



# PBS-RM1X0SGESS0BMA0Z

PBS

**PRESSURE SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type                 | Part no. |
|----------------------|----------|
| PBS-RM1X0SGESS0BMA0Z | 6052203  |

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

### Detailed technical data

#### Features

|                              |                                                                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Medium</b>                | Liquid, gaseous                                                                                                                                                    |
| <b>Pressure type</b>         | Gauge pressure                                                                                                                                                     |
| <b>Pressure unit</b>         | MPa                                                                                                                                                                |
| <b>Measuring range</b>       | 0 MPa ... 1 MPa                                                                                                                                                    |
| <b>Process temperature</b>   | -20 °C ... +85 °C                                                                                                                                                  |
| <b>Zero point adjustment</b> | Max. + 3 % of span                                                                                                                                                 |
| <b>Output signal</b>         | 1 x PNP + 4 mA ... 20 mA                                                                                                                                           |
| <b>Rotatable housing</b>     | Display against housing with electrical connection: 330 °<br>Housing against process connection: 320 °                                                             |
| <b>Display</b>               | 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) |

#### Mechanics/electronics

|                                    |                                                                                                                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Process connection</b>          | G ½ B according to EN 837                                                                                                                                                                            |
| <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 ≤ 0 bar abs ... 25 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>             | Round connector M12 x 1, 4-pin, IP67                                                                                                                                                                 |
| <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. 350 mA / 570 mA (incl. 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>        | Pressure equipment directive: This instrument is a pressure accessory as defined by the directive 97/23/EC, EMC directive: 2004/108/EC, EN 61326-2-3 |
| <b>Weight sensor</b>        | Approx. 200 g                                                                                                                                        |
| <b>Seal</b>                 | Without seal                                                                                                                                         |
| <b>Enclosure rating</b>     | IP67                                                                                                                                                 |
| <b>Protection class III</b> | ✓                                                                                                                                                    |
| <b>MTTF</b>                 | 202 years                                                                                                                                            |

## Performance

|                                                           |                                                                                                  |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Non-linearity</b>                                      | $\leq \pm 0.5 \%$ , of span (Best Fit Straight Line, BFSL) according to IEC 61298-2              |
| <b>Accuracy</b>                                           | $\leq \pm 1 \%$ of the span                                                                      |
| <b>Setting accuracy of switching outputs</b>              | $\leq \pm 0.5 \%$ of span                                                                        |
| <b>Response time</b>                                      | 3 ms                                                                                             |
| <b>Long-term drift/one-year stability</b>                 | $\leq 0.2 \%$ of the span according to IEC 61298-2                                               |
| <b>Temperature coefficient in rated temperature range</b> | Mean TC of zero point: $\leq 0.2\%$ of span / 10 K, Mean TC of span $\leq 0.2 \%$ of span / 10 K |
| <b>Rated temperature range</b>                            | 0 °C ... +80 °C                                                                                  |
| <b>Service life</b>                                       | Minimum 100 Mio. life cycles                                                                     |

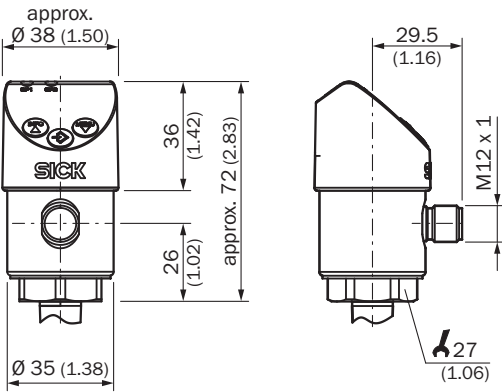
## Ambient data

|                            |                                                             |
|----------------------------|-------------------------------------------------------------|
| <b>Ambient temperature</b> | -20 °C ... +80 °C                                           |
| <b>Storage temperature</b> | -20 °C ... +80 °C                                           |
| <b>Relative humidity</b>   | $\leq 90 \%$                                                |
| <b>Shock load</b>          | 50 g according to IEC 60068-2-27 (mechanical shock)         |
| <b>Vibration load</b>      | 10 g according to IEC 60068-2-6 (vibration under resonance) |

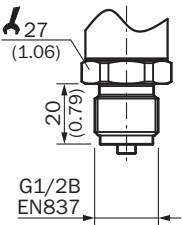
## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27200620 |
| <b>ECI@ss 5.1.4</b>   | 27200620 |
| <b>ECI@ss 6.0</b>     | 27200620 |
| <b>ECI@ss 6.2</b>     | 27200620 |
| <b>ECI@ss 7.0</b>     | 27200620 |
| <b>ECI@ss 8.0</b>     | 27200620 |
| <b>ECI@ss 8.1</b>     | 27200620 |
| <b>ECI@ss 9.0</b>     | 27200620 |
| <b>ECI@ss 10.0</b>    | 27200620 |
| <b>ECI@ss 11.0</b>    | 27200620 |
| <b>ETIM 5.0</b>       | EC000243 |
| <b>ETIM 6.0</b>       | EC000243 |
| <b>ETIM 7.0</b>       | EC000243 |
| <b>UNSPSC 16.0901</b> | 41112409 |

Dimensional drawing (Dimensions in mm (inch))



G ½ B according to EN 837



Connection type

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



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

- ① L<sup>+</sup>: Positive supply connection
- ② M: Negative supply connection
- ③ Q<sub>1</sub>: Switching output 1
- ④ C/Q<sub>1</sub>: With IO-Link: Communication/ switching output 1
- ⑤ Q<sub>2</sub>: Switching output 2
- ⑥ Q<sub>A</sub>: Analog output

Recommended accessories

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

|                                                                                     | Brief description                                                                                     | Type               | Part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------|----------|
| Mounting brackets and plates                                                        |                                                                                                       |                    |          |
|  | Mounting bracket for simple and stable wall mounting of pressure sensors with 27 mm hexagon, Aluminum | BEF-FL-ALUPBS-HLDR | 5322501  |

|                                                                                   | Brief description                                                                                                                                                                                                             | Type               | Part no. |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Heating and cooling devices                                                       |                                                                                                                                                                                                                               |                    |          |
|  | Cooling element, extension of the process temperature up to 150 °C. Maximum ambient temperature 30 °C. Max. process pressure 200 bar. Not suitable for pressure measurement in steam. Outer thread G 1/2, inner thread G 1/2. | BEF-CE-G12G12-150C | 5324393  |

## 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)