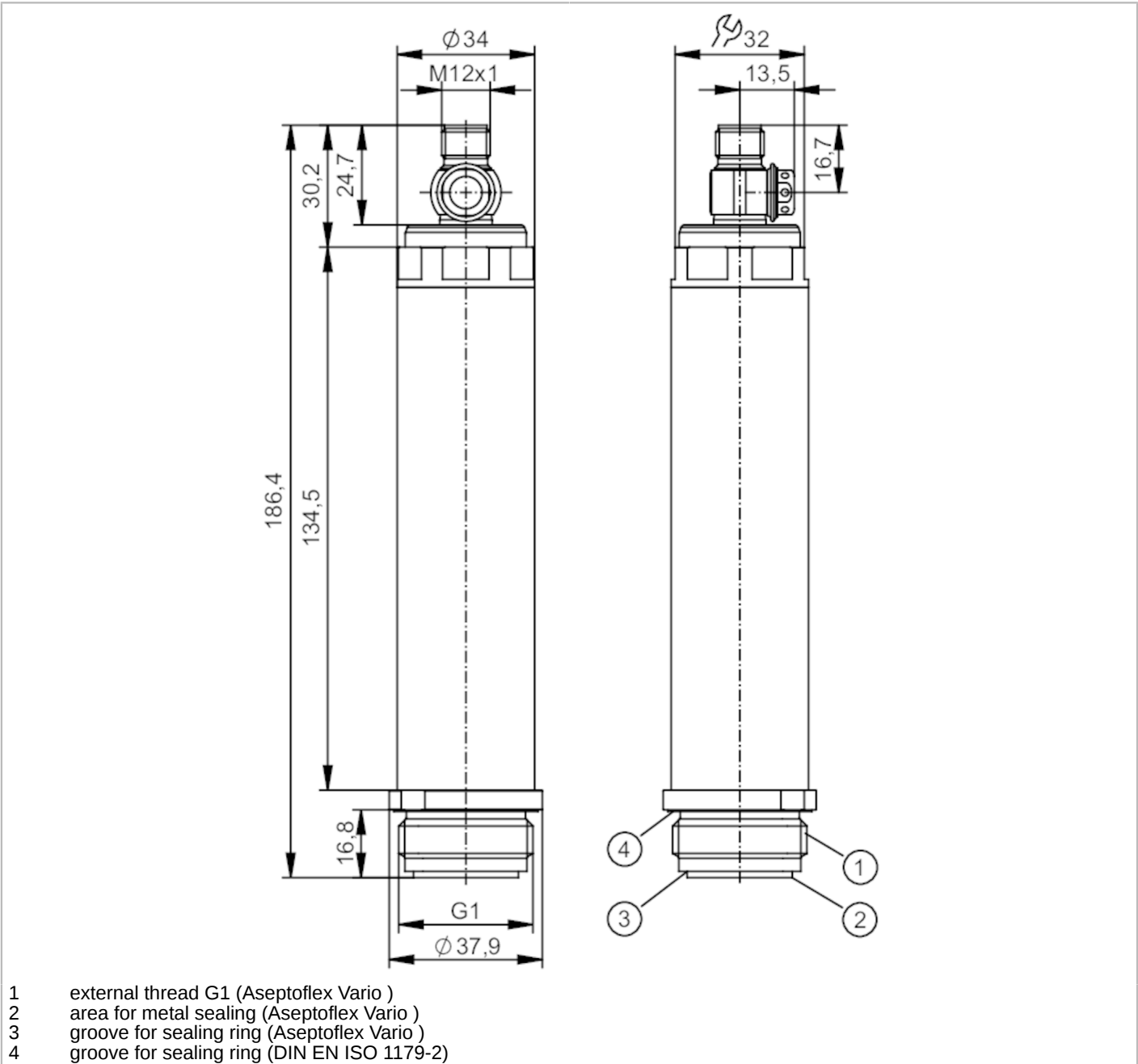


PY2007



Flush pressure sensor

PM-001BREA01 -E-ZVG/US



| Product characteristics      |                                                                                                                           |                  |              |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
| Number of inputs and outputs | Number of analog outputs: 1                                                                                               |                  |              |
| Measuring range              | -50...1000 mbar                                                                                                           | -0.73...14.5 psi | -5...100 kPa |
| Process connection           | threaded connection G 1 external thread with Aseptoflex Vario sealing contour                                             |                  |              |
| Note                         | G1 Gewinde nach ISO 228. Alternativ dichtend über rückwärtige Dichtkontur mit Dichtung in Anlehnung an DIN EN ISO 1179-2. |                  |              |
| Application                  |                                                                                                                           |                  |              |
| Special feature              | gold-plated contacts                                                                                                      |                  |              |
| Measuring element            | ceramic-capacitive pressure measuring cell                                                                                |                  |              |
| Application                  | flush mountable for the food and beverage industry                                                                        |                  |              |



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PM-001BREA01 -E-ZVG/US

|                                                |                                                                       |         |          |
|------------------------------------------------|-----------------------------------------------------------------------|---------|----------|
| Media                                          | viscous media and liquids with suspended particles; liquids and gases |         |          |
| Medium temperature [°C]                        | -25...85; (125: < 1 h)                                                |         |          |
| Min. burst pressure                            | 30000 mbar                                                            | 435 psi | 3000 kPa |
| Pressure rating                                | 10000 mbar                                                            | 145 psi | 1000 kPa |
| Vacuum resistance [mbar]                       | -1000                                                                 |         |          |
| Type of pressure                               | relative pressure                                                     |         |          |
| No dead space                                  | yes                                                                   |         |          |
| MAWP (for applications according to CRN) [bar] | 10                                                                    |         |          |

| Electrical data                 |                 |  |  |
|---------------------------------|-----------------|--|--|
| Operating voltage [V]           | 18...30 DC      |  |  |
| Min. insulation resistance [MΩ] | 100; (500 V DC) |  |  |
| Protection class                | III             |  |  |
| Reverse polarity protection     | yes             |  |  |
| Integrated watchdog             | yes             |  |  |

| 2-wire                   |            |  |  |
|--------------------------|------------|--|--|
| Current consumption [mA] | 3.5...21.5 |  |  |
| Power-on delay time [s]  | 1          |  |  |

| 3-wire                   |      |  |  |
|--------------------------|------|--|--|
| Current consumption [mA] | < 45 |  |  |
| Power-on delay time [s]  | 0.5  |  |  |

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

| Outputs                    |                                                                |
|----------------------------|----------------------------------------------------------------|
| Total number of outputs    | 1                                                              |
| Output signal              | analog signal; (configurable)                                  |
| Number of analog outputs   | 1                                                              |
| Analog current output [mA] | 4...20; (scalable)                                             |
| Max. load [Ω]              | 700; (U <sub>b</sub> = 24 V; (U <sub>b</sub> - 9 V) / 21.5 mA) |
| Short-circuit proof        | yes                                                            |
| Overload protection        | yes                                                            |

| Measuring/setting range |                 |                  |              |
|-------------------------|-----------------|------------------|--------------|
| Measuring range         | -50...1000 mbar | -0.73...14.5 psi | -5...100 kPa |
| Analog start point      | -50...800 mbar  | -0.73...11.6 psi | -5...80 kPa  |
| Analog end point        | 150...1000 mbar | 2.18...14.5 psi  | 15...100 kPa |
| In steps of             | 0.5 mbar        | 0.01 psi         | 0.05 kPa     |
| Factory setting         | ASP = 0.0 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; (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                      | < ± 0,15; (Turn down 1:1)                                                                          |



## Flush pressure sensor

PM-001BREA01 -E-ZVG/US

|                                        |                                                     |                                                       |
|----------------------------------------|-----------------------------------------------------|-------------------------------------------------------|
|                                        | [% of the span]                                     |                                                       |
| Long-term stability                    |                                                     | < ± 0,1; (Turn down 1:1; per year)                    |
|                                        | [% of the span]                                     |                                                       |
| Total deviation over temperature range | <b>Temperature range</b>                            | <b>total deviation</b>                                |
|                                        | -25...15 °C                                         | Characteristics deviation ± 0,05 % of the span / 10 K |
|                                        | 15...80 °C                                          | Characteristics deviation                             |
|                                        | 80...125 °C                                         | Characteristics deviation ± 0,1 % of the span / 10 K  |
| Notes on the accuracy / deviation      | for further details see section Diagrams and graphs |                                                       |
| Reaction times                         |                                                     |                                                       |
| Damping for the analog output dAA      | [s]                                                 | 0...4                                                 |
| 2-wire                                 |                                                     |                                                       |
| Step response time analog output       | [ms]                                                | 30                                                    |
| 3-wire                                 |                                                     |                                                       |
| Step response time analog output       | [ms]                                                | 7                                                     |
| Interfaces                             |                                                     |                                                       |
| Communication interface                | IO-Link                                             |                                                       |
| Transmission type                      | COM2 (38,4 kBaud)                                   |                                                       |
| IO-Link revision                       | 1.1                                                 |                                                       |
| Profiles                               | Smart Sensor - SSP 3.1                              | Measuring Sensor                                      |
|                                        | Common - I&D                                        | Identification and Diagnosis                          |
| SIO mode                               | no                                                  |                                                       |
| Required master port class             | A                                                   |                                                       |
| Process data analog                    | 3                                                   |                                                       |
| Min. process cycle time                | [ms]                                                | 3.2                                                   |
| Supported DeviceIDs                    | <b>Type of operation</b>                            | <b>DeviceID</b>                                       |
|                                        | default                                             | 1112                                                  |
| Operating conditions                   |                                                     |                                                       |
| Ambient temperature                    | [°C]                                                | -25...80                                              |
| Storage temperature                    | [°C]                                                | -40...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]                                             | 364                                                   |
| UL approval                            | UL approval number                                  | J025                                                  |
| Mechanical data                        |                                                     |                                                       |
| Weight                                 | [g]                                                 | 555.8                                                 |
| Housing                                | tubular                                             |                                                       |
| Dimensions                             | [mm]                                                | Ø 34 / L = 186.4                                      |



Flush pressure sensor

PM-001BREA01 -E-ZVG/US

|                          |                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------|
| Material                 | stainless steel (1.4404 / 316L); stainless steel (1.4301 / 304); PBT                                             |
| Materials (wetted parts) | ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L)<br>surface characteristics: Ra 0,4 µm / Rz = 4 µm; PTFE |
| Min. pressure cycles     | 100 million                                                                                                      |
| Tightening torque [Nm]   | 35                                                                                                               |
| Process connection       | threaded connection G 1 external thread with Aseptoflex Vario sealing contour                                    |

Remarks

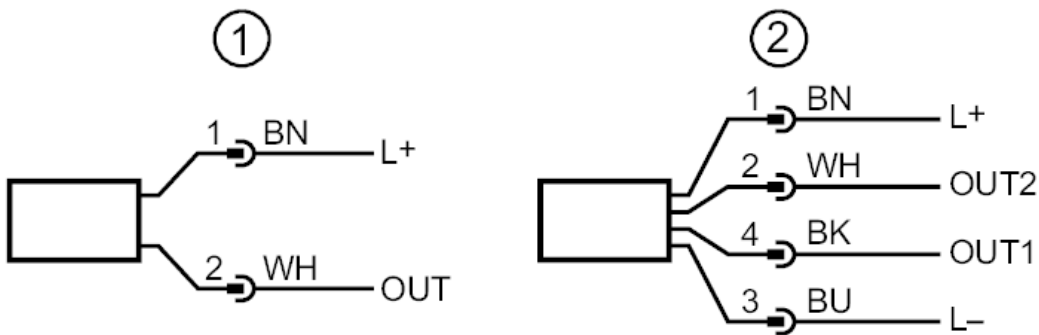
|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated



Connection



- 1
- 2
- connection for 2-wire operation ( analog )  
connection for 3-wire operation ( analog / IO-Link )  
OUT1 : IO-Link  
OUT2 : analog output

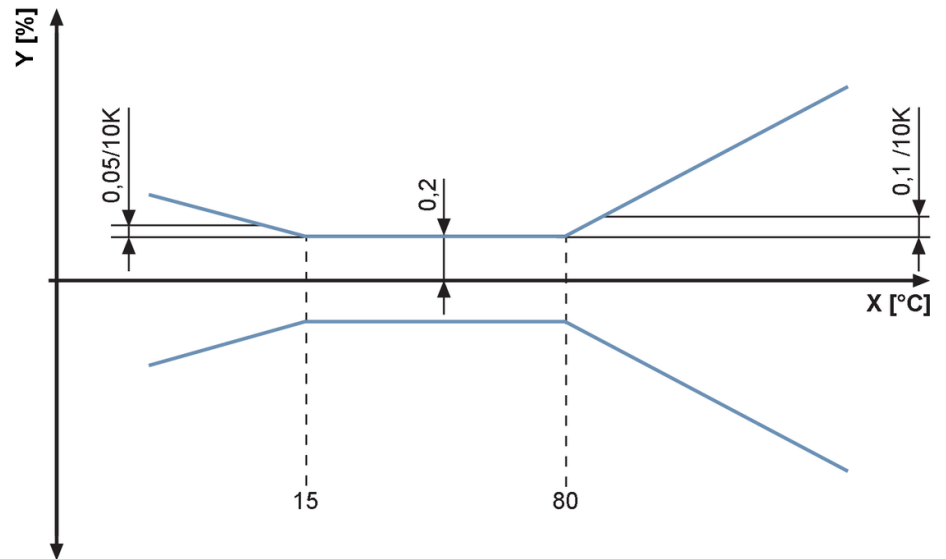


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PM-001BREA01 -E-ZVG/US

### Diagrams and graphs

ambient temperature influence on the accuracy



X temperature  
Y total deviation