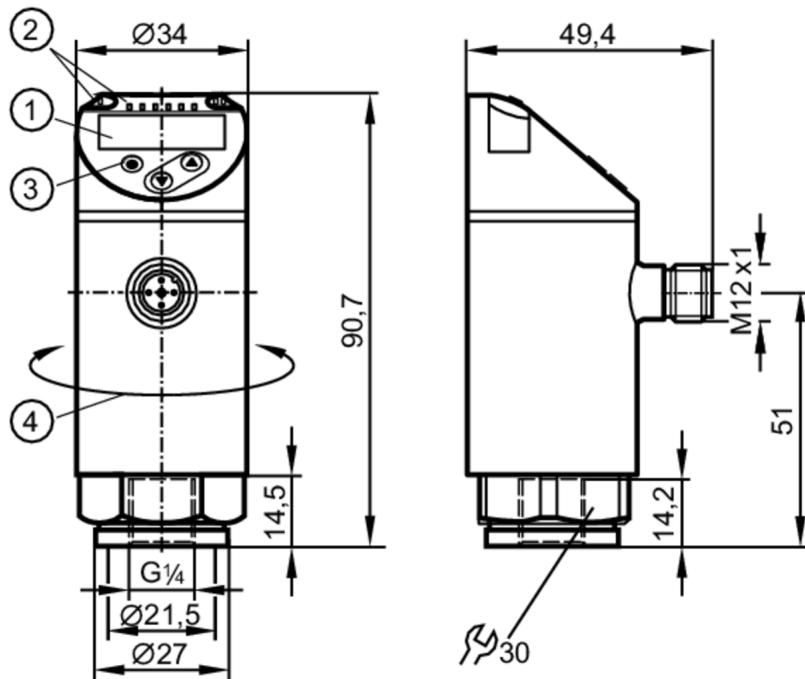


Pressure sensor with display

PN-006-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 analog outputs: 1 | | |
| Measuring range | -1...6 bar | -14.5...87 psi | -100...600 kPa |
| Process connection | threaded connection G 1/4 Internal thread (DIN EN ISO 1179-2) | | |

Application

| | | | |
|--------------------------|--|----------|-----------|
| System | 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 | | |

Pressure sensor with display

PN-006-RER14-MFRKG/US / V

| | | | |
|--|--|------------------|----------------|
| Integrated watchdog | yes | | |
| Inputs / outputs | | | |
| Number of inputs and outputs | Number of digital outputs: 2; Number of analog outputs: 1 | | |
| Outputs | | | |
| Total number of outputs | | 2 | |
| Output signal | switching signal; analog signal; IO-Link; (configurable) | | |
| Electrical design | PNP/NPN | | |
| Number of digital outputs | | 2 | |
| Output function | normally open / closed; (configurable) | | |
| Max. voltage drop switching output DC [V] | | 2 | |
| Permanent current rating of switching output DC [mA] | | 250 | |
| Switching frequency DC [Hz] | | < 500 | |
| Number of analog outputs | | 1 | |
| Analog current output [mA] | 4...20; (scalable 1:5) | | |
| Max. load [Ω] | | 500 | |
| Analog voltage output [V] | 0...10; (scalable 1:5) | | |
| Min. load resistance [Ω] | | 2000 | |
| Short-circuit protection | yes | | |
| Type of short-circuit protection | yes (non-latching) | | |
| 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 |
| Reset point rP | -0.98...5.97 bar | -14.2...86.6 psi | -98...597 kPa |
| Analog start point | -1...4.8 bar | -14.5...69.6 psi | -100...480 kPa |
| Analog end point | 0.2...6 bar | 2.9...87 psi | 20...600 kPa |
| 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] | < ± 0,4; (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) | | |

Pressure sensor with display

PN-006-RER14-MFRKG/US/ /V

Notes on the accuracy / deviation

switch point accuracy, linearity error under DNV GL: < ± 1%: < ± 1%

Reaction times

| | | |
|-----------------------------------|------|--------|
| Response time | [ms] | < 1.5 |
| Delay time programmable dS, dr | [s] | 0...50 |
| Damping process value dAP | [s] | 0...4 |
| Damping for the analog output dAA | [s] | 0...4 |
| Max. response time analog output | [ms] | 3 |

Software / programming

| | |
|---------------------------|---|
| Parameter setting options | hysteresis / window; normally open / 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 ED2: Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000) | | | | | | | | |
| SIO mode | yes | | | | | | | | |
| Required master port class | A; (when pin 2 not connected: B) | | | | | | | | |
| Min. process cycle time | [ms] 3 | | | | | | | | |
| IO-Link resolution pressure | [bar] 0.002 | | | | | | | | |
| IO-Link process data (cyclical) | <table border="1"> <thead> <tr> <th>Function</th> <th>bit length</th> </tr> </thead> <tbody> <tr> <td>pressure</td> <td>16</td> </tr> <tr> <td>device status</td> <td>4</td> </tr> <tr> <td>binary switching information</td> <td>2</td> </tr> </tbody> </table> | Function | bit length | pressure | 16 | device status | 4 | binary switching information | 2 |
| Function | bit length | | | | | | | | |
| pressure | 16 | | | | | | | | |
| device status | 4 | | | | | | | | |
| binary switching information | 2 | | | | | | | | |
| IO-Link functions (acyclical) | application specific tag | | | | | | | | |
| Supported DeviceIDs | <table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>1203</td> </tr> </tbody> </table> | Type of operation | DeviceID | default | 1203 | | | | |
| Type of operation | DeviceID | | | | | | | | |
| default | 1203 | | | | | | | | |
| Note | For further information please see the IODD PDF file at "Downloads" | | | | | | | | |

Operating conditions

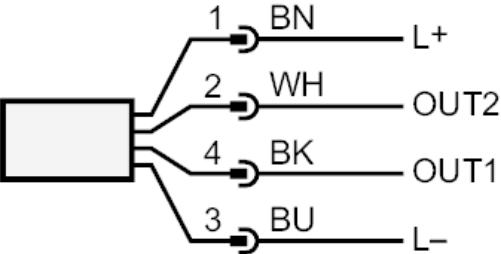
| | | |
|---------------------|------|--------------|
| Ambient temperature | [°C] | -25...80 |
| Storage temperature | [°C] | -40...100 |
| Protection | | IP 65; IP 67 |

Tests / approvals

| | |
|------------------------------|---|
| EMC | DIN EN 61000-6-2 |
| | DIN EN 61000-6-3 |
| Shock resistance | DIN EN 60068-2-27 |
| Vibration resistance | DIN EN 60068-2-6 |
| MTTF | [years] 167 |
| UL approval | UL approval number J012 |
| | File number UL E174189 |
| Pressure equipment directive | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |

Pressure sensor with display

PN-006-RER14-MFRKG/US / V

| Mechanical data | | |
|--|--|---|
| Weight | [g] | 246.1 |
| Material | | 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) |
| 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 IO-Link | |
| OUT2 | Switching output analog output Core colors : | |
| BK = | black | |
| BN = | brown | |
| BU = | blue | |
| WH = | white | |