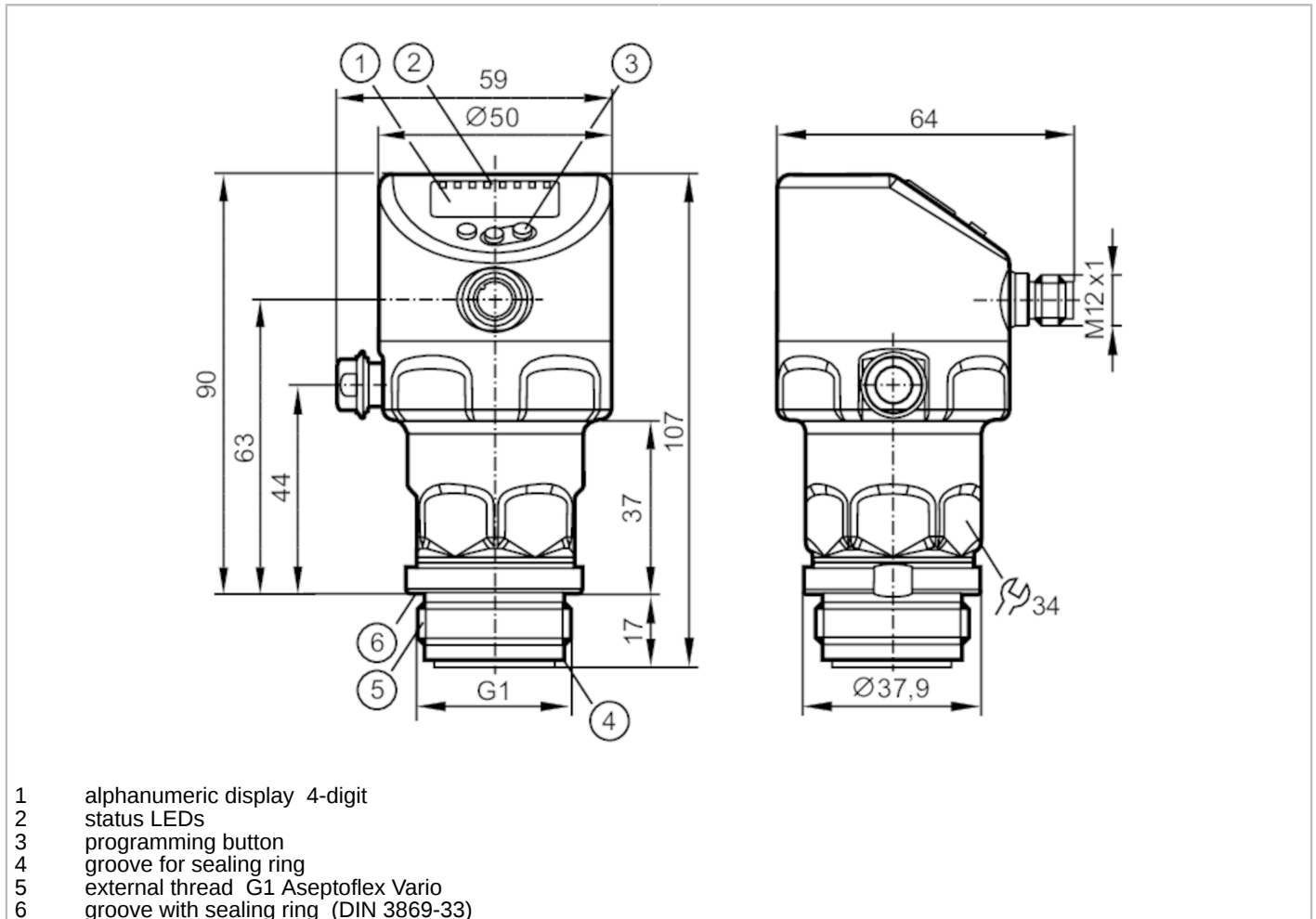


PI1708



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ IP



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button
- 4 groove for sealing ring
- 5 external thread G1 Aseptoflex Vario
- 6 groove with sealing ring (DIN 3869-33)



| Product characteristics | | | |
|---------------------------------|---|------------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 | | |
| Measuring range | -12.4...250 mbar | -5...100.4 inH2O | -1.24...25 kPa |
| Process connection | threaded connection G 1 external thread Aseptoflex Vario | | |
| Application | | | |
| Special feature | Gold-plated contacts | | |
| 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 | 12044 inH2O | 3000 kPa |
| Pressure rating | 6000 mbar | 2400 inH2O | 600 kPa |
| Vacuum resistance [mbar] | -1000 | | |
| Type of pressure | relative pressure; vacuum | | |
| No dead space | yes | | |
| Electrical data | | | |
| Min. insulation resistance [MΩ] | 100; (500 V DC) | | |
| Protection class | III | | |
| Reverse polarity protection | yes | | |

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Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

| | | |
|---------------------|------|------------|
| Integrated watchdog | | yes |
| 2-wire | | |
| Operating voltage | [V] | 20...30 DC |
| Current consumption | [mA] | 3.5...21.5 |
| Power-on delay time | [s] | < 1 |

| | | |
|---------------------|------|----------------------------------|
| 3-wire | | |
| Operating voltage | [V] | 18...30 DC |
| Current consumption | [mA] | 5...45; (430 bei max. Laststrom) |
| Power-on delay time | [s] | < 0.5 |

Inputs / outputs

| | |
|------------------------------|---|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |
|------------------------------|---|

Outputs

| | |
|----------------------------------|--|
| Total number of outputs | 2 |
| Output signal | switching signal; analogue signal; IO-Link |
| Electrical design | PNP/NPN |
| Number of digital outputs | 2 |
| Output function | normally open / normally closed; (parameterisable) |
| Number of analogue outputs | 1 |
| Analogue current output | [mA] 4...20, invertible; (scalable) |
| Short-circuit protection | yes |
| Type of short-circuit protection | pulsed |
| Overload protection | yes |

| | | |
|---------------|-----|-----|
| 2-wire | | |
| Max. load | [Ω] | 300 |

| | | |
|---|------|--|
| 3-wire | | |
| Max. voltage drop switching output DC | [V] | 2 |
| Permanent current rating of switching output DC | [mA] | 100 |
| Switching frequency DC | [Hz] | 125 |
| Max. load | [Ω] | $(U_b - 10 V) / 21,5 \text{ mA}; 650 \text{ } \Omega (U_b = 24 V)$ |

Measuring/setting range

| | | | | |
|-----------------------------------|--------------------|--------------------|-------------------|------------------|
| Measuring range | -12.4...250 mbar | -5...100.4 inH2O | -1.24...25 kPa | -126...2550 mmWS |
| Set point SP | -12...250 mbar | -4.8...100.4 inH2O | -1.2...25 kPa | -122...2549 mmWS |
| Reset point rP | -12.4...249.6 mbar | -5...100.2 inH2O | -1.24...24.96 kPa | -126...2545 mmWS |
| Analogue start point | -12.4...199.4 mbar | -5...80.1 inH2O | -1.24...19.94 kPa | -126...2033 mmWS |
| Analogue end point | 38.2...250 mbar | 15.3...100.4 inH2O | 3.82...25 kPa | 390...2549 mmWS |
| Min. difference between SP and rP | 0.5 mbar | 0.2 inH2O | 0.05 kPa | 5 mmWS |
| In steps of | 0.1 mbar | 0.1 inH2O | 0.01 kPa | 1 mmWS |
| Factory setting | SP1 = 62.5 mbar | | rP1 = 57.5 mbar | |
| | SP2 = 187.5 mbar | | rP2 = 182.5 mbar | |
| | ASP = 0.00 mbar | | AEP = 250 mbar | |
| | dAP = 2.00 s | | dAA = 2.00 s | |



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

| Temperature monitoring | | |
|---|---|--|
| Measuring range | -25...150 °C | -13...302 °F |
| Accuracy / deviations | | |
| Switch point accuracy [% of the span] | < ± 0,2; (DIN EN IEC 62828-1; Turn down 1:1) | |
| Repeatability [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1) | |
| Characteristics deviation [% of the span] | < ± 0,2; (DIN IEC EN 62828-1 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) | |
| Total deviation over temperature range | Temperature range | total deviation |
| | -25...15 °C | Characteristics deviation ± 0,1 % der Spanne / 10 K |
| | 15...80 °C | Characteristics deviation |
| | 80...150 °C | Characteristics deviation ± 0,15 % der Spanne / 10 K |
| Notes on the accuracy / deviation | for further details see section Diagrams and graphs | |
| Temperature monitoring | | |
| Accuracy [K] | ± 2,5+ (0,08 x (Umgebungstemperatur - Mediumtemperatur)) | |
| Repeatability [K] | ± 0,2 | |
| Resolution [K] | 0.2 | |
| Response times | | |
| Damping process value dAP [s] | 0...99.99 | |
| Damping for the analogue output dAA [s] | 0...99.99 | |
| 2-wire | | |
| Step response time analogue output [ms] | 30 | |
| 3-wire | | |
| Min. response time of switching output (dAP) [ms] | 3 | |
| Step response time analogue output [ms] | 7 | |
| Temperature monitoring | | |
| Dynamic response T05 / T09 [s] | < 35 / < 135; (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 | Identification and Diagnosis (0x4000), Measurement Data Channel (0x800A) | |
| SIO mode | yes | |

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Flush pressure sensor with display

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| | | |
|------------------------------------|--|------------|
| Required master port type | A | |
| Min. process cycle time [ms] | 5.6 | |
| IO-Link resolution pressure [mbar] | 0.01 | |
| IO-Link resolution temperature [K] | 0.2 | |
| IO-Link process data (cyclical) | function | bit length |
| | pressure | 32 |
| | temperature | 32 |
| | device status | 4 |
| | binary switching information | 2 |
| IO-Link functions (acyclical) | application specific tag; internal temperature; operating hours counter; switching cycles counter; Pressure peak counter | |
| Supported DeviceIDs | Type of operation | DeviceID |
| | Default | 1152d |

Operating conditions

| | |
|--------------------------|----------------------|
| Ambient temperature [°C] | -25...80 |
| Storage temperature [°C] | -40...100 |
| Protection | IP 67; IP 68; IP 69K |

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] | 214 | |
| Note on approval | factory certificate available as download at www.factory-certificate.ifm | |
| UL approval | UL Approval no. | J048 |
| | File number UL | E174189 |

Mechanical data

| | |
|--------------------------|--|
| Weight [g] | 375.6 |
| Materials | stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA |
| Materials (wetted parts) | ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L); 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 |

Displays / operating elements

| | | |
|--------------|-------------------------------------|-------------------------------|
| Display | Display unit | LED, green |
| | switching status | LED, yellow |
| | function display | alphanumeric display, 4-digit |
| | measured values | alphanumeric display, 4-digit |
| Display unit | mbar; kPa; inH ₂ O; mmWS | |

Remarks

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

PI1708



Flush pressure sensor with display

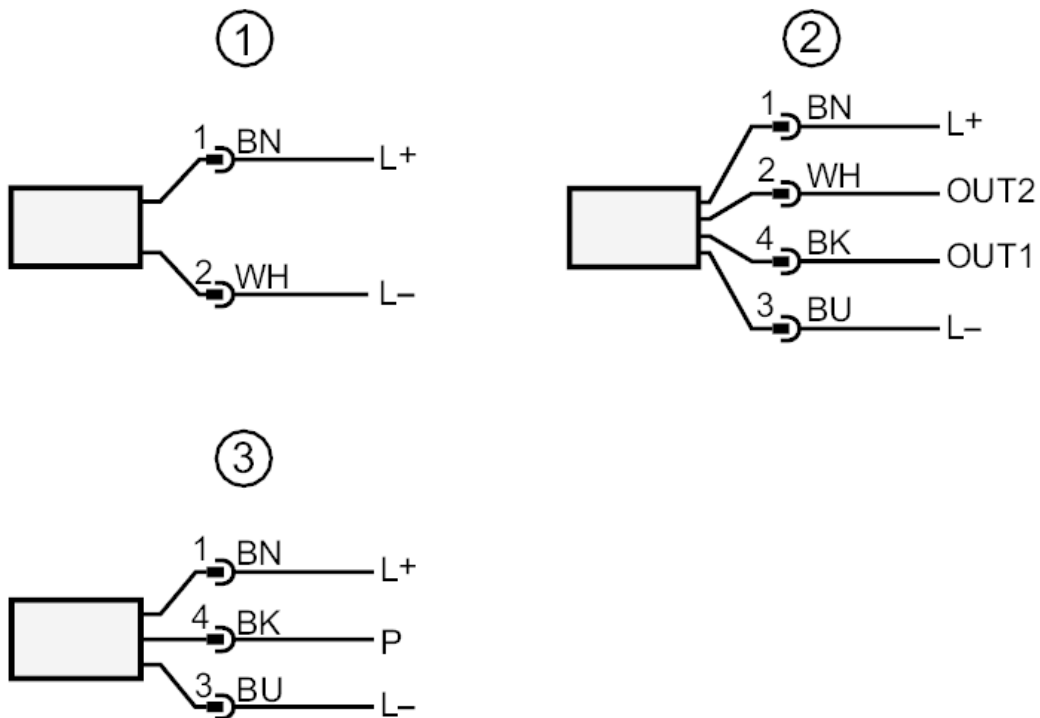
PI-,25BREA01-MFRKG/US/ /P

Electrical connection

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



Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation
- OUT1 switching output / IO-Link
- OUT2 switching output / analogue output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

colours to DIN EN 60947-5-2

Core colours

- BK = black
- BN = brown
- BU = blue
- WH = white

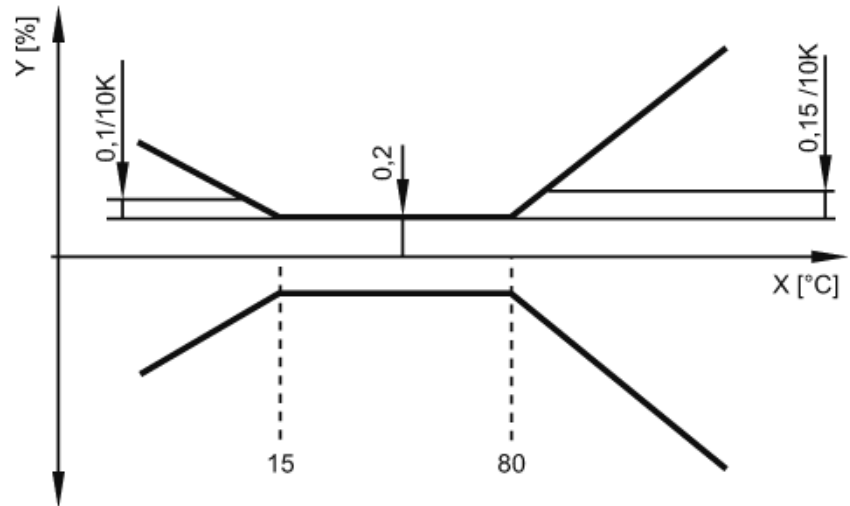
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Flush pressure sensor with display

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Diagrams and graphs



X temperature
Y total deviation