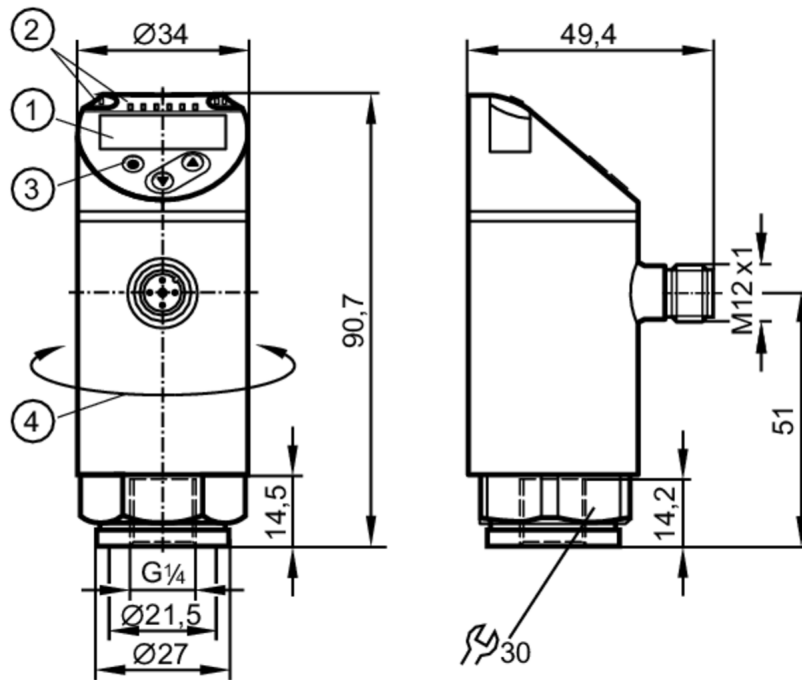


PN7093



Pressure sensor with display

PN-025-RER14-QFRKG/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 | | |
| Measuring range | 0...25 bar | 0...362 psi | 0...2.5 MPa |
| 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 | | |
| Conditionally suitable for | For gaseous media the application is limited to max. 25 bar. | | |
| Medium temperature [°C] | -25...80 | | |
| Min. bursting pressure | 350 bar | 5075 psi | 35 MPa |
| Pressure rating | 150 bar | 2175 psi | 15 MPa |
| 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 | | |

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| | | |
|---------------------|-----|-------|
| Power-on delay time | [s] | < 0.3 |
| Integrated watchdog | | yes |

Inputs / outputs

| | |
|------------------------------|------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2 |
|------------------------------|------------------------------|

Outputs

| | |
|---|--|
| Total number of outputs | 2 |
| Output signal | switching 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] 2.5 |
| Permanent current rating of switching output DC | [mA] 150; (200 (...60 °C) 250 (...40 °C)) |
| Switching frequency DC | [Hz] < 170 |
| Short-circuit protection | yes |
| Type of short-circuit protection | pulsed |
| Overload protection | yes |

Measuring/setting range

| | | | |
|-------------------------------------|----------------|-------------|-----------------|
| Measuring range | 0...25 bar | 0...362 psi | 0...2.5 MPa |
| Factory setting / CMPT = 2 | | | |
| Set point SP | 0.2...25 bar | 4...362 psi | 0.02...2.5 MPa |
| Reset point rP | 0.1...24.9 bar | 2...360 psi | 0.01...2.49 MPa |
| Min. difference between SP and rP | 0.2 bar | 2 psi | 0.02 MPa |
| In steps of | 0.1 bar | 2 psi | 0.01 MPa |
| Status_B High Resolution / CMPT = 3 | | | |
| Set point SP | 0.2...25 bar | 3...363 psi | 0.02...2.5 MPa |
| Reset point rP | 0.1...24.9 bar | 1...361 psi | 0.01...2.49 MPa |
| Min. difference between SP and rP | 0.2 bar | 2 psi | 0.02 MPa |
| In steps of | 0.1 bar | 1 psi | 0.01 MPa |

Accuracy / deviations

| | | |
|------------------------------------|------------------------|---|
| Switch point accuracy | [% of the span] | < ± 0,5 |
| Repeatability | [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K) |
| Characteristics deviation | [% of the span] | < ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting) |
| Hysteresis deviation | [% of the span] | < ± 0,25 |
| Long-term stability | [% of the span] | < ± 0,05; (per 6 months) |
| Temperature coefficient zero point | [% of the span / 10 K] | < ± 0,2; (-0...80 °C) |
| Temperature coefficient span | | < ± 0,2; (-0...80 °C) |

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[% of the span / 10 K]

| Response times | | |
|-------------------------------------|--|------------|
| Response time [ms] | < 3 | |
| Delay time programmable dS, dr [s] | 0...50 | |
| Software / programming | | |
| Parameter setting options | hysteresis / window; normally open / normally closed; switching logic; switch-on/switch-off delay; Damping; Display unit | |
| Interfaces | | |
| Communication interface | IO-Link | |
| Transmission type | COM2 (38,4 kBaud) | |
| IO-Link revision | 1.1 | |
| SDCI standard | IEC 61131-9 | |
| SIO mode | yes | |
| Required master port type | A; (when pin 2 not connected: B) | |
| Process data analogue | 1 | |
| Process data binary | 2 | |
| Supported DeviceIDs | Type of operation | DeviceID |
| | Factory setting / CMPT = 2 | 402 |
| | Status_B High Resolution / CMPT = 3 | 600 |
| | PN7003 | 310 |
| Note | For further information please see the IODD PDF file under "Downloads" | |
| Factory setting / CMPT = 2 | | |
| Profiles | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis | |
| Min. process cycle time [ms] | 2.3 | |
| IO-Link resolution pressure [bar] | 0.1 | |
| IO-Link resolution pressure [MPa] | 0.01 | |
| IO-Link process data (cyclical) | function | bit length |
| | pressure | 14 |
| | binary switching information | 2 |
| IO-Link functions (acyclical) | application specific tag | |
| Status_B High Resolution / CMPT = 3 | | |
| Profiles | Smart Sensor ED2: Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000) | |
| Min. process cycle time [ms] | 3 | |
| IO-Link resolution pressure [bar] | 0.01 | |
| IO-Link resolution pressure [MPa] | 0.001 | |
| IO-Link process data (cyclical) | function | bit length |
| | pressure | 16 |
| | device status | 4 |
| | binary switching information | 2 |
| IO-Link functions (acyclical) | application specific tag | |
| Operating conditions | | |
| Ambient temperature [°C] | -25...80 | |
| Storage temperature [°C] | -40...100 | |

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PN-025-RER14-QFRKG/US/ IV

| | |
|------------|--------------|
| 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] | | 260 |
| UL approval | UL Approval no. | J001 |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request | |

Mechanical data

| | |
|-------------------------------|--|
| Weight [g] | 235 |
| Materials | stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC |
| Materials (wetted parts) | stainless steel (1.4404 / 316L); 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



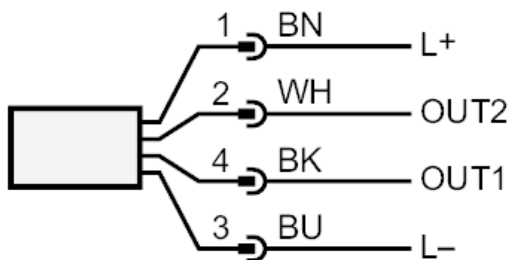
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Connection



OUT1 switching output

OUT2 switching output

 colours to DIN EN 60947-5-2

 Core colours :

BK = black

BN = brown

BU = blue

WH = white