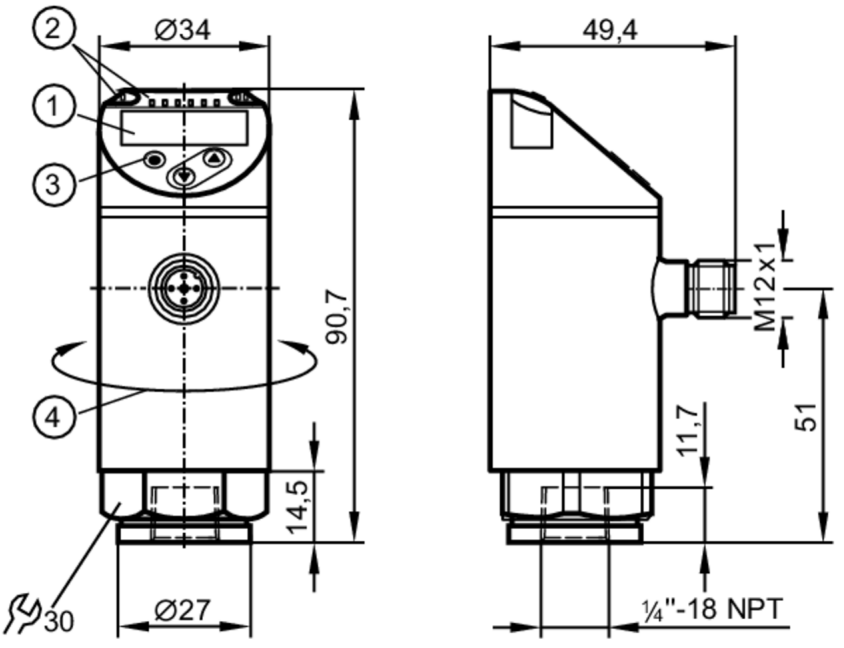
# PN7271

## Pressure sensor with display

PN-250-SEN14-QFRKG/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 | | |
| Measuring range | 0...250 bar | 0...3620 psi | 0...25 MPa |
| Process connection | threaded connection 1/4" NPT internal thread | | |
| **Application** | | | |
| Special feature | Gold-plated contacts | | |
| Measuring element | metallic thin film cell | | |
| Application | for industrial applications | | |
| Media | liquids and gases | | |
| Medium temperature [°C] | -25...80 | | |
| Min. bursting pressure | 1100 bar | 15950 psi | 110 MPa |
| Pressure rating | 500 bar | 7250 psi | 50 MPa |
| Type of pressure | relative pressure | | |
| MAWP (for applications according to CRN) | 500 bar | 7250 psi | 50 MPa |
| **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...250 bar | 0...3620 psi | 0...25 MPa |
| Factory setting / CMPT = 2 | | | |
| Set point SP | 2...250 bar | 40...3620 psi | 0.2...25 MPa |
| Reset point rP | 1...249 bar | 20...3600 psi | 0.1...24.9 MPa |
| Min. difference between SP and rP | 1 bar | 20 psi | 0.1 MPa |
| In steps of | 2 bar | 20 psi | 0.1 MPa |
| Status_B High Resolution / CMPT = 3 | | | |
| Set point SP | 2...250 bar | 30...3626 psi | 0.2...25 MPa |
| Reset point rP | 1...249 bar | 12...3608 psi | 0.1...24.9 MPa |
| Min. difference between SP and rP | 1 bar | 1 psi | 0.1 MPa |
| In steps of | 1 bar | 1 psi | 0.1 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; (-25...80 °C) | | |
| Temperature coefficient span | 0,2; (-25...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) |
| Supported DeviceIDs | | **Type of operation** / **DeviceID**<br>Factory setting / CMPT = 2 / 451<br>Status_B High Resolution / CMPT = 3 / 628 |
| 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] | 1 |
| IO-Link resolution pressure | [MPa] | 0.1 |
| IO-Link process data (cyclical) | | **function** / **bit length**<br>pressure / 14<br>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] | 0.1 |
| IO-Link resolution pressure | [MPa] | 0.01 |
| IO-Link process data (cyclical) | | **function** / **bit length**<br>pressure / 16<br>device status / 4<br>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 |

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## Pressure sensor with display

PN-250-SEN14-QFRKG/US/ /V

| | | | |
|---|---|---|---|
| **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] | 214 | |
| UL approval | | UL Approval no. | J003 |
| Pressure Equipment Directive | | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request | |
| **Mechanical data** | | | |
| Weight | [g] | 219.5 | |
| Materials | | 1.4542 (17-4 PH / 630); stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC | |
| Materials (wetted parts) | | 1.4542 (17-4 PH / 630) | |
| Min. pressure cycles | | 100 million | |
| Tightening torque | [Nm] | 2...3 turns after hand-fastening; recommended tightening torque; depends on lubrication, seal and pressure rating | |
| Process connection | | threaded connection 1/4" NPT 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

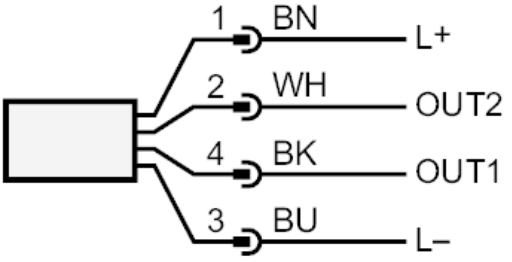


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### Connection




| | |
|---|---|
| OUT1 | switching output<br>IO-Link |
| OUT2 | switching output |
| | colours to DIN EN 60947-5-2 |
| | Core colours : |
| BK = | black |
| BN = | brown |
| BU = | blue |
| WH = | white |