

PN2592



Pressure sensor with display

PN-100-SEG14-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°
- 5 sealing



Product characteristics

| | | | |
|------------------------------|---|--------------|------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analog outputs: 1 | | |
| Measuring range | 0...100 bar | 0...1450 psi | 0...10 MPa |
| Process connection | threaded connection G 1/4 external thread (DIN EN ISO 1179-2); Internal thread:M5 | | |

Application

| | | | |
|----------------------------|--|----------|--------|
| Special feature | gold-plated contacts | | |
| Measuring element | ceramic-capacitive pressure measuring cell | | |
| Application | for industrial applications | | |
| Media | Liquids | | |
| Conditionally suitable for | use in gases at pressures > 25 bar only on request | | |
| Medium temperature [°C] | -25...80 | | |
| Min. burst pressure | 650 bar | 9400 psi | 65 MPa |
| Pressure rating | 300 bar | 4350 psi | 30 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 | | |

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| | | |
|-----------------------------|-----|-----|
| 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 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 | 0...100 bar | 0...1450 psi | 0...10 MPa |
| Analog start point | 0...80 bar | 0...1160 psi | 0...8 MPa |
| Analog end point | 20...100 bar | 290...1450 psi | 2...10 MPa |

Factory setting / CMPT = 2

| | | | |
|-----------------------------------|----------------|---------------|-----------------|
| Set point SP | 0.6...100 bar | 10...1450 psi | 0.06...10 MPa |
| Reset point rP | 0.2...99.6 bar | 4...1444 psi | 0.02...9.96 MPa |
| Min. difference between SP and rP | 0.6 bar | 6 psi | 0.06 MPa |
| In steps of | 0.2 bar | 2 psi | 0.02 MPa |

Status_B High Resolution / CMPT = 3

| | | | |
|-----------------------------------|----------------|--------------|-----------------|
| Set point SP | 0.6...100 bar | 9...1450 psi | 0.06...10 MPa |
| Reset point rP | 0.2...99.6 bar | 3...1444 psi | 0.02...9.96 MPa |
| Min. difference between SP and rP | 0.5 bar | 6 psi | 0.05 MPa |
| In steps of | 0.1 bar | 1 psi | 0.01 MPa |

Accuracy / deviations

| | | | | |
|---------------------------|-----------------|--|--|--|
| Switch point accuracy | | < ± 0,4; (Turn down 1:1) | | |
| | [% of the span] | | | |
| Repeatability | | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1) | | |
| | [% of the span] | | | |
| Characteristics deviation | | < ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting) | | |

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| | | |
|------------------------------------|------------------------|---|
| | [% of the span] | |
| 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) |
| 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 | | | | | | |
| SIO mode | yes | | | | | | |
| Required master port class | A; (when pin 2 not connected: B) | | | | | | |
| Supported DeviceIDs | <table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>Factory setting / CMPT = 2</td> <td>461</td> </tr> <tr> <td>Status_B High Resolution / CMPT = 3</td> <td>972</td> </tr> </tbody> </table> | Type of operation | DeviceID | Factory setting / CMPT = 2 | 461 | Status_B High Resolution / CMPT = 3 | 972 |
| Type of operation | DeviceID | | | | | | |
| Factory setting / CMPT = 2 | 461 | | | | | | |
| Status_B High Resolution / CMPT = 3 | 972 | | | | | | |
| Note | For further information please see the IODD PDF file at "Downloads" | | | | | | |

Factory setting / CMPT = 2

| | | |
|---------------------------------|------------------------------|--------------------------|
| Profiles | Smart Sensor - SSP 0 | Generic Profiled Sensor |
| | Function | Device identification |
| | Function | Process data variable |
| | Function | Device diagnosis |
| Min. process cycle time | [ms] | 2.3 |
| IO-Link resolution pressure | [bar] | 0.1 |
| IO-Link process data (cyclical) | Function | bit length |
| | pressure | 14 |
| | binary switching information | 2 |
| IO-Link functions (acyclical) | | application specific tag |

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| Status_B High Resolution / CMPT = 3 | | |
|--|--|--|
| Profiles | Smart Sensor - SSP 3.1 Common - I&D | Measuring Sensor Identification and Diagnosis |
| Min. process cycle time [ms] | 3 | |
| IO-Link resolution pressure [bar] | 0.05 | |
| 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 | |
| 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] | 138 | |
| UL approval | UL approval number | J013 |
| Pressure equipment directive | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request | |
| Mechanical data | | |
| Weight [g] | 300 | |
| Housing | tubular | |
| Dimensions [mm] | Ø 34 / L = 92.7 | |
| 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 external thread (DIN EN ISO 1179-2); Internal thread:M5 | |
| Process connection sealing | FKM (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 | | |
| | | |

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Connection



| | |
|------|------------------|
| OUT1 | Switching output |
| | IO-Link |
| OUT2 | Switching output |
| | analog output |
| | Core colors : |
| BK = | black |
| BN = | brown |
| BU = | blue |
| WH = | white |