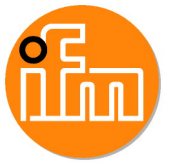
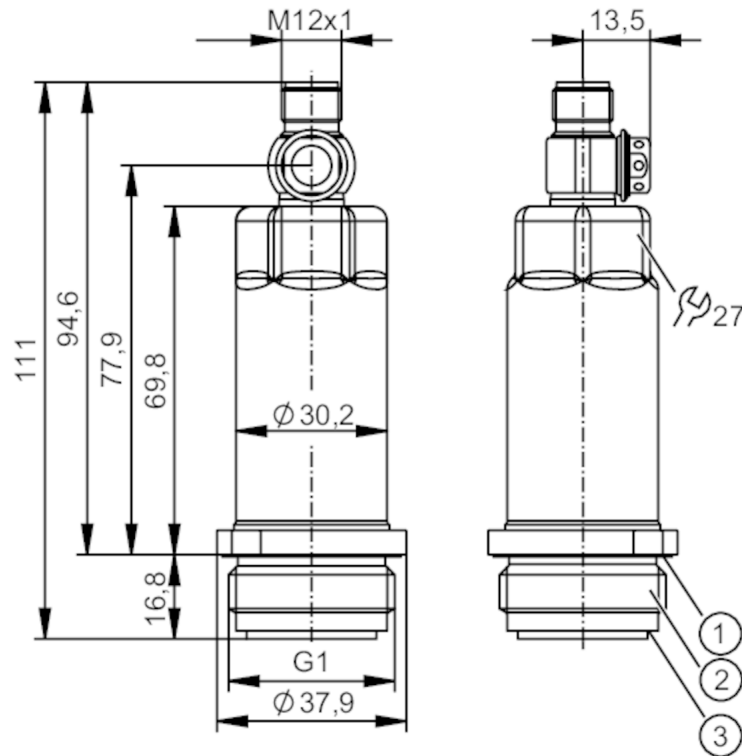


# PM1743



## Flush pressure sensor

PM-040-REA01-E-ZVG/US



- 1 groove with sealing ring (DIN EN ISO 1179-2)
- 2 external thread G1 (Aseptoflex Vario)
- 3 groove for sealing ring



ACS



CRN



EC 1935/2004

EHEDG

Certified

FCM

FDA

IO-Link

NSF

Reg31

UK

CA

### Product characteristics

|                              |                                                                                                                           |                   |              |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analog outputs: 1                                                                 |                   |              |
| Measuring range              | -1...40 bar                                                                                                               | -14.6...580.2 psi | -0.1...4 MPa |
| 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                            |          |          |
| Temperature monitoring     | no                                                                    |          |          |
| Application                | flush mountable for the food and beverage industry                    |          |          |
| Media                      | viscous media and liquids with suspended particles; liquids and gases |          |          |
| Conditionally suitable for | use in gases at pressures > 25 bar only on request                    |          |          |
| Medium temperature [°C]    | -25...150                                                             |          |          |
| Min. burst pressure        | 400 bar                                                               | 5800 psi | 40 MPa   |
| Pressure rating            | 125 bar                                                               | 1800 psi | 12.5 MPa |
| Vacuum resistance [mbar]   | -1000                                                                 |          |          |
| Type of pressure           | relative pressure; vacuum                                             |          |          |
| No dead space              | yes                                                                   |          |          |



## Flush pressure sensor

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|                                          |        |       |
|------------------------------------------|--------|-------|
| MAWP (for applications according to CRN) | 40 bar | 4 MPa |
|------------------------------------------|--------|-------|

## 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 digital outputs: 1; Number of analog outputs: 1 |
|------------------------------|-----------------------------------------------------------|

## Outputs

|                            |                                                                |
|----------------------------|----------------------------------------------------------------|
| Total number of outputs    | 2                                                              |
| Output signal              | analog signal; IO-Link; (configurable)                         |
| Number of digital outputs  | 1; (IO-Link)                                                   |
| 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    | -1...40 bar   | -14.6...580.2 psi | -0.1...4 MPa   |
| Analog start point | -1...32 bar   | -14.6...464.2 psi | -0.1...3.2 MPa |
| Analog end point   | 7...40 bar    | 101.4...580.2 psi | 0.7...4 MPa    |
| In steps of        | 0.02 bar      | 0.2 psi           | 0.002 MPa      |
| Factory setting    | ASP = 0.0 bar | AEP = 40.0 bar    |                |

## 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)                                                                 |

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## 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 $\pm 0,05$ % of the span / 10 K |
|                                        | 15...80 °C                                          | Characteristics deviation                                 |
|                                        | 80...150 °C                                         | Characteristics deviation $\pm 0,1$ % 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                                            |                              |
| SDCI standard                 | IEC 61131-9                                    |                              |
| 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                          |
| IO-Link resolution pressure   | [bar]                                          | 0.01                         |
| IO-Link functions (acyclical) | application specific tag; internal temperature |                              |
| Supported DeviceIDs           | <b>Type of operation</b>                       | <b>DeviceID</b>              |
|                               | default                                        | 1641                         |

| 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]            | 320                 |
| UL approval          | UL approval number | J077                |
|                      | File number UL     | E174189             |

| Mechanical data |         |       |
|-----------------|---------|-------|
| Weight          | [g]     | 272.6 |
| Housing         | tubular |       |

PM1743



Flush pressure sensor

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|                          |      |                                                                                                                    |
|--------------------------|------|--------------------------------------------------------------------------------------------------------------------|
| Dimensions               | [mm] | Ø 30.2 / L = 111                                                                                                   |
| Material                 |      | stainless steel (1.4404 / 316L); 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

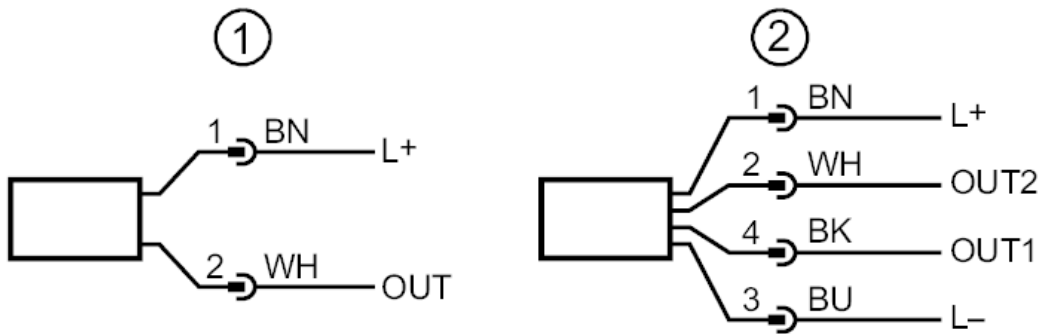
|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

Electrical connection

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



Connection



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

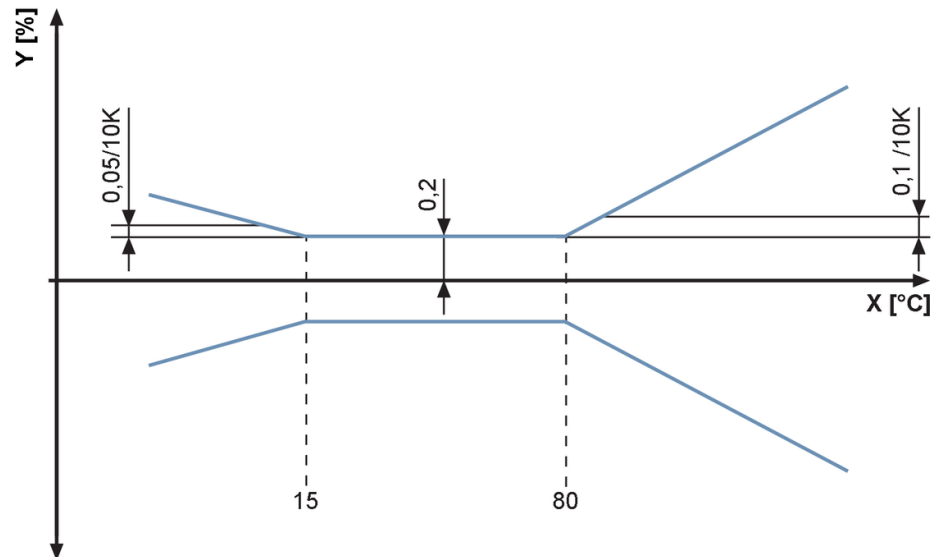


## Flush pressure sensor

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### Diagrams and graphs

ambient temperature influence on the accuracy



X temperature  
Y total deviation