



# PBSH-RB1X0S54S0NMA0Z

PBS Hygienic

PRESSURE SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
PBSH-RB1X0S54SONMA0Z	6051871

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

### 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 ... 1 bar
<b>Overpressure safety</b>	2-fold
<b>Process temperature</b>	-20 °C ... +100 °C, +135 °C for max. 1 h
<b>Maximum ohmic load <math>R_A</math></b>	≤ 0.5 kΩ, 4 mA ... 20 mA ( $R_A$ ≤ 0.5 kΩhm) 0 V ... 10 V ( $R_A$ > 10 kΩhm)
<b>Zero point adjustment</b>	Max. + 3 % of span
<b>Output signal</b>	IO-Link/PNP + 4 mA ... 20 mA
<b>Rotatable housing</b>	Display against housing with electrical connection: 330 ° Housing against process connection: 320 °
<b>Display</b>	14-segment-LED, blue, 4-digits, height 9 mm, electronically turnable by 180 ° Accuracy: ≤ 1 % of span ± 1 digit Update: 1,000, 500, 200, 100 ms (adjustable)

#### Mechanics/electronics

<b>Process connection</b>	Conical coupling (DIN 11851) DN 40 with union nut
<b>Wetted parts</b>	Stainless steel 1.4435 / 316L
<b>Internal transmission fluid</b>	Medical white oil, FDA compliant according to CFR 172.878 and 21 CFR 178.3620(a), compliant to USP, EP, and JP
<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>	Max. 70 mA
<b>Total current consumption</b>	Max. 170 mA (incl. switching current)

<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>Electrical safety</b>	Protection class: III Overvoltage protection: 40 V DC Short-circuit protection: Q <sub>A</sub> , Q <sub>1</sub> , Q <sub>2</sub> towards M Reverse polarity protection: L <sup>+</sup> to M
<b>Isolation voltage</b>	500 V DC
<b>CE-conformity</b>	EMC directive: 2004/108/EC, EN 61326-2-3
<b>Seal</b>	Without seal
<b>Enclosure rating</b>	IP65 <sup>1)</sup> IP67 <sup>1)</sup>
<b>Protection class III</b>	✓

<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>	≤ ± 0.5 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2
<b>Accuracy</b>	≤ ± 1 % of the span
<b>Setting accuracy of switching outputs</b>	≤ ± 0.5 % of span
<b>Response time</b>	3 ms
<b>Long-term drift/one-year stability</b>	≤ ± 0.2 % of the span according to IEC 61298-2
<b>Temperature coefficient in rated temperature range</b>	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. Typical TC of span: in temperature range 0 °C ... 80 °C: 0.1% of span / 10 K <sup>1)</sup>
<b>Rated temperature range</b>	0 °C ... +80 °C

<sup>1)</sup> 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

<b>Ambient temperature</b>	-20 °C ... +80 °C
<b>Storage temperature</b>	-20 °C ... +80 °C
<b>Relative humidity</b>	45 % ... 75 %
<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)

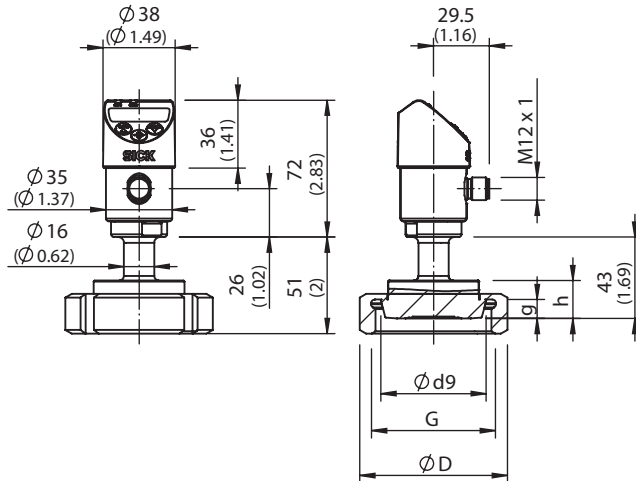
### Classifications

<b>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

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

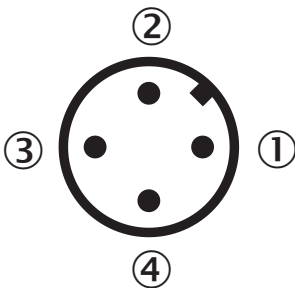
Conical coupling (DIN 11851) with union nut



DIN 11851	ø d9	G	ø D	g	h
DN 40	56.0 (2.20)	Rd 65 x 1/6	78 (3.07)	10 (0.39)	20 (0.78)
DN 50	68.5 (2.69)	Rd 78 x 1/6	92 (3.62)	11 (0.43)	20 (0.78)

**Connection type**


M12 round connector x 1, 4-pin



- ① L<sup>+</sup>: Positive supply connection
- ② Q<sub>A</sub>: Analog output
- ③ M: Negative supply connection
- ④ C/Q<sub>1</sub>: Switching output 1 (with IO-Link: communication / switching output 1)

### Recommended accessories

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

	Brief description	Type	Part no.
Fieldbus modules			
	Number of IO-Link ports: 4; Communication mode: COM1/COM2; IO-Link version: IO-Link V1.0; Switching input: PNP; Supply voltage Vs, IO-Link ports: DC 24 V; Current loading: 800 mA; Data transmission rate: Max. 12 MBaud, Autobaud; Address space occupation: 1 bis 126; Connection type: Connector M12; Connection type, IO-Link ports: Connector M12, 5-pin; Supply voltage Vs, module: DC 18 ... 30 V; Power consumption: Typ. 75 mA / max. 100 mA (at UL with DC 24 V), Typ. 25 mA + sensor current / max. 80	IOLSHPB-P3104R01	6039728

### Recommended services

Additional services → [www.sick.com/PBS\\_Hygienic](http://www.sick.com/PBS_Hygienic)

	Type	Part no.
Function Block Factory		
<ul style="list-style-type: none"> <li><b>Description:</b> The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&amp;R. More information on the FBF can be found <a href="https://fbf.cloud.sick.com">here</a>.</li> <li><b>Note:</b> You can configure your function block at <a href="https://fbf.cloud.sick.com">Function Block Factory</a>. As a login please use your SICK ID.</li> </ul>	Function Block Factory	On request

## 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)