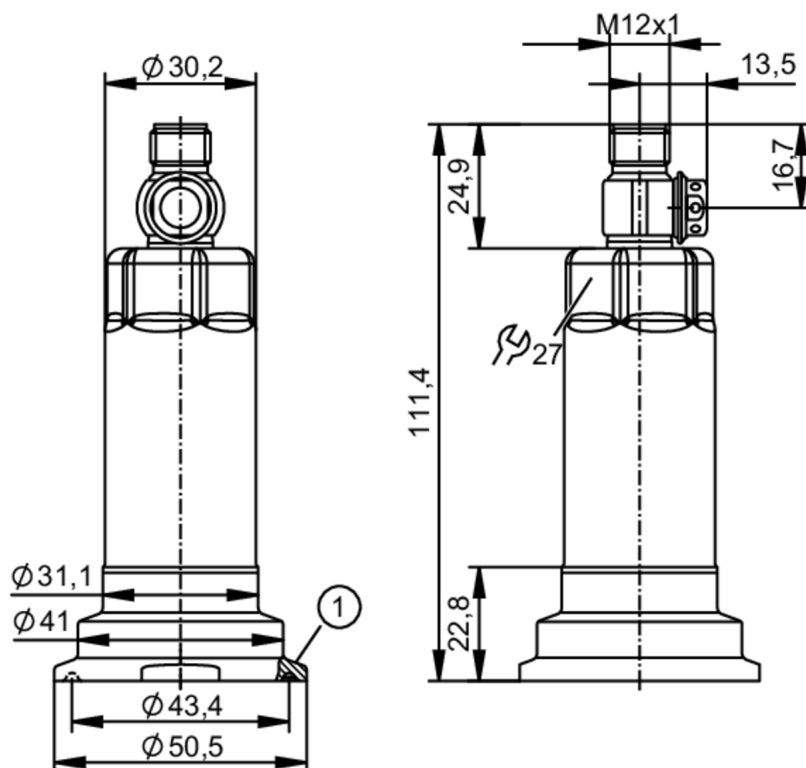




## Flush pressure sensor

PM-,25BREZ01-E-ZVG/US



- 1 clamp DN25...DN40 (1...1.5") DIN 32676 (ISO 2852)  
the seal for the Triclamp process connection must have an inner diameter of at least 22 mm



EC 1935/2004

EHEDG Certified

FCM



Reg31



## Product characteristics

|                              |                                                             |                  |                    |                |
|------------------------------|-------------------------------------------------------------|------------------|--------------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |                  |                    |                |
| Measuring range              | -0.0125...0.25 bar                                          | -12.5...250 mbar | -0.182...3.626 psi | -1.25...25 kPa |
| Process connection           | Clamp DN25...DN40 (1...1.5") DIN 32676 (ISO 2852)           |                  |                    |                |

## Application

|                                                |                                                                                                 |         |          |
|------------------------------------------------|-------------------------------------------------------------------------------------------------|---------|----------|
| Special feature                                | Gold-plated contacts                                                                            |         |          |
| Measuring element                              | ceramic-capacitive pressure measuring cell                                                      |         |          |
| Temperature monitoring                         | no                                                                                              |         |          |
| Application                                    | flush mountable for the food and beverage industry                                              |         |          |
| Media                                          | viscous media and liquids with suspended particles; liquids and gases                           |         |          |
| Medium temperature [°C]                        | -25...150                                                                                       |         |          |
| Min. bursting pressure                         | 30000 mbar                                                                                      | 435 psi | 3000 kPa |
| Pressure rating                                | 5000 mbar                                                                                       | 73 psi  | 500 kPa  |
| Note on pressure rating                        | take into account the pressure resistance of the bracket and the seal used for clamp connection |         |          |
| Vacuum resistance [mbar]                       | -1000                                                                                           |         |          |
| Vacuum resistance [MPa]                        | -0.1                                                                                            |         |          |
| Type of pressure                               | relative pressure                                                                               |         |          |
| No dead space                                  | yes                                                                                             |         |          |
| MAWP (for applications according to CRN) [bar] | 10                                                                                              |         |          |



## Flush pressure sensor

PM-,25BREZ01-E-ZVG/US

| Electrical data                    |                        |                                                                                                    |                   |                                      |
|------------------------------------|------------------------|----------------------------------------------------------------------------------------------------|-------------------|--------------------------------------|
| Operating voltage                  | [V]                    | 18...30 DC                                                                                         |                   |                                      |
| Min. insulation resistance         | [MΩ]                   | 100; (500 V DC)                                                                                    |                   |                                      |
| Protection class                   |                        | III                                                                                                |                   |                                      |
| Reverse polarity protection        |                        | yes                                                                                                |                   |                                      |
| Measuring principle                |                        | hydrostatic                                                                                        |                   |                                      |
| 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 digital outputs: 1; Number of analogue outputs: 1                                        |                   |                                      |
| Outputs                            |                        |                                                                                                    |                   |                                      |
| Total number of outputs            |                        | 2                                                                                                  |                   |                                      |
| Output signal                      |                        | analogue signal; IO-Link; (configurable)                                                           |                   |                                      |
| Number of digital outputs          |                        | 1; (IO-Link)                                                                                       |                   |                                      |
| Number of analogue outputs         |                        | 1                                                                                                  |                   |                                      |
| Analogue current output            | [mA]                   | 4...20; (scalable)                                                                                 |                   |                                      |
| Max. load                          | [Ω]                    | 700; (Ub = 24 V; (Ub - 9 V) / 21.5 mA)                                                             |                   |                                      |
| Short-circuit proof                |                        | yes                                                                                                |                   |                                      |
| Overload protection                |                        | yes                                                                                                |                   |                                      |
| Measuring/setting range            |                        |                                                                                                    |                   |                                      |
| Measuring range                    |                        | -0.0125...0.25 bar                                                                                 | -12.5...250 mbar  | -0.182...3.626 psi    -1.25...25 kPa |
| Analogue start point               |                        | -12.5...200 mbar                                                                                   | -0.182...2.9 psi  | -1.25...20 kPa                       |
| Analogue end point                 |                        | 37.5...250 mbar                                                                                    | 0.544...3.626 psi | 3.75...25 kPa                        |
| In steps of                        |                        | 0.1 mbar                                                                                           | 0.002 psi         | 0.01 kPa                             |
| Factory setting                    |                        | ASP = 0.0 mbar                                                                                     | AEP = 250 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               | [% 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                                                                                           |                   |                                      |
| Temperature coefficient span       | [% of the span / 10 K] | < ± 0,15                                                                                           |                   |                                      |



## Flush pressure sensor

PM-,25BREZ01-E-ZVG/US

|                                        |                                                     |                                                           |
|----------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|
| Total deviation over temperature range | <b>Temperature range</b>                            | <b>total deviation</b>                                    |
|                                        | -25...15 °C                                         | Characteristics deviation $\pm 0,1$ % of the span / 10 K  |
|                                        | 15...80 °C                                          | Characteristics deviation                                 |
|                                        | 80...150 °C                                         | Characteristics deviation $\pm 0,15$ % of the span / 10 K |
| Notes on the accuracy / deviation      | for further details see section Diagrams and graphs |                                                           |

### Response times

|                                     |      |       |
|-------------------------------------|------|-------|
| Damping for the analogue output dAA | [s]  | 0...4 |
| 2-wire                              |      |       |
| Step response time analogue output  | [ms] | 30    |
| 3-wire                              |      |       |
| Step response time analogue output  | [ms] | 7     |

### Interfaces

|                                 |                                                                          |                   |
|---------------------------------|--------------------------------------------------------------------------|-------------------|
| Communication interface         | IO-Link                                                                  |                   |
| Transmission type               | COM2 (38,4 kBaud)                                                        |                   |
| IO-Link revision                | 1.1                                                                      |                   |
| SDCI standard                   | IEC 61131-9                                                              |                   |
| Profiles                        | Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000) |                   |
| SIO mode                        | no                                                                       |                   |
| Required master port type       | A                                                                        |                   |
| Process data analogue           | 3                                                                        |                   |
| Min. process cycle time         | [ms]                                                                     | 3.2               |
| IO-Link resolution pressure     | [mbar]                                                                   | 0.05              |
| IO-Link process data (cyclical) | <b>function</b>                                                          | <b>bit length</b> |
|                                 | pressure                                                                 | 16                |
|                                 | device status                                                            | 4                 |
| IO-Link functions (acyclical)   | application specific tag; internal temperature                           |                   |
| Supported DeviceIDs             | <b>Type of operation</b>                                                 | <b>DeviceID</b>   |
|                                 | default                                                                  | 669               |

### 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]                                                                                                                   | 323                 |
| Note on approval     | factory certificate available as download at <a href="http://www.factory-certificate.ifm">www.factory-certificate.ifm</a> |                     |
| UL approval          | UL Approval no.                                                                                                           | J055                |
|                      | File number UL                                                                                                            | E174189             |

# PM1108



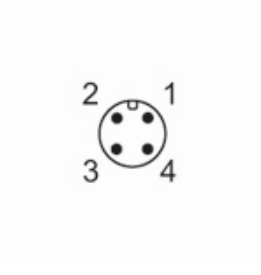
## Flush pressure sensor

PM-,25BREZ01-E-ZVG/US

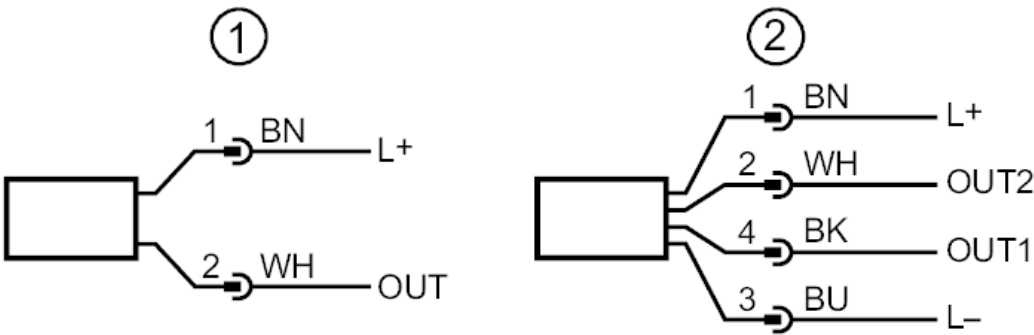
| Mechanical data          |      |                                                                                                           |
|--------------------------|------|-----------------------------------------------------------------------------------------------------------|
| Weight                   | [g]  | 390.8                                                                                                     |
| Housing                  |      | cylindrical                                                                                               |
| Dimensions               | [mm] | Ø 30.2 / L = 111.4                                                                                        |
| Materials                |      | stainless steel (316L/1.4404); PBT                                                                        |
| Materials (wetted parts) |      | ceramics (99.9 % Al2O3); stainless steel (316L/1.4435);<br>surface characteristics: Ra < 0,4 / Rz 4; PTFE |
| Min. pressure cycles     |      | 100 million                                                                                               |
| Process connection       |      | Clamp DN25...DN40 (1...1,5") DIN 32676 (ISO 2852)                                                         |
| Remarks                  |      |                                                                                                           |
| Pack quantity            |      | 1 pcs.                                                                                                    |

### Electrical connection

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



### Connection



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

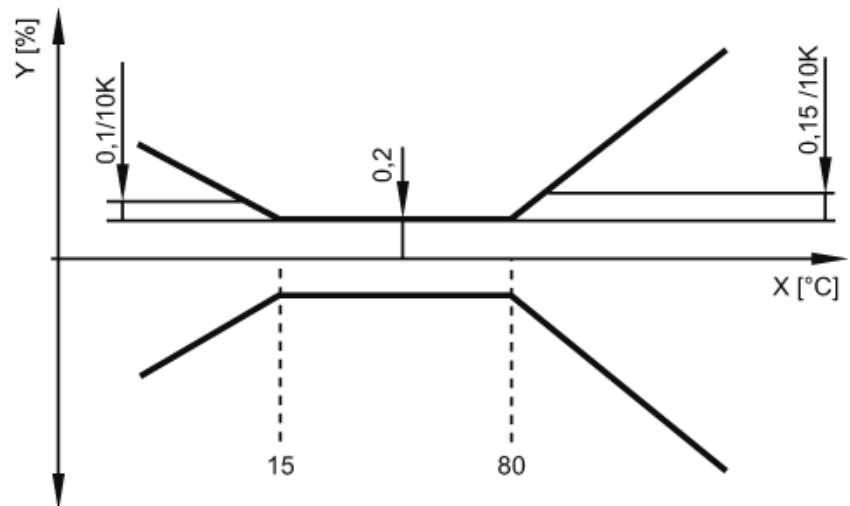


## Flush pressure sensor

PM-,25BREZ01-E-ZVG/US

### Diagrams and graphs

ambient temperature influence on the accuracy



X temperature  
Y total deviation