



# PBS2-RB160SG2SS0NMA0Z

PBS plus

PRESSURE SWITCH

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type                  | Part no. |
|-----------------------|----------|
| PBS2-RB160SG2SS0NMA0Z | 6073974  |

Other models and accessories → [www.sick.com/PBS\\_plus](http://www.sick.com/PBS_plus)

### Detailed technical data

#### Features

|  |   |
|--|---|
| <b>Medium</b>                              | Liquid, gaseous   |
| <b>Pressure type</b>                       | Gauge pressure  |
| <b>Pressure unit</b>                       | bar   |
| <b>Measuring range</b>                     | 0 bar ... 160 bar<br>0 psi ... 2,321 psi  |
| <b>Process temperature</b>                 | -20 °C ... +85 °C   |
| <b>Maximum ohmic load <math>R_A</math></b> | 4 mA ... 20 mA ( $R_A \leq 0.5 \text{ k}\Omega$ )<br>0 V ... 10 V, 3-wire ( $R_A > 10 \text{ k}\Omega$ )                                    |
| <b>Zero point adjustment</b>               | Max. + 3 % of span  |
| <b>Output signal</b>                       | IO-Link/PNP/NPN + 4 mA ... 20 mA / 0 V ... 10 V   |
| <b>Rotatable housing</b>                   | Display against housing with electrical connection: 330 °<br>Housing against process connection: 320 °                                      |
| <b>Display</b>                             | 14-Segment LED, red, 4-digit, character height 9 mm, can be rotated electronically by 180 °<br>Update: 1,000, 500, 200, 100 ms (adjustable) |

#### Mechanics/electronics

|                                    |   |
|------------------------------------|---|
| <b>Process connection</b>          | G 1/4 female  |
| <b>Wetted parts</b>                | Pressure connection: stainless steel 316L<br>Pressure sensor: stainless steel 316L (for measurement ranges from 0 bar ... 10 bar rel stainless steel 13-8 PH) |
| <b>Internal transmission fluid</b> | Silicone oil (only with pressure ranges < 0 bar ... 10 bar and $\leq 0 \text{ bar abs} \dots 25 \text{ bar abs}$ )  |
| <b>Pressure port</b>               | 3.5 mm Standard   |
| <b>Housing material</b>            | Lower body: stainless steel 304, Plastic head: PC + ABS, Buttons: TPE-E, Display window: PC   |
| <b>Connection type</b>             | M12 round connector x 1, 4-pin  |
| <b>Supply voltage</b>              | 15 V DC ... 35 V DC   |

<sup>1)</sup> Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply when connected with female connectors that provide the corresponding enclosure rating.

|                                  |  |
|----------------------------------|--|
| <b>Power consumption</b>         | 45 mA (for configurations without analog output signal)<br>70 mA (for configurations with analog output signal)  |
| <b>Total current consumption</b> | Max. 600 mA (including switching current)  |
| <b>Electrical safety</b>         | Protection class: III<br>Overvoltage protection: 40 V DC<br>Short-circuit protection: Q <sub>A</sub> , Q <sub>1</sub> , Q <sub>2</sub> towards M<br>Reverse polarity protection: L <sup>+</sup> to M |
| <b>Isolation voltage</b>         | 500 V DC   |
| <b>CE-conformity</b>             | EMC Directive: 2014/30 / EU (EN 61326-1:2013; EN 61326-2-3:2013), Pressure equipment directive: 2014/68 / EU, Hazardous materials (RoHS): 2011/65 / EU (EN 50581:2012)                               |
| <b>Weight sensor</b>             | Approx. 220 g  |
| <b>Seal</b>                      | Without seal   |
| <b>Enclosure rating</b>          | IP67 <sup>1)</sup><br>IP67 <sup>1)</sup>   |
| <b>Protection class III</b>      | ✓  |
| <b>MTTF</b>                      | 104 years  |

<sup>1)</sup> 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

|   |   |
|---|---|
| <b>Non-linearity</b>                                      | ≤ ± 0.25 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2   |
| <b>Accuracy</b>   | ≤ ± 0.5 % of the span   |
| <b>Setting accuracy of switching outputs</b>              | ≤ ± 0.5 % of span   |
| <b>Response time</b>                                      | ≤ 5 ms  |
| <b>Long-term drift/one-year stability</b>                 | ≤ ± 0.1 % of the span according to IEC 61298-2<br>≤ 0.2 % of the span According to IEC 61298-2 for measuring range ≤ 0.6 bar or flush-mounted membrane (0 psi ... 10 psi) |
| <b>Temperature coefficient in rated temperature range</b> | Average TC of the zero point: ≤ ± 0.16% of the span / 10 K<br>Average TC of the span ≤ ± 0.16% of the span / 10 K   |
| <b>Rated temperature range</b>                            | 0 °C ... +80 °C   |
| <b>Service life</b>                                       | Minimum 100 Mio. load cycles  |

### Ambient data

|                            |   |
|----------------------------|---|
| <b>Ambient temperature</b> | -20 °C ... +80 °C   |
| <b>Storage temperature</b> | -20 °C ... +70 °C   |
| <b>Relative humidity</b>   | ≤ 75 %  |
| <b>Shock load</b>          | 50 g, 6 ms according to IEC 60068-2-27 (mechanical shock) |
| <b>Vibration load</b>      | 20 g, 10 Hz ... 2,000 Hz (IEC 60068-2-6, at resonance)    |

### Classifications

|                     |          |
|---------------------|----------|
| <b>eCl@ss 5.0</b>   | 27200620 |
| <b>eCl@ss 5.1.4</b> | 27200620 |
| <b>eCl@ss 6.0</b>   | 27200620 |
| <b>eCl@ss 6.2</b>   | 27200620 |
| <b>eCl@ss 7.0</b>   | 27200620 |
| <b>eCl@ss 8.0</b>   | 27200620 |
| <b>eCl@ss 8.1</b>   | 27200620 |

|                       |          |
|-----------------------|----------|
| <b>eCl@ss 9.0</b>     | 27200620 |
| <b>eCl@ss 10.0</b>    | 27200620 |
| <b>eCl@ss 11.0</b>    | 27200620 |
| <b>eCl@ss 12.0</b>    | 27200620 |
| <b>ETIM 5.0</b>       | EC000243 |
| <b>ETIM 6.0</b>       | EC000243 |
| <b>ETIM 7.0</b>       | EC000243 |
| <b>ETIM 8.0</b>       | EC000243 |
| <b>UNSPSC 16.0901</b> | 41112409 |

### Dimensional drawing (Dimensions in mm (inch))

G ¼ female EN 837



### Connection type

M12 x 1, 4-pin 2 switching outputs/  
1 switching output + 1 analog output



L' = 1, M = 3, Q<sub>1</sub> = 4, Q<sub>2</sub> = 2  
C/Q<sub>1</sub> = 4, Q<sub>A</sub> = 2

M12 x 1, 5-pin 2 switching outputs + 1 analog output



L' = 1, M = 3, Q<sub>1</sub> = 4, Q<sub>2</sub> = 2, Q<sub>A</sub> = 5  
C/Q<sub>1</sub> = 4

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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