Pressure sensor with display

PE-2,5-RER14-MFRKG/US/IE



- 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°

**IO-Link KTW/W270 Reg31**

### Application

|                          |                                                                                               |         |          |
|--------------------------|-----------------------------------------------------------------------------------------------|---------|----------|
| Measuring element        | ceramic-capacitive pressure measuring cell                                                    |         |          |
| Application              | for industrial applications                                                                   |         |          |
| Media                    | group 2 fluids according to the Pressure Equipment Directive (PED); group 1 fluids on request |         |          |
| Medium temperature [°C]  | -25...80                                                                                      |         |          |
| Pressure rating          | 20 bar                                                                                        | 290 psi | 2000 kPa |
| Min. bursting pressure   | 50 bar                                                                                        | 725 psi | 5000 kPa |
| Vacuum resistance [mbar] | -1000                                                                                         |         |          |
| 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                                           |  |  |



## Pressure sensor with display

PE-2,5-RER14-MFRKG/US/ /E

| 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                                 |                        | -0.125...2.5 bar                                                                                         | -1.8...36.25 psi<br>-12.5...250 kPa |
| Set point SP                                    |                        | -0.11...2.5 bar                                                                                          | -1.6...36.25 psi<br>-11...250 kPa   |
| Reset point rP                                  |                        | -0.12...2.49 bar                                                                                         | -1.75...36.1 psi<br>-12...249 kPa   |
| Analogue start point                            |                        | -0.125...2 bar                                                                                           | -1.8...29 psi<br>-12.5...200 kPa    |
| Analogue end point                              |                        | 0.375...2.5 bar                                                                                          | 5.45...36.25 psi<br>37.5...250 kPa  |
| In steps of                                     |                        | 0.005 bar                                                                                                | 0.05 psi<br>0.5 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)                                                                                       |                                     |

# PE2096



## Pressure sensor with display

PE-2,5-RER14-MFRKG/US/ /E

| 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                        | 464 d / 00 01 d0 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]                             |                                                                                                                                  | 171                 |
| 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]                               | 234.8                                                                                                                            |                     |
| Materials                                | stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC                                                                       |                     |
| Materials (wetted parts)                 | stainless steel (1.4404 / 316L); Al2O3 (99.9 %; ceramics); EPDM                                                                  |                     |
| 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)                                                                                                          |                     |

# PE2096



## Pressure sensor with display

PE-2,5-RER14-MFRKG/US/IE

### Displays / operating elements

|         |                  |                                         |
|---------|------------------|-----------------------------------------|
| Display | Display unit     | 3 x LED, green (bar, psi, kPa)          |
|         | switching status | 2 x LED, yellow                         |
|         | measured values  | alphanumeric display, red/green 4-digit |

### Remarks

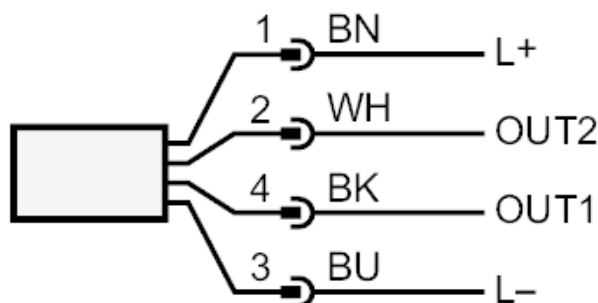
|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

### Electrical connection

Connector: 1 x M12; Contacts: gold-plated



### Connection



- OUT1      switching output or IO-Link
  - OUT2      switching output or analogue output
- colours to DIN EN 60947-5-2
- Core colours :
- BK =      black
  - BN =      brown
  - BU =      blue
  - WH =      white