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DATA SHEET

# PBSH-RB025SHGEEBMA0Z

PBS Hygienic
Pressure sensors

SICK Sensor Intelligence




Illustration may differ

## PRESSURE SENSORS

# PBSH-RB025SHGEEBMA0Z

### ORDERING INFORMATION

| Type | part no. |
|---|---|
| PBSH-RB025SHGEEBMA0Z | 6051845 |

Further device versions and accessories at www.sick.com/PBS_Hygienic

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Medium | Liquid, gaseous |
| Pressure type | Gauge pressure |
| Pressure unit | bar |
| Measuring range | 0 bar ... 25 bar |
| Overpressure safety | 2-fold |
| Process temperature | –20 °C ... +125 °C [1] |
| Maximum ohmic load $R_A$ | ≤ 0.5 kΩ, 4 mA ... 20 mA ($R_A$ ≤ 0.5 kOhm)<br>0 V ... 10 V ($R_A$ > 10 kOhm) |
| Zero point adjustment | Max. + 3 % of span |
| Output signal | 1 x PNP + 4 mA ... 20 mA |
| Rotatable housing | Display against housing with electrical connection: 330 °<br>Housing against process connection: 320 ° |
| Display | 14-segment-LED, blue, 4-digits, height 9 mm, electronically turnable by 180°<br>Accuracy: ≤ 1 % of span ± 1 digit<br>Update: 1,000, 500, 200, 100 ms (adjustable) |

[1] +150 °C for max. 1 h.

### MECHANICS/ELECTRONICS

| | |
|---|---|
| Communication interface | - |
| Process connection | G 1 hygienic flush-mounted |
| Wetted parts | Process connection: 316L stainless steel |
| 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 |
| Housing material | Lower body: stainless steel 304, Plastic head: PC + ABS, Buttons: TPE-E, Display window: PC |
| Connection type | M12 round connector x 1, 4-pin |

[1] Only for process connection G 1 hygienic.

[2] Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply when connected with female connectors that provide the corresponding enclosure rating.

| | |
|---|---|
| Supply voltage | 15 V DC ... 35 V DC |
| Power consumption | Max. 70 mA |
| Total current consumption | Max. 320 mA (incl. switching current) |
| Electrical safety | Protection class: III<br>Overvoltage protection: 40 V DC<br>Short-circuit protection: $Q_A$, $Q_1$, $Q_2$ towards M<br>Reverse polarity protection: $L^+$ to M |
| Isolation voltage | 500 V DC |
| CE-conformity | EMC directive: 2004/108/EC, EN 61326-2-3 |
| Seal | EPDM [1] |
| Enclosure rating | IP65 [2]<br>IP67 [2] |
| Protection class III | ✓ |

[1] Only for process connection G 1 hygienic.

[2] Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply when connected with female connectors that provide the corresponding enclosure rating.

## PERFORMANCE

| | |
|---|---|
| Non-linearity | ≤ ± 0.5 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2 |
| Accuracy | ≤ ± 1 %, of the span (including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement as per IEC 61298-2)) |
| Setting accuracy of switching outputs | ≤ ± 0.5 % of span |
| Response time | 3 ms |
| Long-term drift/one-year stability | ≤ ± 0.2 % of span to IEC 61298-2 |
| Temperature coefficient in rated temperature range | Typical TC of the zero point: in temperature range 0 °C ... 20 °C: 0.7% of the range / 10 K; in temperature range 20 °C ... 80 °C: 0.2% of span / 10 K.<br>Typical TC of span: in temperature range 0 °C ... 80 °C: 0.1% of span / 10 K [1] |
| Rated temperature range | 0 °C ... +80 °C |

[1] With Tri-Clamp 1 ½", Tri-Clamp 2", Conical coupling (DIN 11851) DN 40 with union nut, Conical coupling (DIN 11851) DN 50 with union nut, Clamp (DIN 32676) DN 40, Clamp (DIN 32676) DN 50, G 1 hygienic.

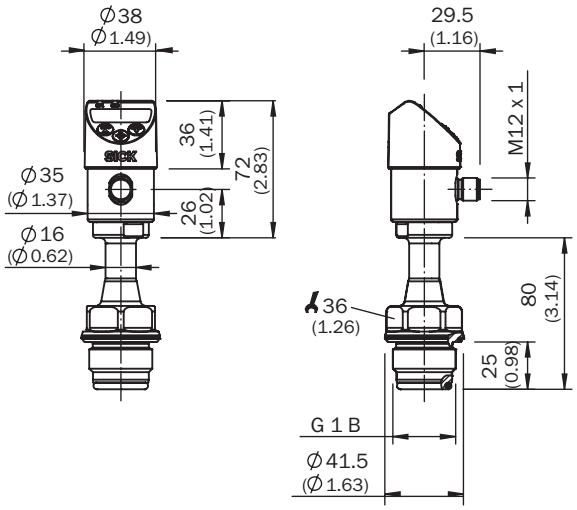
## AMBIENT DATA

| | |
|---|---|
| Ambient temperature, operation | –20 °C ... +80 °C |
| Storage temperature | –20 °C ... +80 °C |
| Relative humidity | 45 % ... 75 % |
| 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) |

## CERTIFICATES

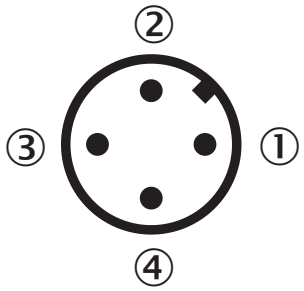
| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| China RoHS | ✓ |
| China Compulsory Product Certification (CCC) ex-empt | ✓ |
| Food contact material manufacturer declaration | ✓ |

**DIMENSIONAL DRAWING G 1 HYGIENIC**




Dimensions in mm (inch)

**CONNECTION TYPE M12 ROUND CONNECTOR X 1, 4-PIN**




① $L^+$: Positive supply connection
② $Q_A$: Analog output
③ M: Negative supply connection
④ $C/Q_1$: Switching output 1 (with IO-Link: communication / switching output 1)

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6051845

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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