



# PBS2-RB250SG1SSDNMA0Z

PBS plus

**PRESSURE SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type                  | part no. |
|-----------------------|----------|
| PBS2-RB250SG1SSDNMA0Z | 6073958  |

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<br>psi                                                                                                                                  |
| <b>Measuring range</b>                     | 0 bar ... 250 bar<br>0 psi ... 3,626 psi                                                                                                    |
| <b>Process temperature</b>                 | -20 °C ... +85 °C                                                                                                                           |
| <b>Maximum ohmic load <math>R_A</math></b> | 4 mA ... 20 mA ( $R_A \leq 0.5 \text{ k}\Omega$ ), 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>Communication interface</b>        | IO-Link                                                                                                                                                       |
| <b>Communication Interface detail</b> | IO-Link V1.1                                                                                                                                                  |
| <b>Process connection</b>             | G 1/4 A (ISO1179-2)                                                                                                                                           |
| <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) |

<sup>1)</sup> NBR seal installed, FPM/FKM seal included.

<sup>2)</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.

<sup>3)</sup> Available on request for process connections G 1/4 A according to DIN 3852-E, 1/4" NPT.

|                                    |                                                                                                                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Internal transmission fluid</b> | Silicone oil (only with pressure ranges < 0 bar ... 10 bar and ≤ 0 bar abs ... 25 bar abs)                                                                                                           |
| <b>Pressure port</b>               | 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                                                                                                                                                                                  |
| <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)                                                                                                                                     |
| <b>Weight sensor</b>               | Approx. 220 g                                                                                                                                                                                        |
| <b>Seal</b>                        | NBR <sup>1)</sup>                                                                                                                                                                                    |
| <b>Enclosure rating</b>            | IP67 <sup>2)</sup>                                                                                                                                                                                   |
| <b>Protection class III</b>        | ✓                                                                                                                                                                                                    |
| <b>MTTF</b>                        | 104 years                                                                                                                                                                                            |
| <b>Pressure peak dampening</b>     | Through integrated pressure port 0.6 mm or 0.3 mm for process connection G ¼ according to DIN 3852-E (0.3 mm at and above 10 bar) <sup>3)</sup>                                                      |

<sup>1)</sup> NBR seal installed, FPM/FKM seal included.

<sup>2)</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.

<sup>3)</sup> Available on request for process connections G ¼ A according to DIN 3852-E, ¼" NPT.

## 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 (including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement as per IEC 61298-2))      |
| <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 span 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                                                                                                                                |
| <b>Temperature error</b>                                  | ≤ ± 1.0% of the range, typ., ≤ ± 2.5% of the range max.                                                                                                     |

## Ambient data

|                                       |                                                           |
|---------------------------------------|-----------------------------------------------------------|
| <b>Ambient temperature, operation</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)    |

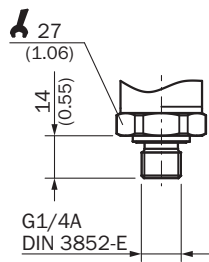
## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27200620 |
| <b>ECLASS 5.1.4</b>   | 27200620 |
| <b>ECLASS 6.0</b>     | 27200620 |
| <b>ECLASS 6.2</b>     | 27200620 |
| <b>ECLASS 7.0</b>     | 27200620 |
| <b>ECLASS 8.0</b>     | 27200620 |
| <b>ECLASS 8.1</b>     | 27200620 |
| <b>ECLASS 9.0</b>     | 27200620 |
| <b>ECLASS 10.0</b>    | 27200620 |
| <b>ECLASS 11.0</b>    | 27200620 |
| <b>ECLASS 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 |

## Certificates

|                                     |   |
|-------------------------------------|---|
| <b>EU declaration of conformity</b> | ✓ |
| <b>UK declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                   | ✓ |
| <b>cULus certificate</b>            | ✓ |
| <b>IO-Link</b>                      | ✓ |

## Dimensional drawing G 1/4 A DIN 3852-E



Dimensions in mm (inch)

Dimensional drawing



Dimensions in mm (inch)

Connection type

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



$L^+ = 1$ ,  $M = 3$ ,  $Q_1 = 4$ ,  $Q_2 = 2$   
 $C/Q_1 = 4$ ,  $Q_A = 2$

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



$L^+ = 1$ ,  $M = 3$ ,  $Q_1 = 4$ ,  $Q_2 = 2$ ,  $Q_A = 5$   
 $C/Q_1 = 4$

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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.”

## WORLDWIDE PRESENCE:

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