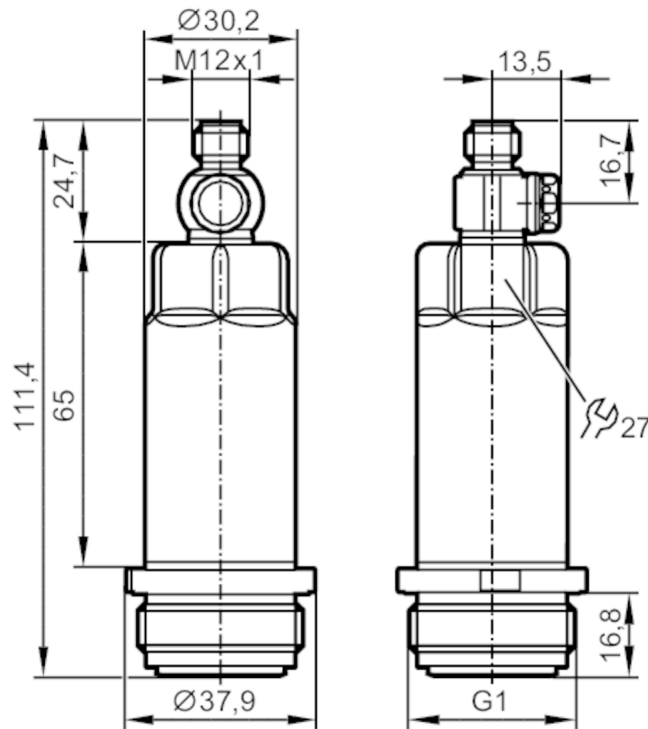


# PM1707



## Flush pressure transmitter

PM-001BREA01-E-ZVG/US



ACS



CRN



EC 1935/2004

EHEDG

Certified

FCM

FDA



IO-Link

Reg31

UK

CA

### Product characteristics

|                              |                                                          |                 |                  |              |
|------------------------------|----------------------------------------------------------|-----------------|------------------|--------------|
| Number of inputs and outputs | Number of analogue outputs: 1                            |                 |                  |              |
| Measuring range              | -0.05...1 bar                                            | -50...1000 mbar | -0.73...14.5 psi | -5...100 kPa |
| Process connection           | threaded connection G 1 external thread Aseptoflex Vario |                 |                  |              |

### 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...125; (150 max. 1h)                                              |         |          |
| Min. bursting 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             |



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|                                     |                        |                                                                                                    |                  |                  |              |
|-------------------------------------|------------------------|----------------------------------------------------------------------------------------------------|------------------|------------------|--------------|
| 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 analogue outputs: 1                                                                      |                  |                  |              |
| Outputs                             |                        |                                                                                                    |                  |                  |              |
| Total number of outputs             |                        | 2                                                                                                  |                  |                  |              |
| Output signal                       |                        | analogue signal; IO-Link; (configurable)                                                           |                  |                  |              |
| 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                     |                        | -0.05...1 bar                                                                                      | -50...1000 mbar  | -0.73...14.5 psi | -5...100 kPa |
| Analogue start point                |                        | -50...800 mbar                                                                                     | -0.73...11.6 psi | -5...80 kPa      |              |
| Analogue 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                | [% 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; (0...70 °C)                                                                              |                  |                  |              |
| Temperature coefficient span        | [% of the span / 10 K] | < ± 0,15; (0...70 °C)                                                                              |                  |                  |              |
| Response times                      |                        |                                                                                                    |                  |                  |              |
| Damping for the analogue output dAA | [s]                    | 0...4                                                                                              |                  |                  |              |
| 2-wire                              |                        |                                                                                                    |                  |                  |              |
| Step response time analogue output  | [ms]                   | 30                                                                                                 |                  |                  |              |

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|                                    |      |   |
|------------------------------------|------|---|
| 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                                                                  | 668             |

| 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.                                                                                                           | J021                |

| Mechanical data          |                                                                                                                                     |     |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----|
| Weight                   | [g]                                                                                                                                 | 314 |
| 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                                                                                                                         |     |
| Tightening torque        | [Nm]                                                                                                                                | 35  |
| Process connection       | threaded connection G 1 external thread Aseptoflex Vario                                                                            |     |

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

### Electrical connection

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

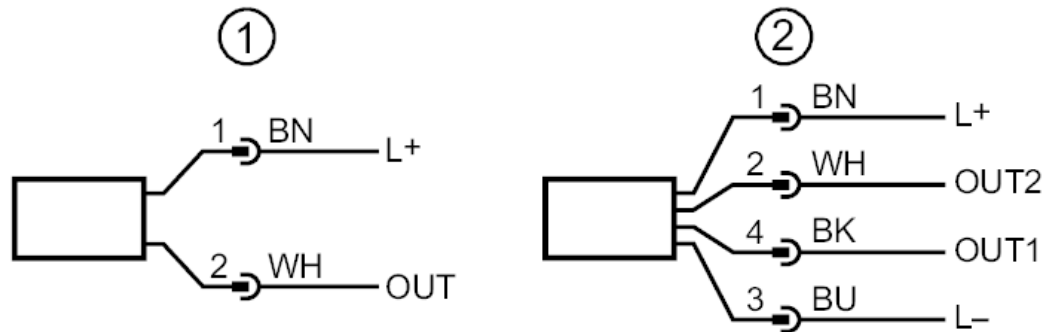




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### Connection



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