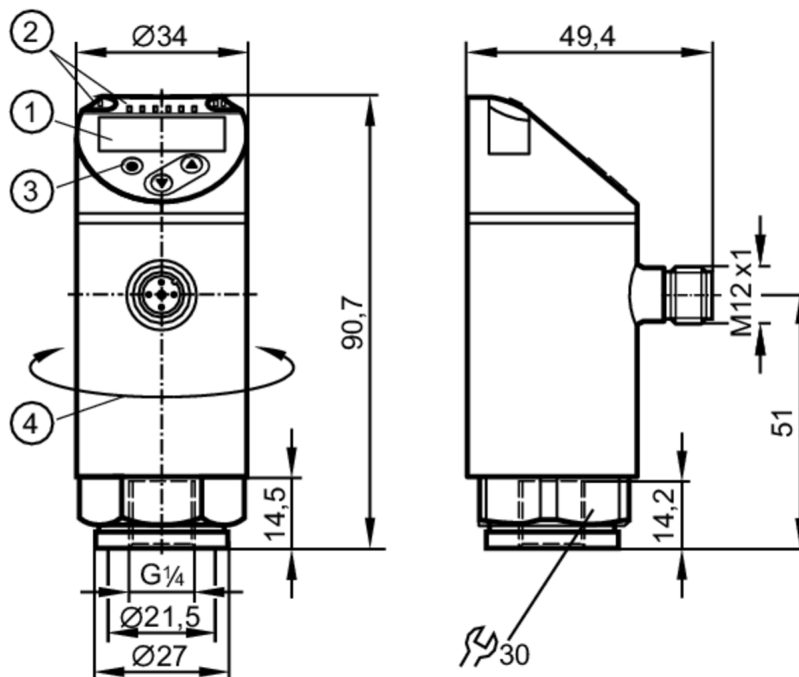




## Pressure sensor with display

PN-025-RER14-MFRKG/US/ /V



- 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              | -1...25 bar                                                 | -14.5...362.5 psi |
| Measuring range [MPa]        | -0.1...2.5                                                  |                   |
| 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       | 350 bar                                    | 5075 psi |
| Min. bursting pressure [MPa] | 35                                         |          |
| Pressure rating              | 150 bar                                    | 2175 psi |
| Pressure rating [MPa]        | 15                                         |          |
| 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)            |  |



## Pressure sensor with display

PN-025-RER14-MFRKG/US/ IV

|                             |     |
|-----------------------------|-----|
| Protection class            | III |
| Reverse polarity protection | yes |
| Power-on delay time [s]     | 0.3 |
| 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            | -1...25 bar      | -14.5...362.5 psi |
| Measuring range [MPa]      | -0.1...2.5       |                   |
| Set point SP               | -0.85...25 bar   | -12...362.5 psi   |
| Set point SP [MPa]         | -0.085...2.5     |                   |
| Reset point rP             | -0.95...24.9 bar | -13.5...361 psi   |
| Reset point rP [MPa]       | -0.095...2.49    |                   |
| Analogue start point       | -1...20 bar      | -14.5...290 psi   |
| Analogue start point [MPa] | -0.1...2         |                   |
| Analogue end point         | 4...25 bar       | 58...362.5 psi    |
| Analogue end point [MPa]   | 0.4...2.5        |                   |
| In steps of                | 0.05 bar         | 0.5 psi           |
| In steps of [MPa]          | 0.005            |                   |

### 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                      | < ± 0,1; (Turn down 1:1)                                                                                 |



## Pressure sensor with display

PN-025-RER14-MFRKG/US/ /V

|                                    |                        |                                         |
|------------------------------------|------------------------|-----------------------------------------|
|                                    | [% of the span]        |                                         |
| Long-term stability                |                        | < ± 0,05; (Turn down 1:1; per 6 months) |
|                                    | [% of the span]        |                                         |
| Temperature coefficient zero point |                        | 0,4; (-25...80 °C)                      |
|                                    | [% of the span / 10 K] |                                         |
| Temperature coefficient span       |                        | 0,2; (-25...80 °C)                      |
|                                    | [% of the span / 10 K] |                                         |

| 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       | <b>Type of operation</b>                                                     | <b>DeviceID</b> |
|                           | default                                                                      | 696             |

| 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) |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |                     |

| Mechanical data |                                                            |     |
|-----------------|------------------------------------------------------------|-----|
| Weight          | [g]                                                        | 239 |
| Materials       | stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC |     |

PY2093



Pressure sensor with display

PN-025-RER14-MFRKG/US/ /V

|                               |                                                                                            |
|-------------------------------|--------------------------------------------------------------------------------------------|
| Materials (wetted parts)      | stainless steel (1.4404 / 316L); Al2O3 (96%; 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)                                                                    |

Displays / operating elements

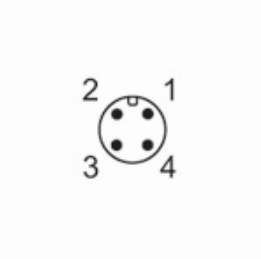
|         |                  |                                         |
|---------|------------------|-----------------------------------------|
| Display | Display unit     | 3 x LED, green (bar, psi, MPa)          |
|         | switching status | 2 x LED, yellow                         |
|       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

Remarks

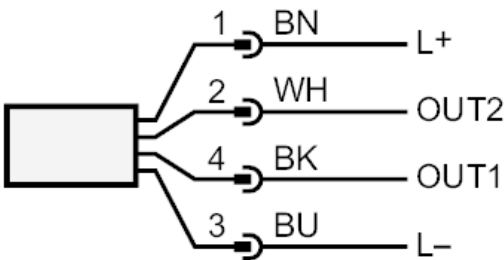
|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

Electrical connection

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



Connection



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