



Flush pressure sensor with display

PI-1-1BRES30-E-ZVG/US/ IP

phase-out article  
Discontinuation date: 03/31/2024

Alternative articles: PI1009 or PI1709  
When selecting an alternative article and accessories please note that technical data may differ!

Please do not use for new projects.  
no more adapters available as accessories



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button
- 4 Aseptoflex sealing edge
- 5 Aseptoflex thread



| Product characteristics      |                                                                       |                   |
|------------------------------|-----------------------------------------------------------------------|-------------------|
| Number of inputs and outputs | Number of analogue outputs: 1                                         |                   |
| Measuring range              | -1...1 bar                                                            | -1000...1000 mbar |
| Process connection           | threaded connection Aseptoflex external thread Aseptoflex             |                   |
| Application                  |                                                                       |                   |
| Special feature              | Gold-plated contacts                                                  |                   |
| Application                  | flush mountable for the food and beverage industry                    |                   |
| Installation                 | freely rotatable housing 350°                                         |                   |
| Media                        | viscous media and liquids with suspended particles; liquids and gases |                   |



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|                        |        |                          |
|------------------------|--------|--------------------------|
| Medium temperature     | [°C]   | -25...125; (145 max. 1h) |
| Min. bursting pressure | [mbar] | 30000                    |
| Pressure rating        | [mbar] | 10000                    |
| Type of pressure       |        | relative pressure        |
| No dead space          |        | yes                      |

| Electrical data                 |      |                 |
|---------------------------------|------|-----------------|
| Operating voltage               | [V]  | 20...32 DC      |
| Min. insulation resistance      | [MΩ] | 100; (500 V DC) |
| Protection class                |      | III             |
| Reverse polarity protection     |      | yes             |
| Power-on delay time             | [s]  | 0.5             |
| Switch-on peak current          | [mA] | 6               |
| Switch-on peak current duration | [ms] | 30              |
| Integrated watchdog             |      | yes             |

| Inputs / outputs             |  |                               |
|------------------------------|--|-------------------------------|
| Number of inputs and outputs |  | Number of analogue outputs: 1 |

| Outputs                    |      |                                    |
|----------------------------|------|------------------------------------|
| Total number of outputs    |      | 1                                  |
| Output signal              |      | analogue signal                    |
| Number of analogue outputs |      | 1                                  |
| Analogue current output    | [mA] | 4...20, invertible; (scalable 1:4) |
| Max. load                  | [Ω]  | 300                                |
| Overload protection        |      | yes                                |

| Measuring/setting range |            |                                       |
|-------------------------|------------|---------------------------------------|
| Measuring range         | -1...1 bar | -1000...1000 mbar                     |
| Analogue start point    | [mbar]     | -1000...500                           |
| Analogue end point      | [mbar]     | -500...1000                           |
| In steps of             | [mbar]     | 1                                     |
| Factory setting         |            | ASP = -1000 mbar      AEP = 1000 mbar |

| Accuracy / deviations              |                        |                                                                                                                    |
|------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------|
| 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]        | < ± 0,15; (Turn down 1:1)                                                                                          |
| Hysteresis deviation               | [% of the span]        | < ± 0,15; (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] | < ± 0,05; (0...70 °C)                                                                                              |
| Temperature coefficient span       | [% of the span / 10 K] | < ± 0,15; (0...70 °C)                                                                                              |



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| Response times                                       |                           |                                                                                                                                  |
|------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Damping for the analogue output dAA                  | [s]                       | 0.1...100                                                                                                                        |
| Max. response time analogue output                   | [ms]                      | 40                                                                                                                               |
| Software / programming                               |                           |                                                                                                                                  |
| Parameter setting options                            |                           | zero point; span                                                                                                                 |
| Operating conditions                                 |                           |                                                                                                                                  |
| Ambient temperature                                  | [°C]                      | -25...80                                                                                                                         |
| Storage temperature                                  | [°C]                      | -40...100                                                                                                                        |
| Protection                                           |                           | IP 67; IP 69K                                                                                                                    |
| 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]                   | 238                                                                                                                              |
| Mechanical data                                      |                           |                                                                                                                                  |
| Weight                                               | [g]                       | 403                                                                                                                              |
| Materials                                            |                           | stainless steel (316L/1.4404); PC; PBT; PEI; FKM; PTFE                                                                           |
| Materials (wetted parts)                             |                           | ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); stainless steel (316L/1.4435); surface characteristics: Ra < 0,4 / Rz 4; PTFE |
| Min. pressure cycles                                 |                           | 100 million                                                                                                                      |
| Process connection                                   |                           | threaded connection Aseptoflex external thread Aseptoflex                                                                        |
| Displays / operating elements                        |                           |                                                                                                                                  |
| Display                                              | Display unit              | 6 x LED, green                                                                                                                   |
|                                                      | function display          | alphanumeric display, 4-digit                                                                                                    |
|                                                      | measured values           | alphanumeric display, 4-digit                                                                                                    |
| Display unit                                         |                           | mbar; kPa; psi; inH <sub>2</sub> O; mWS; % of the span                                                                           |
| Remarks                                              |                           |                                                                                                                                  |
| Remarks                                              |                           | The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.                                |
| Notes                                                |                           | Please do not use for new projects.; no more adapters available as accessories                                                   |
| Pack quantity                                        |                           | 1 pcs.                                                                                                                           |
| Electrical connection                                |                           |                                                                                                                                  |
| Connector: 1 x M12; coding: A; Contacts: gold-plated |                           |                                                                                                                                  |
|                                                      |                           |                                                                                                                                  |



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### Connection



- 1: normal operation
- 2: programming operation (P = communication via EPS / FDT interface)