

PE2093



Pressure sensor with display

PE-025-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°



Product characteristics

| | | | |
|------------------------------|---|-------------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analog outputs: 1 | | |
| Measuring range | -1...25 bar | -14.5...362.5 psi | -0.1...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 | | |
| Medium temperature [°C] | -25...80 | | |
| Min. burst pressure | 350 bar | 5075 psi | 35 MPa |
| Pressure rating | 150 bar | 2175 psi | 15 MPa |
| Vacuum resistance | -1000 mbar | -0.1 MPa | |
| 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 | | |
| Integrated watchdog | yes | | |



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| 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...25 bar | -14.5...362.5 psi | -0.1...2.5 MPa |
| Set point SP | -0.85...25 bar | -12...362.5 psi | -0.085...2.5 MPa |
| Reset point rP | -0.95...24.9 bar | -13.5...361 psi | -0.095...2.49 MPa |
| Analog start point | -1...20 bar | -14.5...290 psi | -0.1...2 MPa |
| Analog end point | 4...25 bar | 58...362.5 psi | 0.4...2.5 MPa |
| In steps of | 0.05 bar | 0.5 psi | 0.005 MPa |
| 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) | | |
| Notes on the accuracy / deviation | switch point accuracy, linearity error under DNV GL: < ± 1%: < ± 1% | | |

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| 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 - SSP 0 | Generic Profiled Sensor |
| | Function | Device identification |
| | Function | Process data variable |
| | Function | Device diagnosis |
| SIO mode | yes | |
| Required master port class | A | |
| Process data analog | 1 | |
| Process data binary | 2 | |
| Min. process cycle time | [ms] | 2.3 |
| Supported DeviceIDs | Type of operation | DeviceID |
| | default | 462 |
| 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] | 161 |
| UL approval | UL approval number | J012 |
| Pressure equipment directive | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request | |
| Mechanical data | | |
| Weight | [g] | 216.6 |
| Housing | tubular | |
| Dimensions | [mm] | Ø 34 / L = 90.7 |
| Material | stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC | |
| Materials (wetted parts) | stainless steel (1.4404 / 316L); Al2O3 (99.9 %; ceramics); EPDM | |

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| | |
|-------------------------------|--|
| 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 |

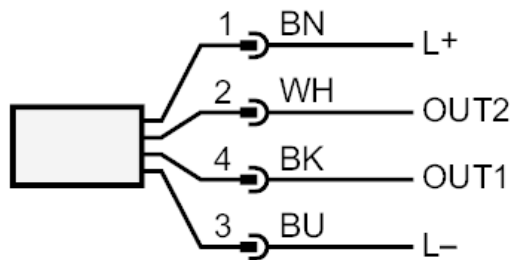
| Remarks | |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

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



Connection



OUT1 switching output or IO-Link
 OUT2 switching output or analog output
 Colors to DIN EN 60947-5-2
 Core colors :

BK = black
 BN = brown
 BU = blue
 WH = white