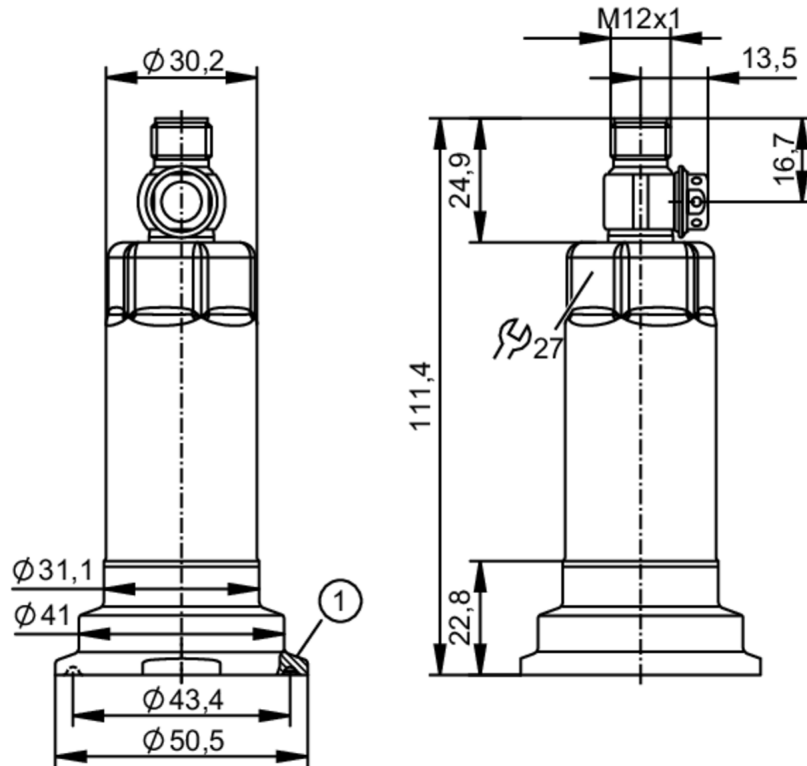


## Flush pressure sensor

PM-,40BREZ01-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



## Product characteristics

|                              |                                                             |                |                  |             |
|------------------------------|-------------------------------------------------------------|----------------|------------------|-------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |                |                  |             |
| Measuring range              | -0.05...0.4 bar                                             | -50...400 mbar | -0.725...5.8 psi | -5...40 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          | 8000 mbar                                                                                       | 116 psi | 800 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                                                                                           |         |          |
| Type of pressure         | relative pressure                                                                               |         |          |
| No dead space            | yes                                                                                             |         |          |

## Electrical data

|                       |            |
|-----------------------|------------|
| Operating voltage [V] | 18...30 DC |
|-----------------------|------------|



## Flush pressure sensor

PM-,40BREZ01-E-ZVG/US

|                                    |                        |                                                                                                       |
|------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| 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; (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                    |                        | -0.05...0.4 bar    -50...400 mbar    -0.725...5.8 psi    -5...40 kPa                                  |
| Analogue start point               |                        | -50...320 mbar    -0.725...4.641 psi    -5...32 kPa                                                   |
| Analogue end point                 |                        | 30...400 mbar    0.435...5.802 psi    3...40 kPa                                                      |
| In steps of                        |                        | 0.1 mbar    0.001 psi    0.01 kPa                                                                     |
| Factory setting                    |                        | ASP = 0.0 mbar    AEP = 400 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 (DIN EN 61298-2); (incl. zero point and span error, non-linearity, hysteresis; Turn down 1:1) |
| 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

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|                                        |                                                     |                                                           |
|----------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|
| 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                                                                      |                 |
| 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             |
| Supported DeviceIDs       | <b>Type of operation</b>                                                 | <b>DeviceID</b> |
|                           | default                                                                  | 1410            |

| 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             |

| Mechanical data          |                                                                                                                                     |       |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------|
| Weight                   | [g]                                                                                                                                 | 392.4 |
| Materials                | stainless steel (316L/1.4404); PBT                                                                                                  |       |
| Materials (wetted parts) | ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); stainless steel (316L/1.4435);<br>surface characteristics: Ra < 0,4 / Rz 4; PTFE |       |
| Min. pressure cycles     | 100 million                                                                                                                         |       |

PM1118



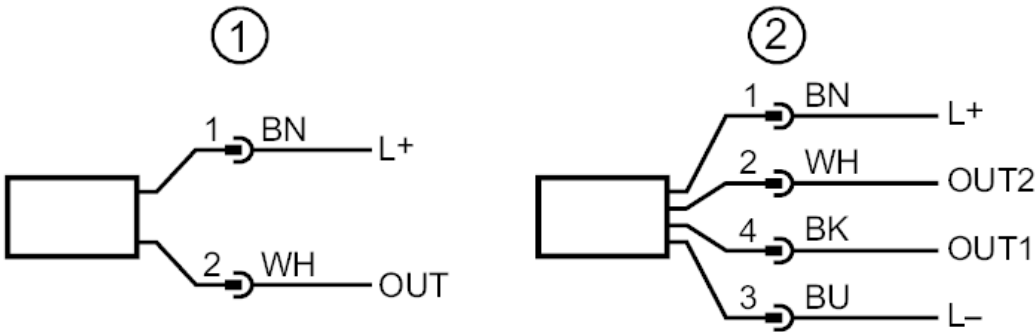
Flush pressure sensor

PM-,40BREZ01-E-ZVG/US

|                                                      |                                                   |
|------------------------------------------------------|---------------------------------------------------|
| Process connection                                   | Clamp DN25...DN40 (1...1,5") DIN 32676 (ISO 2852) |
| Displays / operating elements                        |                                                   |
| Display unit                                         | mbar; psi; kPa; mmWS; inH2O                       |
| 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

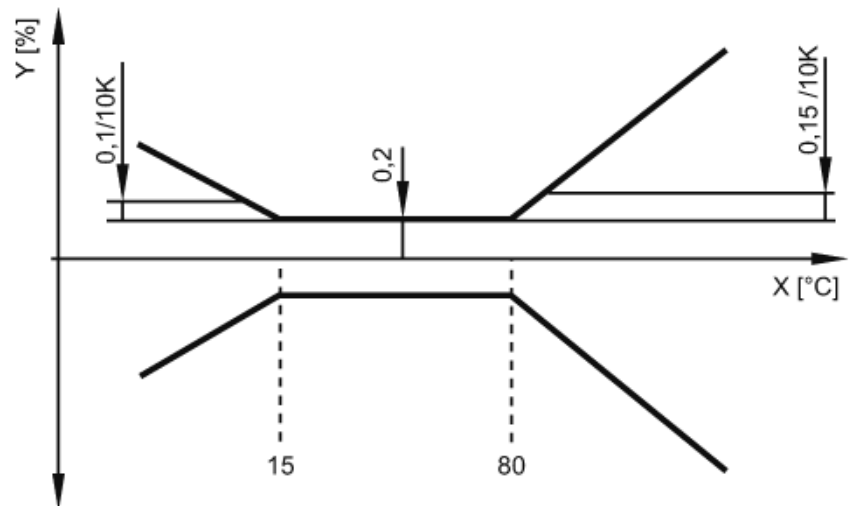


## Flush pressure sensor

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### Diagrams and graphs

ambient temperature influence on the accuracy



X temperature  
Y total deviation