



Pressure sensors  
Pressure switch

PBSH-RB010ST1SONMA0Z



**Model Name** > **PBSH-RB010ST1S0NMA0Z**  
**Part No.** > **6051869**



*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 ... 10 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:         | IO-Link/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                                                                                                                                            |

---

**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.<br>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**

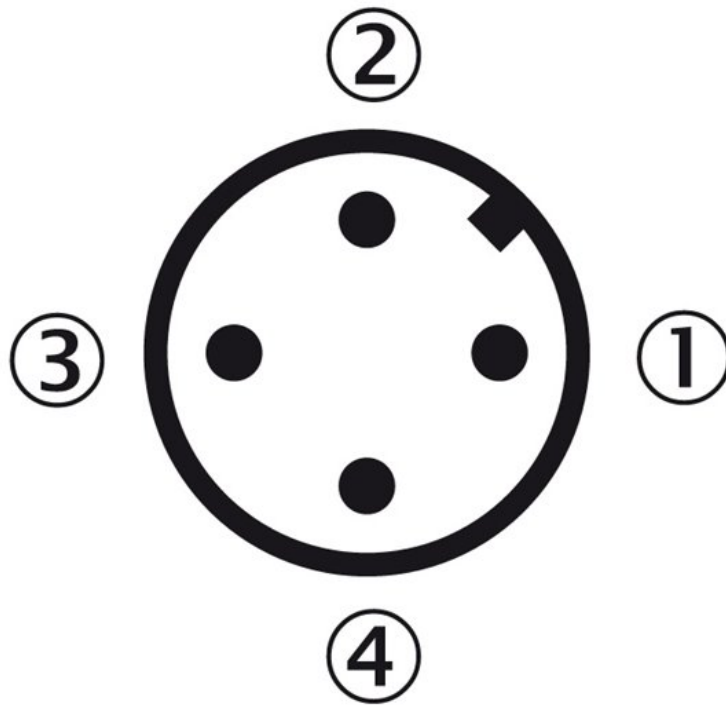
|                              |                                                                                                                                                   |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                       |
| Connection type:             | 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. 170 mA (incl. switching current)                                                                                                             |
| Isolation voltage:           | 500 V DC                                                                                                                                          |
| CE-conformity:               | EMC directive: 2004/108/EEC, EN 61326-2-3                                                                                                         |

---

**Ambient data**

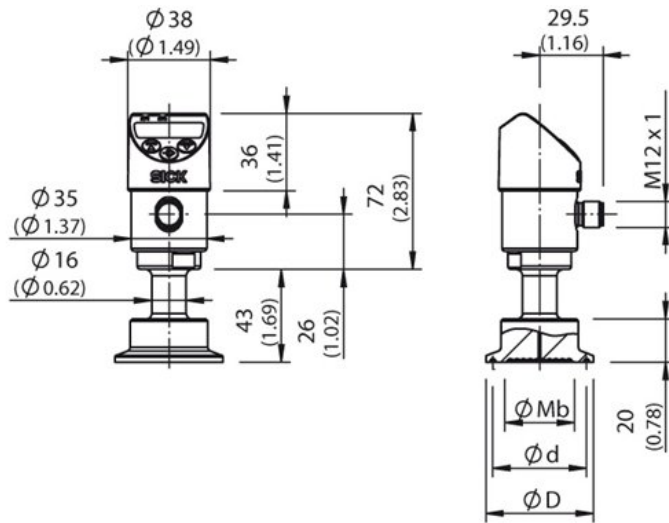
|                      |                                                             |
|----------------------|-------------------------------------------------------------|
| Storage temperature: | -20 °C ... 80 °C                                            |
| Ambient temperature: | -20 °C ... 80 °C                                            |
| 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 | $\phi Mb$   | $\phi d$    | $\phi D$    |
|-----------|-------------|-------------|-------------|
| 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) |

#### **Australia**

Phone +61 3 9457 0600  
1800 334 802 – tollfree  
E-Mail sales@sick.com.au

#### **Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

#### **Brasil**

Phone +55 11 3215-4900  
E-Mail sac@sick.com.br

#### **Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

#### **Ceská Republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

#### **China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

#### **Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

#### **Deutschland**

Phone +49 211 5301-301  
E-Mail kundenservice@sick.de

#### **España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

#### **France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

#### **Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

#### **India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

#### **Israel**

Phone +972-4-6801000  
E-Mail info@sick-sensors.com

#### **Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

#### **Japan**

Phone +81 (0)3 3358 1341  
E-Mail support@sick.jp

#### **Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

#### **Nederlands**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

#### **Norge**

Phone +47 67 81 50 00  
E-Mail austefjord@sick.no

#### **Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

#### **Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

#### **România**

Phone +40 356 171 120  
E-Mail office@sick.ro

#### **Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

#### **Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

#### **Singapore**

Phone +65 6744 3732  
E-Mail admin@sicksgp.com.sg

#### **Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

#### **South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

#### **South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

#### **Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

#### **Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

#### **Taiwan**

Phone +886-2-2375-6288  
E-Mail sales@sick.com.tw

#### **Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

#### **United Arab Emirates**

Phone +971 (0) 4 8865 878  
E-Mail info@sick.ae

#### **USA/México**

Phone +1(952) 941-6780  
1 800-325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)