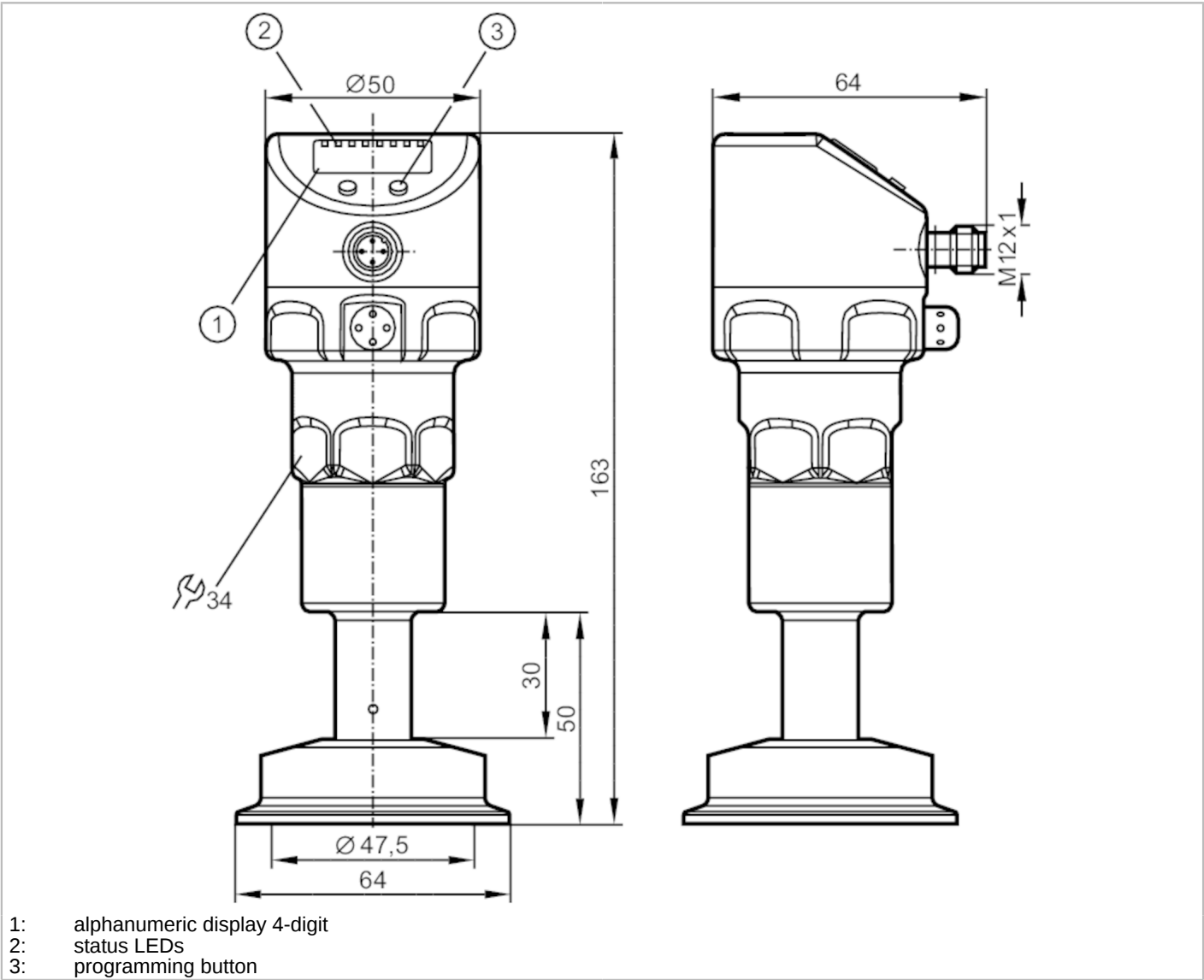




Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P



| Product characteristics         |                                                                       |                  |              |
|---------------------------------|-----------------------------------------------------------------------|------------------|--------------|
| Number of inputs and outputs    | Number of digital outputs: 2; Number of analogue outputs: 1           |                  |              |
| Measuring range                 | -50...1000 mbar                                                       | -0.73...14.5 psi | -5...100 kPa |
| Process connection              | Clamp DN50 (2") DIN 32676 (ISO 2852)                                  |                  |              |
| Application                     |                                                                       |                  |              |
| Special feature                 | Gold-plated contacts                                                  |                  |              |
| Application                     | flush mountable for the food and beverage industry                    |                  |              |
| Media                           | viscous media and liquids with suspended particles; liquids and gases |                  |              |
| Medium temperature [°C]         | -20...200                                                             |                  |              |
| Min. bursting pressure          | 30000 mbar                                                            | 435 psi          | 3000 kPa     |
| Pressure rating                 | 10000 mbar                                                            | 145 psi          | 1000 kPa     |
| Type of pressure                | relative pressure                                                     |                  |              |
| Electrical data                 |                                                                       |                  |              |
| Min. insulation resistance [MΩ] | 100; (500 V DC)                                                       |                  |              |



## Flush pressure sensor with display

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|                                                 |                                                             |                                |                 |
|-------------------------------------------------|-------------------------------------------------------------|--------------------------------|-----------------|
| Protection class                                | III                                                         |                                |                 |
| Reverse polarity protection                     | yes                                                         |                                |                 |
| Integrated watchdog                             | yes                                                         |                                |                 |
| 2-wire                                          |                                                             |                                |                 |
| Operating voltage                               | [V]                                                         | 20...32 DC                     |                 |
| Current consumption                             | [mA]                                                        | 3.6...21                       |                 |
| Power-on delay time                             | [s]                                                         | 1                              |                 |
| 3-wire                                          |                                                             |                                |                 |
| Operating voltage                               | [V]                                                         | 18...32 DC                     |                 |
| Current consumption                             | [mA]                                                        | < 45                           |                 |
| Power-on delay time                             | [s]                                                         | 0.5                            |                 |
| Inputs / outputs                                |                                                             |                                |                 |
| Number of inputs and outputs                    | Number of digital outputs: 2; Number of analogue outputs: 1 |                                |                 |
| Outputs                                         |                                                             |                                |                 |
| Total number of outputs                         | 2                                                           |                                |                 |
| Output signal                                   | switching signal; analogue signal; IO-Link; (configurable)  |                                |                 |
| Electrical design                               | PNP/NPN                                                     |                                |                 |
| Number of digital outputs                       | 2                                                           |                                |                 |
| Output function                                 | normally open / normally closed; (parameterisable)          |                                |                 |
| Number of analogue outputs                      | 1                                                           |                                |                 |
| Analogue current output                         | [mA]                                                        | 4...20, invertible; (scalable) |                 |
| Short-circuit protection                        | yes                                                         |                                |                 |
| Type of short-circuit protection                | pulsed                                                      |                                |                 |
| Overload protection                             | yes                                                         |                                |                 |
| 2-wire                                          |                                                             |                                |                 |
| Max. load                                       | [Ω]                                                         | 300                            |                 |
| 3-wire                                          |                                                             |                                |                 |
| Max. voltage drop switching output DC           | [V]                                                         | 2                              |                 |
| Permanent current rating of switching output DC | [mA]                                                        | 250                            |                 |
| Switching frequency DC                          | [Hz]                                                        | 125                            |                 |
| Max. load                                       | [Ω]                                                         | (Ub - 10 V) / 20 mA            |                 |
| Measuring/setting range                         |                                                             |                                |                 |
| Measuring range                                 | -50...1000 mbar                                             | -0.73...14.5 psi               | -5...100 kPa    |
| Set point SP                                    | -48...1000 mbar                                             | -0.7...14.5 psi                | -4.8...100 kPa  |
| Reset point rP                                  | -50...998 mbar                                              | -0.73...14.47 psi              | -0.5...99.8 kPa |
| Analogue start point                            | -50...750 mbar                                              | -0.73...10.88 psi              | -5...75 kPa     |
| Analogue end point                              | 200...1000 mbar                                             | 2.9...14.5 psi                 | 20...100 kPa    |
| In steps of                                     | 1 mbar                                                      | 0.01 psi                       | 0.1 kPa         |
| Factory setting                                 |                                                             | SP1 = 250 mbar                 | rP1 = 230 mbar  |
|                                                 |                                                             | SP2 = 750 mbar                 | rP2 = 730 mbar  |
|                                                 |                                                             | ASP = 0 mbar                   | AEP = 1000 mbar |



## Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P

| Accuracy / deviations                                        |                                                                                                                      |          |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------|
| Switch point accuracy<br>[% of the span]                     | < ± 0,2; (Turn down 1:1)                                                                                             |          |
| Repeatability<br>[% of the span]                             | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                                       |          |
| Characteristics deviation<br>[% 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<br>[% of the span]                       | < ± 0,15; (Turn down 1:1)                                                                                            |          |
| Hysteresis deviation<br>[% of the span]                      | < ± 0,15; (Turn down 1:1)                                                                                            |          |
| Long-term stability<br>[% of the span]                       | < ± 0,1; (Turn down 1:1; per year)                                                                                   |          |
| Temperature coefficient zero point<br>[% of the span / 10 K] | < ± 0,3; (0...200 °C)                                                                                                |          |
| Temperature coefficient span<br>[% of the span / 10 K]       | < ± 0,15; (0...200 °C)                                                                                               |          |
| Response times                                               |                                                                                                                      |          |
| Damping process value dAP [s]                                | 0...30                                                                                                               |          |
| Damping for the analogue output dAA [s]                      | 0.01...99.99                                                                                                         |          |
| 2-wire                                                       |                                                                                                                      |          |
| Step response time analogue output [ms]                      | 45                                                                                                                   |          |
| 3-wire                                                       |                                                                                                                      |          |
| Min. response time of switching output (dAP) [ms]            | 3                                                                                                                    |          |
| Step response time analogue output [ms]                      | 7                                                                                                                    |          |
| Interfaces                                                   |                                                                                                                      |          |
| Communication interface                                      | IO-Link                                                                                                              |          |
| Transmission type                                            | COM2 (38,4 kBaud)                                                                                                    |          |
| IO-Link revision                                             | 1.0                                                                                                                  |          |
| SDCI standard                                                | IO-Link Communication Specification, Version 1.0, January 2009, Ordner No: 10.002                                    |          |
| Profiles                                                     | no profile                                                                                                           |          |
| SIO mode                                                     | yes                                                                                                                  |          |
| Required master port type                                    | A                                                                                                                    |          |
| Process data analogue                                        | 1                                                                                                                    |          |
| Process data binary                                          | 2                                                                                                                    |          |
| Min. process cycle time [ms]                                 | 2.3                                                                                                                  |          |
| Supported DeviceIDs                                          | Type of operation                                                                                                    | DeviceID |
|                                                              | default                                                                                                              | 106      |
| Operating conditions                                         |                                                                                                                      |          |
| Ambient temperature [°C]                                     | -25...80                                                                                                             |          |
| Note on ambient temperature                                  | Medium temperature: ≤ 160 °C                                                                                         |          |
| Ambient temperature [°C]                                     | -25...65                                                                                                             |          |



## Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P

|                             |                              |
|-----------------------------|------------------------------|
| Note on ambient temperature | Medium temperature: ≤ 200 °C |
| Storage temperature [°C]    | -25...100                    |
| Protection                  | IP 67; IP 68; IP 69K         |

## Tests / approvals

|                      |                                                 |                     |
|----------------------|-------------------------------------------------|---------------------|
| EMC                  | DIN EN 61000-6-2                                |                     |
|                      | 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]         | 142                                             |                     |
| Note on approval     | Including free 6-point calibration certificate. |                     |

## Mechanical data

|                                                   |                                                                             |
|---------------------------------------------------|-----------------------------------------------------------------------------|
| Weight [g]                                        | 1200.45                                                                     |
| Materials                                         | stainless steel (316L/1.4404); stainless steel (316L/1.4435); PBT; PEI; PFA |
| Materials (wetted parts)                          | stainless steel (316L/1.4435)                                               |
| Min. pressure cycles                              | 10 million                                                                  |
| Process connection                                | Clamp DN50 (2") DIN 32676 (ISO 2852)                                        |
| Surface characteristics Ra/Rz of the wetted parts | < 0.38 / -                                                                  |
| Fill fluid for pressure transmission              | NEOBEE (food grade, FDA compliant)                                          |
| Diaphragm diameter [mm]                           | 47.5                                                                        |

## Displays / operating elements

|              |                                           |                               |
|--------------|-------------------------------------------|-------------------------------|
| Display      | Display unit                              | LED, 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

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

# PI2307

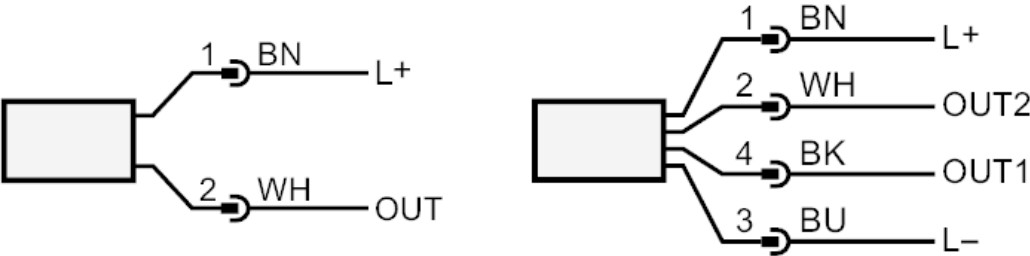


## Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P

### Electrical connection

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



|      |                                                       |
|------|-------------------------------------------------------|
| OUT  | connection for 2-wire operation :<br>analogue output  |
| OUT1 | connection for 3-wire operation :<br>switching output |
| OUT2 | IO-Link<br>switching output<br>analogue output        |
|      | colours to DIN EN 60947-5-2                           |
|      | Core colours :                                        |
| BK = | black                                                 |
| BN = | brown                                                 |
| BU = | blue                                                  |
| WH = | white                                                 |