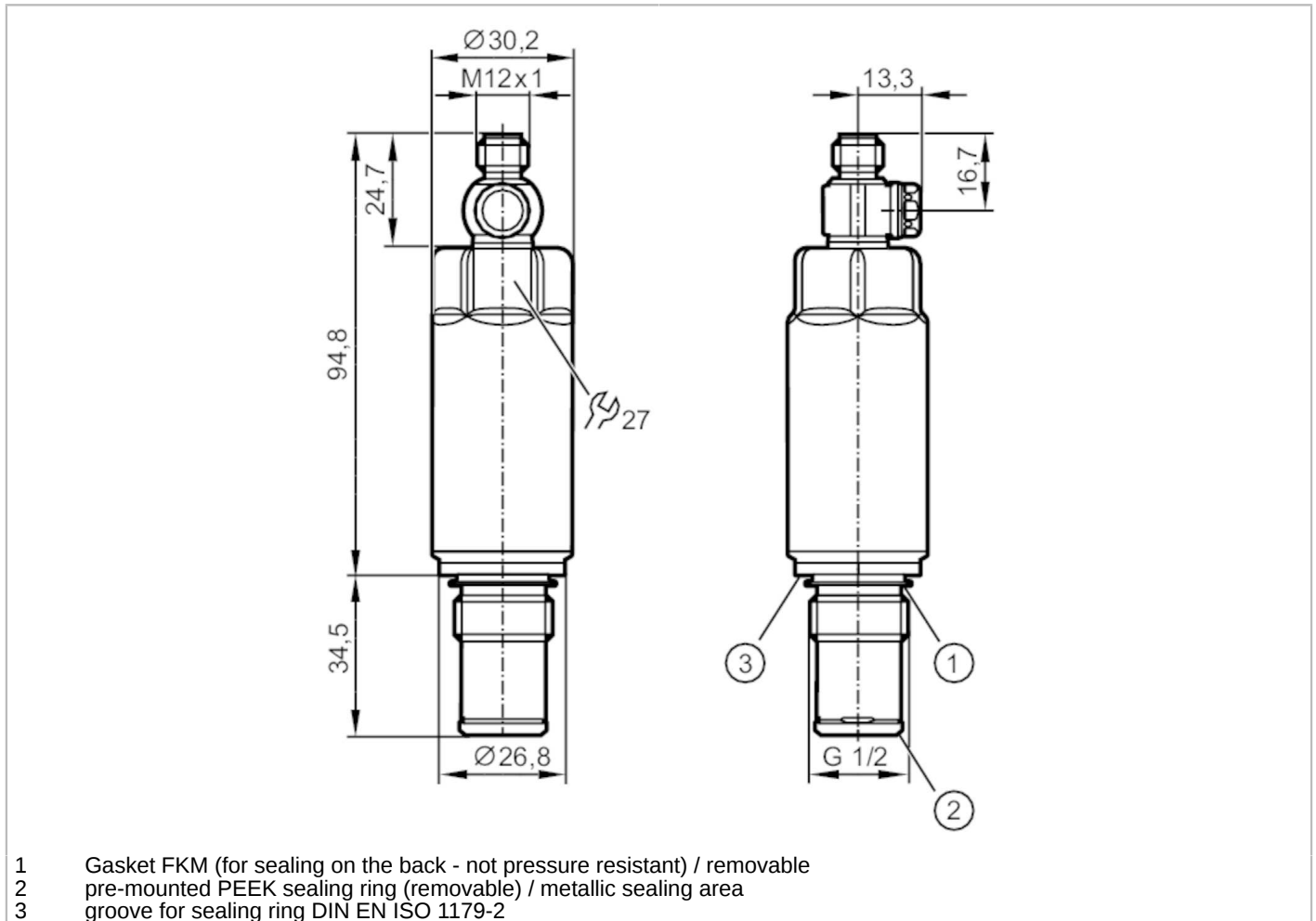


PM1514



Flush pressure sensor

PM-016-REA12-A-ZVG/US



| Product characteristics | | | |
|------------------------------|---|-----------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analog outputs: 1 | | |
| Measuring range | -1...16 bar | -14.6...232 psi | -0.1...1.6 MPa |
| Process connection | threaded connection G 1/2 external thread sealing cone | | |
| Application | | | |
| System | gold-plated contacts | | |
| Measuring element | ceramic-capacitive pressure measuring cell | | |
| Temperature monitoring | yes | | |
| 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. bursting pressure | 250 bar | 3625 psi | 25 MPa |
| Pressure rating | 110 bar | 1600 psi | 11 MPa |
| Vacuum resistance [mbar] | -1000 | | |
| Type of pressure | relative pressure; vacuum | | |
| No dead space | yes | | |

PM1514



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PM-016-REA12-A-ZVG/US

| | | | |
|--|-----------------|--|-------------------|
| MAWP (for applications according to CRN) | [bar] | 43 | |
| 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; 1:5) | |
| Max. load | [Ω] | 700; (U _b = 24 V; (U _b - 9 V) / 21.5 mA) | |
| Short-circuit proof | | yes | |
| Overload protection | | yes | |
| Measuring/setting range | | | |
| Measuring range | | -1...16 bar | -14.6...232 psi |
| Analog start point | | -1...12.8 bar | -14.6...185.6 psi |
| Analog end point | | 2.2...16 bar | 32...232 psi |
| In steps of | | 0.01 bar | 0.2 psi |
| Factory setting | | ASP = 0.0 bar | AEP = 16.0 bar |
| Temperature monitoring | | | |
| Measuring range | | -25...150 °C | -13...302 °F |
| Accuracy / deviations | | | |
| Repeatability | [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1) | |
| Characteristics deviation | [% of the span] | < ± 0,5; (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) | |

PM1514



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PM-016-REA12-A-ZVG/US

| | | | | |
|--|--|---|---|--|
| Total deviation over temperature range | Temperature range | | total deviation | |
| | -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 | | | |
| Temperature monitoring | | | | |
| Accuracy | [K] | $\pm 2.5 \text{ K} + (0.045 \times (\text{ambient temperature} - \text{medium temperature}))$ | | |
| Repeatability | [K] | $\pm 0,2$ | | |
| Resolution | [K] | 0.2 | | |
| 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 | | |
| Temperature monitoring | | | | |
| Dynamic response T05 / T09 | [s] | $< 10 / < 25$; (DIN EN 60751 water; $> 0,9$ m/s) | | |
| Interfaces | | | | |
| Communication interface | IO-Link | | | |
| Transmission type | COM2 (38,4 kBaud) | | | |
| IO-Link revision | 1.1 | | | |
| SDCI standard | IEC 61131-9 | | | |
| Profiles | Smart Sensor ED2: Identification and Diagnosis (0x4000), Measurement Data Channel (0x800A) | | | |
| SIO mode | no | | | |
| Required master port class | A; (when pin 2 not connected: B) | | | |
| Min. process cycle time | [ms] | 4.5 | | |
| IO-Link resolution pressure | [bar] | 0.005 | | |
| IO-Link resolution temperature | [K] | 0.2 | | |
| IO-Link process data (cyclical) | Function | bit length | | |
| | pressure | 16 | | |
| | temperature | 16 | | |
| | device status | 4 | | |
| IO-Link functions (acyclical) | application specific tag; internal temperature | | | |
| Supported DeviceIDs | Type of operation | DeviceID | | |
| | default | 1020 | | |
| Operating conditions | | | | |
| Ambient temperature | [°C] | -25...80 | | |
| Storage temperature | [°C] | -40...100 | | |
| Protection | IP 67; IP 68; IP 69K | | | |

PM1514



Flush pressure sensor

PM-016-REA12-A-ZVG/US

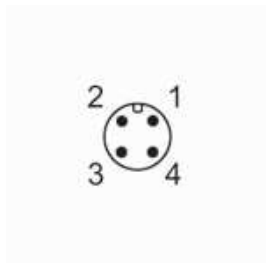
| Tests / approvals | | |
|----------------------|--------------------|---------------------|
| EMC | DIN EN 61326-1 | |
| Shock resistance | DIN EN 60068-2-27 | 50 g (11 ms) |
| Vibration resistance | DIN EN 60068-2-6 | 20 g (10...2000 Hz) |
| MTTF | [years] | 322 |
| UL approval | UL approval number | J024 |
| | File number UL | E174189 |

| Mechanical data | | |
|--------------------------|--|-------|
| Weight | [g] | 306.1 |
| Material | stainless steel (1.4404 / 316L); PTFE; FKM | |
| Materials (wetted parts) | ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PEEK; PTFE | |
| Min. pressure cycles | 100 million | |
| Tightening torque | [Nm] | 20 |
| Process connection | threaded connection G 1/2 external thread sealing cone | |

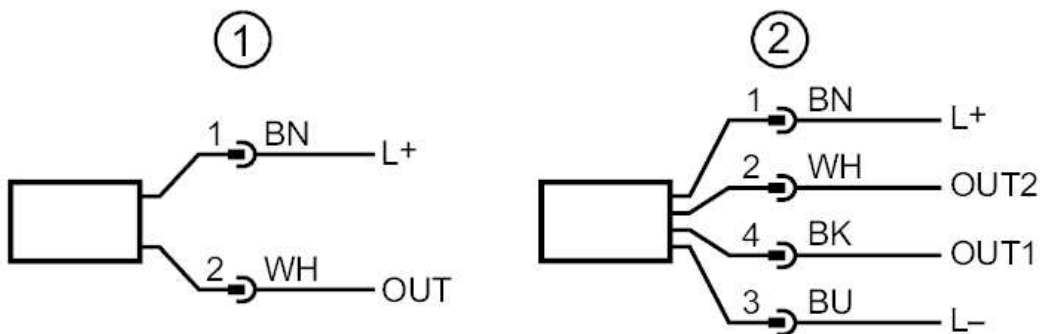
| Remarks | |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 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

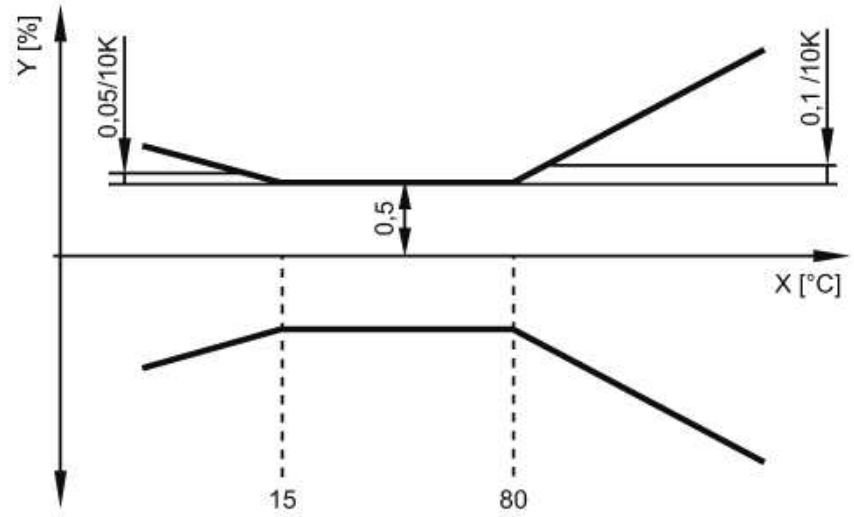
PM1514



Flush pressure sensor

PM-016-REA12-A-ZVG/US

Diagrams and graphs



X temperature
Y total deviation