

PI2697

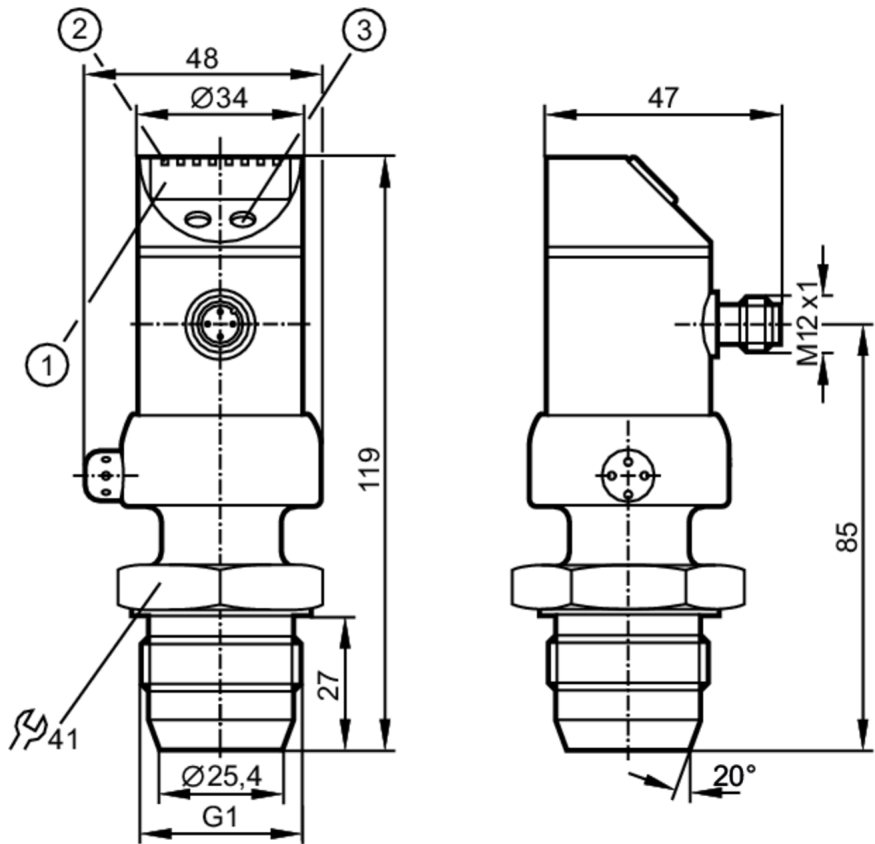


Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Status Archive

PI2897/PI2797



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button



| Application                   |                                                                       |
|-------------------------------|-----------------------------------------------------------------------|
| Application                   | hygienic systems                                                      |
| Installation                  | freely rotatable housing 350°                                         |
| Media                         | viscous media and liquids with suspended particles; liquids and gases |
| Medium temperature [°C]       | -25...125; (145 max. 1h)                                              |
| Pressure rating [mbar]        | 10000                                                                 |
| Min. bursting pressure [mbar] | 30000                                                                 |
| Type of pressure              | relative pressure                                                     |
| No dead space                 | yes                                                                   |



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| 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                                                                                                     |                 |
| 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, invertible; (scalable 1:4)                                                                      |                 |
| Max. load                                       | [Ω]             | (Ub - 10 V) / 20 mA                                                                                     |                 |
| Analogue voltage output                         | [V]             | 0...10, invertible; (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                                 | [mbar]          | -50...1000                                                                                              |                 |
| Set point SP                                    | [mbar]          | -48...1000                                                                                              |                 |
| Reset point rP                                  | [mbar]          | -50...998                                                                                               |                 |
| Analogue start point                            | [mbar]          | -50...750                                                                                               |                 |
| Analogue end point                              | [mbar]          | 200...1000                                                                                              |                 |
| In steps of                                     | [mbar]          | 1                                                                                                       |                 |
| Factory setting                                 |                 | SP1 = 250 mbar                                                                                          | rP1 = 230 mbar  |
|                                                 |                 | ASP = 0 mbar                                                                                            | AEP = 1000 mbar |
| Accuracy / deviations                           |                 |                                                                                                         |                 |
| Switch point accuracy                           |                 | < ± 0,2; (Turn down 1:1)                                                                                |                 |
|                                                 | [% of the span] |                                                                                                         |                 |
| Repeatability                                   | [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                          |                 |
| Characteristics deviation                       |                 | < ± 0,2; (Turn down 1:1 linearity, incl. hysteresis and repeatability limit value setting to DIN 16086) |                 |



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|                                    |                        |                                         |
|------------------------------------|------------------------|-----------------------------------------|
|                                    | [% of the span]        |                                         |
| Linearity deviation                | [% of the span]        | $< \pm 0,15$ ; (Turn down 1:1)          |
| Hysteresis deviation               | [% of the span]        | $< \pm 0,15$ ; (Turn down 1:1)          |
| Long-term stability                | [% of the span]        | $< \pm 0,1$ ; (Turn down 1:1; per year) |
| Temperature coefficient zero point | [% of the span / 10 K] | $< \pm 0,05$ ; (0...70 °C)              |
| Temperature coefficient span       | [% of the span / 10 K] | $< \pm 0,15$ ; (0...70 °C)              |

### Response times

|                                      |      |           |
|--------------------------------------|------|-----------|
| Response time                        | [ms] | $< 100$   |
| Damping for the switching output dAP | [s]  | 0.1...100 |
| Damping for the analogue output dAA  | [s]  | 0.1...100 |
| Step response time analogue output   | [ms] | 25        |

### 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 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]                   | 163                 |

### Mechanical data

|                          |     |                                                                                                                                    |
|--------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------|
| Weight                   | [g] | 443.6                                                                                                                              |
| Materials                |     | stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM; PTFE                                                                           |
| Materials (wetted parts) |     | ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); PTFE; stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4 |
| Min. pressure cycles     |     | 100 million                                                                                                                        |
| Process connection       |     | threaded connection G 1 external thread sealing cone                                                                               |

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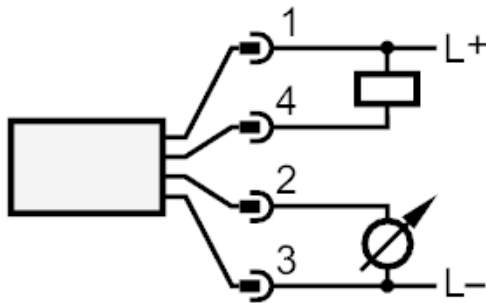
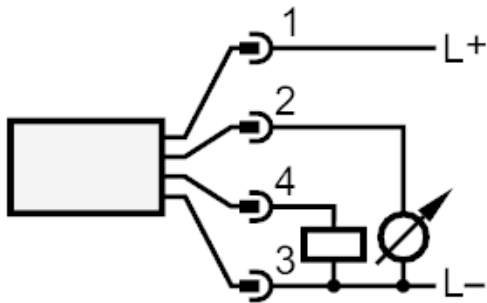
| Displays / operating elements |                                                                                                   |                               |
|-------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------|
| Display                       | Display unit                                                                                      | 6 x, green                    |
|                               | switching status                                                                                  | LED, yellow                   |
|                               | function display                                                                                  | alphanumeric display, 4-digit |
|                               | measured values                                                                                   | alphanumeric display, 4-digit |
| Display unit                  | mbar; kPa; psi; inH2O; mWS; % of the span                                                         |                               |
| Remarks                       |                                                                                                   |                               |
| Remarks                       | The 3-A qualification is only valid if adapters with 3-A qualification are used for installation. |                               |
| Notes                         | discontinued article                                                                              |                               |
| Pack quantity                 | 1 pcs.                                                                                            |                               |

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



Connection



|      |                  |
|------|------------------|
| OUT1 | switching output |
| OUT2 | analogue output  |

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