

PNI021



Pressure sensor with analog input

PNI250-SBR14-QFRKG/US/ V



- 1 alphanumeric display 4-digit
- 2 LEDs Display unit / Switching status
- 3 Programming button



Product characteristics

|                              |                                           |
|------------------------------|-------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2              |
| Measuring range [bar]        | 0...250                                   |
| Process connection           | threaded connection G 1/4 Internal thread |

Application

|                              |                                                    |
|------------------------------|----------------------------------------------------|
| System                       | gold-plated contacts                               |
| Application                  | for industrial applications                        |
| Media                        | liquids and gases                                  |
| Conditionally suitable for   | use in gases at pressures > 25 bar only on request |
| Medium temperature [°C]      | -25...80                                           |
| Min. bursting pressure [bar] | 850                                                |
| Pressure rating [bar]        | 400                                                |
| Type of pressure             | relative pressure                                  |

Electrical data

|                                 |                 |
|---------------------------------|-----------------|
| Operating voltage [V]           | 18...30 DC      |
| Current consumption [mA]        | < 90            |
| Min. insulation resistance [MΩ] | 100; (500 V DC) |
| Protection class                | III             |
| Reverse polarity protection     | yes             |
| Power-on delay time [s]         | 0.2             |
| Integrated watchdog             | yes             |



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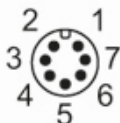
| Inputs / outputs                                    |       |                                        |
|-----------------------------------------------------|-------|----------------------------------------|
| Number of inputs and outputs                        |       | Number of digital outputs: 2           |
| Inputs                                              |       |                                        |
| Analog input (current)                              | [mA]  | 0...20                                 |
| Input resistance                                    | [Ω]   | 300                                    |
| Analog input (voltage)                              | [V]   | 0...10                                 |
| Input resistance                                    | [kΩ]  | 90                                     |
| Outputs                                             |       |                                        |
| Total number of outputs                             |       | 2                                      |
| Output signal                                       |       | switching signal                       |
| 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]  | < 170                                  |
| Short-circuit protection                            |       | yes                                    |
| Type of short-circuit protection                    |       | yes (non-latching)                     |
| Overload protection                                 |       | yes                                    |
| Measuring/setting range                             |       |                                        |
| Measuring range                                     | [bar] | 0...250                                |
| Set point SP                                        | [bar] | -62...250                              |
| Note on setpoint SP                                 |       | differential pressure                  |
| Reset point rP                                      | [bar] | -63...249                              |
| Note on reset point rP                              |       | differential pressure                  |
| In steps of                                         | [bar] | 1                                      |
| Accuracy / deviations                               |       |                                        |
| Characteristics deviation<br>[% of the final value] |       | < ± 0,6                                |
| Temperature drift per 10 K                          |       | < ± 0.3                                |
| Characteristics deviation analog input              |       | < ± 0.3                                |
| Temperature drift analog input per 10 K             |       | < ± 0.1                                |
| Temperature drift analog input                      | [°C]  | 0...80                                 |
| Reaction times                                      |       |                                        |
| Response time                                       | [ms]  | < 3                                    |
| Delay time programmable dS, dr                      | [s]   | 0, 0,1...50                            |
| Damping process value dAP                           | [s]   | 0...4                                  |

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| Software / programming                                                              |                                                                                                                                                                                    |                               |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Adjustment of the switch point                                                      | Programming button                                                                                                                                                                 |                               |
| Parameter setting options                                                           | hysteresis / window; normally open / closed; switching logic; current/voltage input; Damping adaptation of displayed values; display can be rotated and switched off; Display unit |                               |
| Operating conditions                                                                |                                                                                                                                                                                    |                               |
| Ambient temperature                                                                 | [°C]                                                                                                                                                                               | -25...80                      |
| Storage temperature                                                                 | [°C]                                                                                                                                                                               | -40...100                     |
| Protection                                                                          |                                                                                                                                                                                    | IP 67                         |
| Tests / approvals                                                                   |                                                                                                                                                                                    |                               |
| EMC                                                                                 | EN 61000-4-2 ESD                                                                                                                                                                   | 4 kV CD / 8 kV AD             |
|                                                                                     | EN 61000-4-3 HF radiated                                                                                                                                                           | 10 V/m                        |
|                                                                                     | EN 61000-4-4 Burst                                                                                                                                                                 | 2 kV                          |
|                                                                                     | EN 61000-4-6 HF conducted                                                                                                                                                          | 10 V                          |
| Shock resistance                                                                    | DIN IEC 68-2-27                                                                                                                                                                    | 50 g (11 ms)                  |
| Vibration resistance                                                                | DIN IEC 68-2-6                                                                                                                                                                     | 20 g (10...2000 Hz)           |
| MTTF                                                                                | [years]                                                                                                                                                                            | 152                           |
| Pressure equipment directive                                                        | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request                                                                                              |                               |
| Mechanical data                                                                     |                                                                                                                                                                                    |                               |
| Weight                                                                              | [g]                                                                                                                                                                                | 293                           |
| Material                                                                            | stainless steel (1.4305 / 303); PBT; PC; PA; FKM                                                                                                                                   |                               |
| Materials (wetted parts)                                                            | stainless steel (1.4305 / 303); ceramics; FKM                                                                                                                                      |                               |
| Min. pressure cycles                                                                | 100 million                                                                                                                                                                        |                               |
| 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                |
|                                                                                     | Display mode                                                                                                                                                                       | 3 x LED, green                |
|                                                                                     | Switching status                                                                                                                                                                   | 2 x LED, yellow               |
|                                                                                     | Function display                                                                                                                                                                   | alphanumeric display, 4-digit |
|                                                                                     | Measured values                                                                                                                                                                    | alphanumeric display, 4-digit |
| Display unit                                                                        | bar; psi; MPa                                                                                                                                                                      |                               |
| Remarks                                                                             |                                                                                                                                                                                    |                               |
| Pack quantity                                                                       | 1 pcs.                                                                                                                                                                             |                               |
| Electrical connection                                                               |                                                                                                                                                                                    |                               |
| Connector: 1 x M12; coding: A; Contacts: gold-plated                                |                                                                                                                                                                                    |                               |
|  |                                                                                                                                                                                    |                               |

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### Connection

