



## Pressure sensor with display

PN-+,2BRBR14-MFRKG/US IV

Article no longer available - archive entry

Alternative articles: PN2098 or PN2169

When selecting an alternative article and accessories please note that technical data may differ!



- 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: 1; Number of analogue outputs: 1 |                 |                  |              |
| Measuring range              | -0.25...0.25 bar                                            | -250...250 mbar | -3.63...3.63 psi | -25...25 kPa |
| Process connection           | threaded connection G 1/4 internal thread                   |                 |                  |              |

### Application

|                         |                      |         |          |
|-------------------------|----------------------|---------|----------|
| Special feature         | Gold-plated contacts |         |          |
| Media                   | liquids and gases    |         |          |
| Medium temperature [°C] | -25...80             |         |          |
| Min. bursting pressure  | 30000 mbar           | 435 psi | 3000 kPa |
| Pressure rating         | 6000 mbar            | 87 psi  | 600 kPa  |
| Type of pressure        | relative pressure    |         |          |

### Electrical data

|                                 |                 |
|---------------------------------|-----------------|
| Operating voltage [V]           | 18...32 DC      |
| Current consumption [mA]        | < 50            |
| Min. insulation resistance [MΩ] | 100; (500 V DC) |
| Protection class                | III             |
| Reverse polarity protection     | yes             |



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|                         |     |
|-------------------------|-----|
| Power-on delay time [s] | 0.5 |
| Integrated watchdog     | yes |

### Inputs / outputs

|                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |
|------------------------------|-------------------------------------------------------------|

### Outputs

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Total number of outputs                              | 2                                                  |
| Output signal                                        | switching signal; analogue signal; (configurable)  |
| Electrical design                                    | PNP/NPN                                            |
| Number of digital outputs                            | 1                                                  |
| Output function                                      | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC [V]            | 2                                                  |
| Permanent current rating of switching output DC [mA] | 250                                                |
| Switching frequency DC [Hz]                          | 6                                                  |
| Number of analogue outputs                           | 1                                                  |
| Analogue current output [mA]                         | 4...20; (scalable 1:4)                             |
| Max. load [Ω]                                        | (U <sub>b</sub> - 10 V) / 20 mA                    |
| Analogue voltage output [V]                          | 0...10; (scalable 1:4)                             |
| Min. load resistance [Ω]                             | 2000                                               |
| Short-circuit protection                             | yes                                                |
| Type of short-circuit protection                     | pulsed                                             |
| Overload protection                                  | yes                                                |

### Measuring/setting range

|                      |                  |                  |                  |              |
|----------------------|------------------|------------------|------------------|--------------|
| Measuring range      | -0.25...0.25 bar | -250...250 mbar  | -3.63...3.63 psi | -25...25 kPa |
| Set point SP         | -248...250 mbar  | -3.61...3.63 psi | -24.8...25 kPa   |              |
| Reset point rP       | -250...248 mbar  | -3.63...3.6 psi  | -25...24.8 kPa   |              |
| Analogue start point | -250...125 mbar  | -3.63...1.82 psi | -25...12.5 kPa   |              |
| Analogue end point   | -125...250 mbar  | -1.82...3.63 psi | -12.5...25 kPa   |              |
| In steps of          | 1 mbar           | 0.01 psi         | 0.1 kPa          |              |

### Accuracy / deviations

|                                                           |                                                                                                                    |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Switch point accuracy [% of the span]                     | < ± 0,2; (Turn down 1:1)                                                                                           |
| Repeatability [% of the span]                             | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                                     |
| Characteristics deviation [% of the span]                 | < ± 0,2; (Turn down 1:1, linearity, incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1) |
| Linearity deviation [% of the span]                       | < ± 0,1; (Turn down 1:1)                                                                                           |
| Hysteresis deviation [% of the span]                      | < ± 0,1; (Turn down 1:1)                                                                                           |
| Long-term stability [% of the span]                       | < ± 0,1; (Turn down 1:1; per year)                                                                                 |
| Temperature coefficient zero point [% of the span / 10 K] | < ± 0,2; (0...70 °C)                                                                                               |



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|                                                        |                                                                                                                                                                                                                 |                               |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Temperature coefficient span<br>[% of the span / 10 K] | < ± 0,2; (0...70 °C)                                                                                                                                                                                            |                               |
| Response times                                         |                                                                                                                                                                                                                 |                               |
| Response time [ms]                                     | < 100                                                                                                                                                                                                           |                               |
| Damping process value dAP [s]                          | 0.1...100                                                                                                                                                                                                       |                               |
| Damping for the analogue output dAA [s]                | 0.1...100                                                                                                                                                                                                       |                               |
| Max. response time analogue output [ms]                | 100                                                                                                                                                                                                             |                               |
| Software / programming                                 |                                                                                                                                                                                                                 |                               |
| Parameter setting options                              | hysteresis / window; normally open / normally closed; switching logic; current/voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; zero point; span |                               |
| Operating conditions                                   |                                                                                                                                                                                                                 |                               |
| Ambient temperature [°C]                               | -25...80                                                                                                                                                                                                        |                               |
| Storage temperature [°C]                               | -40...100                                                                                                                                                                                                       |                               |
| Protection                                             | IP 65                                                                                                                                                                                                           |                               |
| 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 61000-4-5 Surge                                                                                                                                                                                              | 0,5/1 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]                                           | 181.26                                                                                                                                                                                                          |                               |
| Pressure Equipment Directive                           | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request                                                                                                                           |                               |
| Mechanical data                                        |                                                                                                                                                                                                                 |                               |
| Weight [g]                                             | 287.5                                                                                                                                                                                                           |                               |
| Materials                                              | stainless steel (304/1.4301); PC; PBT; PA; FKM                                                                                                                                                                  |                               |
| Materials (wetted parts)                               | stainless steel (303/1.4305); 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                                                                                                                                                                                                    | 4 x LED, green                |
|                                                        | switching status                                                                                                                                                                                                | LED, yellow                   |
|                                                        | function display                                                                                                                                                                                                | alphanumeric display, 4-digit |
|                                                        | measured values                                                                                                                                                                                                 | alphanumeric display, 4-digit |
| Display unit                                           | mbar; kPa; psi; % of the span                                                                                                                                                                                   |                               |
| Remarks                                                |                                                                                                                                                                                                                 |                               |
| Pack quantity                                          | 1 pcs.                                                                                                                                                                                                          |                               |

# PY2068



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### Electrical connection

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



### Connection



OUT1  
OUT2

switching output  
analogue output