



Pressure sensors
Pressure switch

PBSH-RB2X5ST1S0BMA0Z



Model Name > **PBSH-RB2X5ST1S0BMA0Z**
Part No. > **6051830**



Illustration may differ

At a glance

- Hygienically-graded pressure switch with display for the food and beverage industry
- Wetted parts are made from stainless steel 1.4435
- Individually programmable switching outputs and analog output
- Pressure values are indicated on the display
- Unit of pressure value in the display can be switched
- Output states are indicated separately via large LEDs

Your benefits

- Safe hygienic operation due to flush-mounted, highly resistant stainless steel membrane and hygienic process connections
- Suitability for CIP and SIP ensures high system availability
- Safe and easy setup with three large pushbuttons and legible, rotatable display
- Rotatable housing for optimum cable routing
- Wide range of available configurations enable customer-specific solutions
- High reliability: Corrosion-resistant design of wetted parts and housing with IP 65 and IP 67 enclosure ratings
- Ultimate system availability: IO-Link enables fast, reliable parameter setting when changing over products



Features

| | |
|------------------------|---|
| Pressure type: | Gauge pressure |
| Measuring range: | 0 bar ... 2.5 bar |
| Process temperature: | -20 °C ... +100 °C, +135 °C for max. 1 h |
| Display: | 14-segment-LED, blue, 4-digits, height 9 mm, electronically turnable by 180°, Update: 1,000, 500, 200, 100 ms (adjustable), Accuracy: ≤ 1 % of span ± 1 digit |
| Output signal: | 1 x PNP + 4 mA ... 20 mA |
| Rotatable housing: | Display against housing with electrical connection: 330 °, Housing against process connection: 320 ° |
| Maximum ohmic load RA: | ≤ 0.5 kΩ |
| Gauge pressure: | 0 bar ... 1 bar up to 0 bar ... 25 bar |
| Absolute pressure: | 0 bar ... 1 bar up to 0 bar ... 25 bar |
| Compound pressure: | -1 bar ... 0 bar up to -1 bar ... +24 bar |
| Overpressure safety: | 2-fold |
| Zero point adjustment: | Max. + 3 % of span |
| Medium: | Liquid and gaseous media |
| EHEDG approval: | - |

1) EHEDG conformity with clamp connection only in combination with a Kalrez® stainless steel gasket from Dupont de Nemours or with a T-ring seal from Combifit

International B.V

Performance

| | |
|---|--|
| Accuracy: | $\leq \pm 1\%$ of span (Including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement according to IEC 61298-2)) |
| Non-linearity: | $\leq \pm 0.5\%$ (of span (Best Fit Straight Line, BFSL) according to IEC 61298-2) |
| Setting accuracy of switching outputs: | $\leq \pm 0.5\%$ of span |
| Response time: | 3 ms |
| Long-term drift/one-year stability: | $\leq \pm 0.2\%$ of span according to IEC 61298-2 |
| Temperature coefficient in rated temperature range: | Typical TC of zero: In the temperature range 0 °C ... 20 °C: 0.7 % of span /10 K. In the temperature range 20 °C ... 80 °C: 0.2 % of span/10 K. typical TC of span: In the temperature range 0 °C ... 80 °C: 0.1 % of the span/10 K |
| Rated temperature range: | 0 °C ... +80 °C |

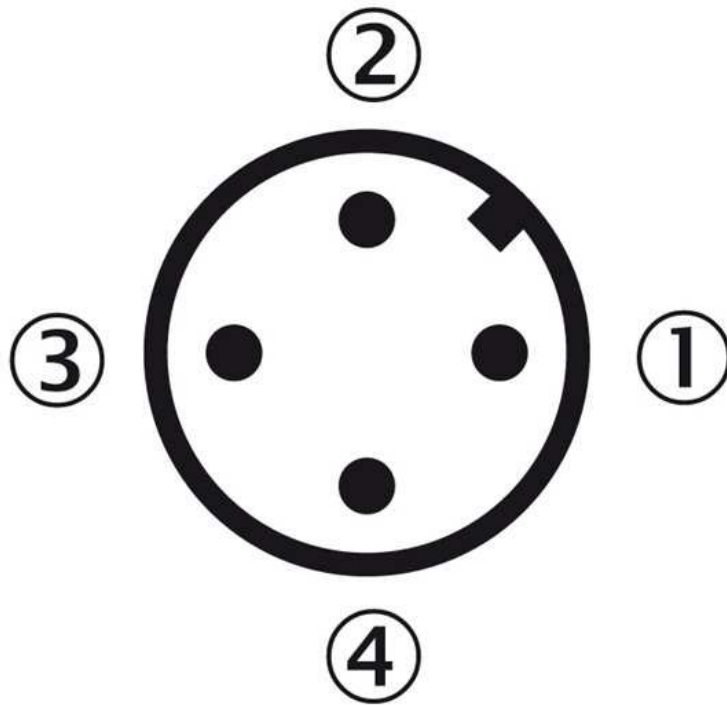
Mechanics/electronics

| | |
|------------------------------|---|
| Process connection: | Tri-Clamp 1 ½" |
| Wetted parts: | Stainless steel 1.4435/316L |
| Seal: | Without seal |
| Housing material: | Display window: PC, Plastic head: PC + ABS, Buttons: TPE-E, Lower body: stainless steel 304 |
| Enclosure rating: | IP 65/IP 67 |
| Electrical connection: | Round connector M12 x 1, 4-pin |
| Power consumption: | Max. 70 mA |
| Electrical safety: | Short-circuit protection: QA, Q1, Q2 towards M, Protection class: III, Overvoltage protection: 40 V DC, Reverse polarity protection: L+ towards M |
| Protection class III: | ✓ |
| Internal transmission fluid: | Medical white oil, FDA compliant according to CFR 172.878 and 21 CFR 178.3620(a), compliant to USP, EP, and JP |
| Total current consumption: | Max. 320 mA (incl. switching current) |
| Isolation voltage: | 500 V DC |
| CE-conformity: | EMC directive: 2004/108/EC, EN 61326-2-3 |

Ambient data

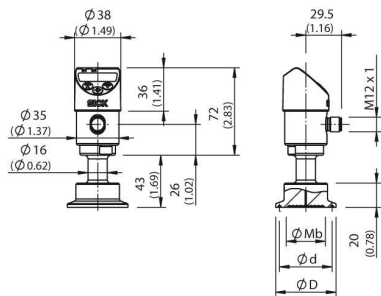
| | |
|----------------------|---|
| Storage temperature: | -20 °C ... +80 °C |
| Ambient temperature: | -20 °C ... +80 °C |
| Shock load: | 50 g according to IEC 60068-2-27 (mechanical shock) |
| Vibration load: | 10 g according to IEC 60068-2-6 (vibration under resonance) |
| Relative humidity: | 45 % ... 75 % |

Connection type



- |1| L+: Positive supply connection
- |2| QA: Analog output
- |3| M: Negative supply connection
- |4| C/Q1: Switching output 1 (with
IO-Link: communication / switching output 1)

Dimensional drawing



| Tri-Clamp | ø Mb | ø d | ø D |
|-----------|-------------|-------------|-------------|
| 1 1/2" | 32.0 (1.25) | 43.5 (1.71) | 50.5 (1.98) |
| 2" | 40.0 (1.57) | 56.6 (2.22) | 64.0 (2.51) |

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