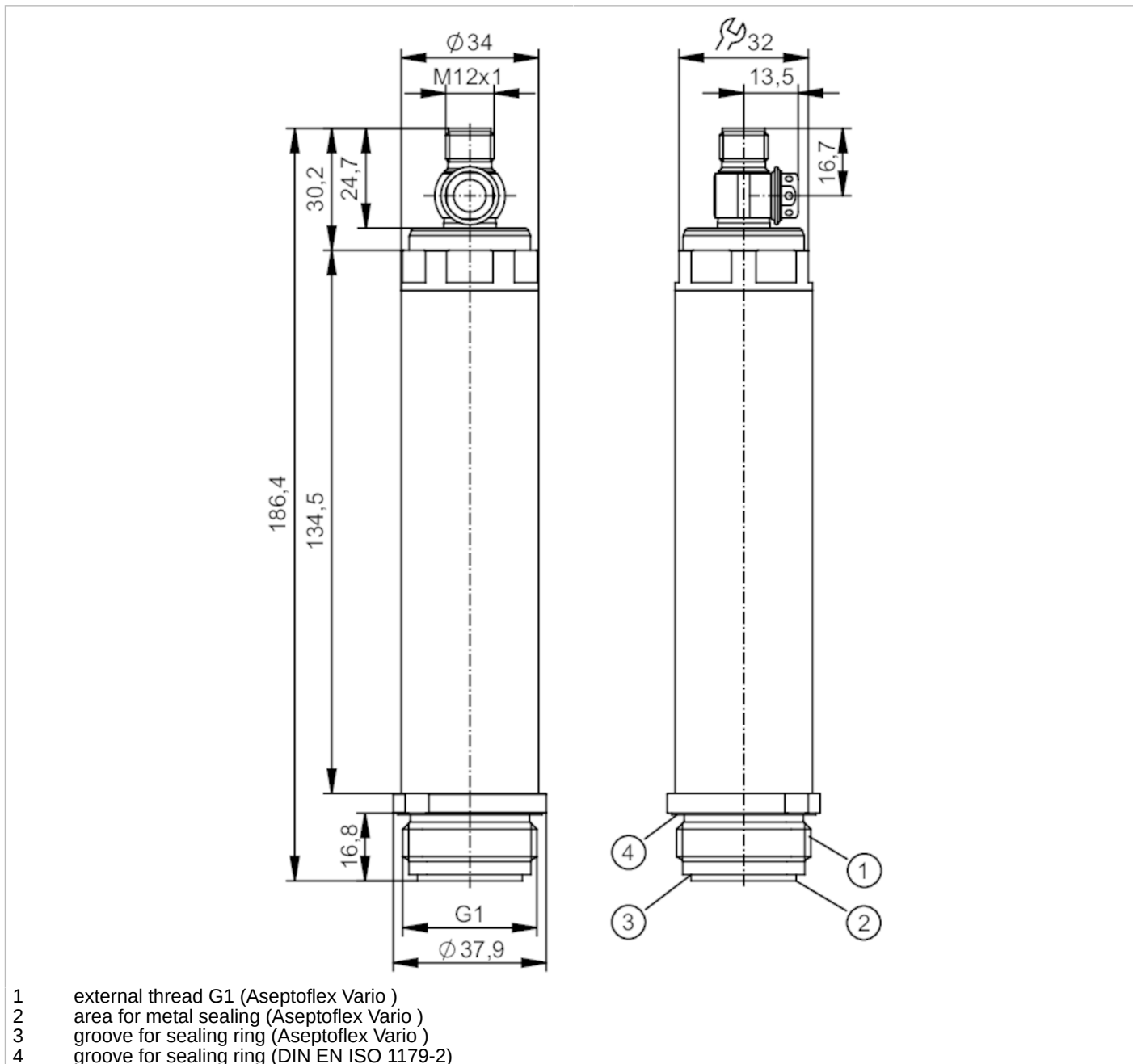


# PY2007



## Flush pressure sensor

PM-001BREA01 -E-ZVG/US



EC 1935/2004

FCM



### 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 mit Dichtkontur Aseptoflex Vario  |                  |              |
| 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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## Flush pressure sensor

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)  |  |  |

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|  |                 |   |   |
|--|-----------------|---|---|
|  | [% of the span] |   |   |
| Long-term stability                    | [% of the span] | < ± 0,1; (Turn down 1:1; per year)                  |   |
| 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 |   |
| <b>Reaction times</b>                  |                 |   |   |
| 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   |   |
| <b>Interfaces</b>                      |                 |   |   |
| 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  |
| <b>Operating conditions</b>            |                 |   |   |
| Ambient temperature                    | [°C]            | -25...80  |   |
| Storage temperature                    | [°C]            | -40...100   |   |
| Protection                             |                 | IP 67; IP 68; IP 69K                                |   |
| <b>Tests / approvals</b>               |                 |   |   |
| 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  |
| <b>Mechanical data</b>                 |                 |   |   |
| Weight                                 | [g]             | 555.8   |   |
| Housing                                |                 | tubular   |   |
| Dimensions                             | [mm]            | Ø 34 / L = 186.4                                    |   |

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## Flush pressure sensor

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|                          |  |
|--------------------------|--|
| Material                 | stainless steel (1.4404 / 316L); stainless steel (1.4301 / 304); PBT   |
| Materials (wetted parts) | ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); 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 mit Dichtkontur Aseptoflex Vario   |

### Remarks

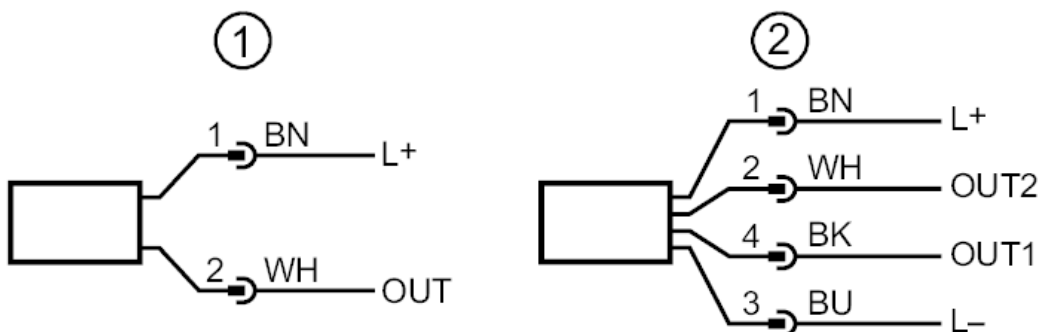
|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

### Electrical connection

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



### Connection



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

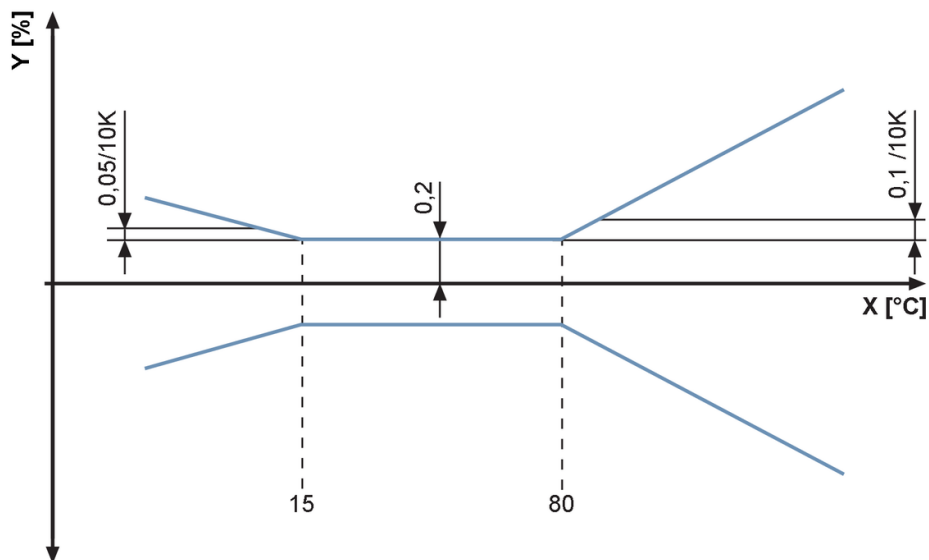


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### Diagrams and graphs

ambient temperature influence on the accuracy



X temperature  
Y total deviation