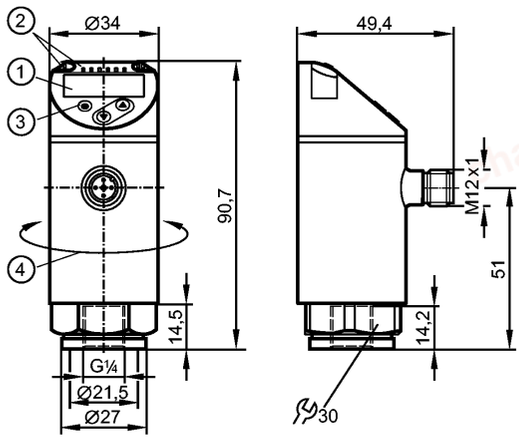
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PN3071
PN-250-SER14-MFRKG/US/ /V

Pressure sensors




1: 4-digit alphanumeric display / alternating indication of red and green
2: LEDs (display unit / switching status)
3: Programming button
4: Upper part of the housing can be rotated by 345°

Product characteristics

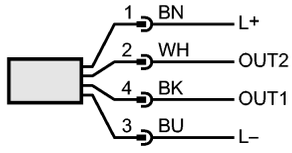
| | | | | |
|---|---|---|---|---|
| Electronic pressure sensor | | | | |
| M12 connector | | | | |
| Function programmable | | | | |
| Measuring element: metal thin film cell | | | | |
| Process connection: G ¼ I / M6 I | | | | |
| 2 outputs<br>OUT1 = switching output<br>OUT2 = analogue output | | | | |
| 4-digit alphanumeric display / alternating indication of red and green | | | | |
| Measuring range: 0...250 bar / 0...3620 psi / 0...25 MPa | | | | |
| **Application** | | | | |
| Application | | Type of pressure: relative pressure<br>Group 2 fluids according to the Pressure Equipment Directive (PED),<br>group 1 fluids on request | | |
| Pressure rating | | 500 bar | 7250 psi | 50 MPa |
| Bursting pressure min. | | 1200 bar | 17400 psi | 120 MPa |
| Vacuum resistance | [mbar] | -1000 | | |
| Medium temperature | [°C] | -25...80 | | |
| **Electrical data** | | | | |
| Electrical design | | DC PNP | | |
| Operating voltage | [V] | 18...30 DC [1]) | | |
| Current consumption | [mA] | < 35 | | |
| Insulation resistance | [MΩ] | > 100 (500 V DC) | | |
| Protection class | | III | | |
| Reverse polarity protection | | yes | | |
| **Outputs** | | | | |
| Output | | 2 outputs<br>OUT1 = switching output<br>OUT2 = analogue output | | |
| Output function | | normally open / closed programmable; 4...20 mA or 0...10 V | | |
| Current rating | [mA] | 150; 200 (...60 °C); 250 (...40 °C) | | |
| Voltage drop | [V] | < 2.5 | | |
| Short-circuit protection | | pulsed | | |
| Overload protection | | yes | | |

# PN3071 - Electronic pressure sensor - eclass: 27201302 / 27-20-13-02

| | | | | |
|---|---|---|---|---|
| Switching frequency [Hz] | ≤ 170 | | | |
| Analogue output | 4...20 mA; 0...10 V | | | |
| Max. load [Ω] | 4...20 mA: max. 500 | | | |
| Min. load resistance [Ω] | 0...10 V: min. 2000 | | | |
| Measuring / setting range | | | | |
| Measuring range | 0...250 bar | 0...3620 psi | 0...25 MPa | |
| Setting range | | | | |
| 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 | |
| in steps of | 1 bar | 20 psi | 0.1 MPa | |
| Accuracy / deviations | | | | |
| Accuracy / deviations (in % of the span) | | | | |
| Switch point accuracy | < ± 0.5 | | | |
| Characteristics deviation *) | < ± 0.25 (BFSL) / < ± 0.5 (LS) | | | |
| Hysteresis | < ± 0.25 | | | |
| Repeatability **) | < ± 0.1 | | | |
| Long-term stability ***) | < ± 0.05 | | | |
| Temperature coefficients (TEMPCO) in the temperature range -25...80° C (in % of the span per 10 K) | | | | |
| Greatest TEMPCO of the zero point | 0.2 | | | |
| Greatest TEMPCO of the span | 0.2 | | | |
| Reaction times | | | | |
| Power-on delay time [s] | 0.3 | | | |
| Min. response time switching output [ms] | < 3 | | | |
| Delay time programmable dS, dr [s] | 0...50 | | | |
| Damping for the switching output (dAP) [s] | 0...4 | | | |
| Damping for the analogue output (dAA) [s] | 0...4 | | | |
| Response time analogue output [ms] | < 3 | | | |
| Integrated watchdog | yes | | | |
| Software / programming | | | | |
| Programming options | hysteresis / window function; NO / NC; on delay, off delay; damping; display unit; current/ voltage output | | | |
| Interfaces | | | | |
| IO-Link device | | | | |
| Transfer type | COM2 | | | |
| IO-Link revision | 1.1 | | | |
| SDCI standard | IEC 61131-9 | | | |
| IO-Link device ID | 428 d / 00 01 ac h | | | |
| Profiles | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis | | | |
| SIO mode | yes | | | |
| Required master port class | A | | | |
| Process data analogue | 1 | | | |
| Process data binary | 1 | | | |
| Min. process cycle time [ms] | 2.3 | | | |
| Environment | | | | |
| Ambient temperature [°C] | -25...80 | | | |
| Storage temperature [°C] | -40...100 | | | |
| Protection | IP 65 / IP 67 | | | |
| Tests / approvals | | | | |
| Pressure equipment directive | Sound engineering practice | | | |
| EMC | DIN EN 61000-6-2<br>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] | 165 | | | |

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# PN3071 - Electronic pressure sensor - eclass: 27201302 / 27-20-13-02

| | | |
|---|---|---|
| UL approval number | | J006 |
| Mechanical data | | |
| Process connection | | G ¼ I / M6 I |
| Materials (wetted parts) | | 1.4542 (17-4 PH / 630)[2] |
| Housing materials | | 1.4542 (17-4 PH / 630)[2]; stainless steel (316L / 1.4404) (V4A / 316L); PBT+PC-GF 30; PBT-GF 20; PC |
| Min. pressure cycles | | 100 million |
| Tightening torque | [Nm] | 25...35 (recommended tightening torque[3]) |
| Restrictor element integrated | | no (can be retrofitted) |
| Weight | [kg] | 0.228 |
| Displays / operating elements | | |
| Display | | Display unit 3 x LED green (bar, psi, MPa)<br>Switching status 1 x LED yellow<br>4-digit alphanumeric display / alternating indication<br>Measured values of red and green |
| Electrical connection | | |
| Connection | | M12 connector; Gold-plated contacts |
| **Wiring** | | |
| Core colours<br>BK black<br>BN brown<br>BU blue<br>WH white | | <br><br>OUT1: switching output or IO-Link<br>OUT2: 4...20 mA / 0...10 V<br>Colours to DIN EN 60947-5-2 |
| Remarks | | |
| Remarks | | *) BFSL = Best Fit Straight Line / LS = Limit Value Setting<br>**) with temperature fluctuations < 10 K<br>***) in% of the span / 6 months<br>[1]) to EN50178, SELV, PELV<br>[2]) Characteristics similar to stainless steel (e.g. 304/1.4301) but higher strength.<br>[3]) Depends on lubrication, seal and pressure rating |
| Pack quantity | [piece] | 1 |