



# IMB08-02BPSVT0S

IMB

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
IMB08-02BPSVT0S	1070168

**Included in delivery:** BEF-MU-M08N (1)

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

Illustration may differ



## Detailed technical data

### Features

<b>Housing</b>	Cylindrical thread design
<b>Housing</b>	Standard
<b>Thread size</b>	M8 x 1
<b>Diameter</b>	Ø 8 mm
<b>Sensing range <math>S_n</math></b>	2 mm
<b>Safe sensing range <math>S_a</math></b>	1.62 mm
<b>Installation type</b>	Flush
<b>Switching frequency</b>	4,000 Hz
<b>Connection type</b>	Connector M8, 3-pin <sup>1)</sup>
<b>Switching output</b>	PNP
<b>Output function</b>	NO
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP68 <sup>2)</sup> IP69K <sup>3)</sup>
<b>Special features</b>	Resistant against coolant lubricants, Visual adjustment indicator, IO-Link, Temperature resistance
<b>Special applications</b>	Zones with coolants and lubricants, Mobile machines, Difficult application conditions

<sup>1)</sup> With gold plated contact pins.

<sup>2)</sup> According to EN 60529.

<sup>3)</sup> According to ISO 20653:2013-03.

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	≤ 10 %
<b>Voltage drop</b>	≤ 2 V <sup>1)</sup>
<b>Current consumption</b>	10 mA <sup>2)</sup>
<b>Hysteresis</b>	3 % ... 20 %
<b>Reproducibility</b>	≤ 2 % <sup>3) 4)</sup>
<b>Temperature drift (of S<sub>r</sub>)</b>	± 10 %
<b>EMC</b>	According to EN 60947-5-2
<b>Continuous current I<sub>a</sub></b>	≤ 200 mA
<b>Short-circuit protection</b>	✓
<b>Reverse polarity protection</b>	✓
<b>Power-up pulse protection</b>	✓
<b>Shock and vibration resistance</b>	100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz, 1 mm / 55 Hz ... 500 Hz / 15 g
<b>Ambient operating temperature</b>	-40 °C ... +100 °C
<b>Housing material</b>	Stainless steel V2A, DIN 1.4305 / AISI 303
<b>Sensing face material</b>	Plastic, LCP
<b>Housing length</b>	50 mm
<b>Thread length</b>	38 mm
<b>Tightening torque, max.</b>	Typ. 7 Nm <sup>5)</sup> Typ. 14 Nm <sup>6)</sup>
<b>Items supplied</b>	Mounting nut, V2A stainless steel, with locking teeth (2x)
<b>Protection class</b>	III
<b>UL File No.</b>	E181493

<sup>1)</sup> At I<sub>a</sub> max.

<sup>2)</sup> Without load.

<sup>3)</sup> U<sub>b</sub> and T<sub>a</sub> constant.

<sup>4)</sup> Of S<sub>r</sub>.

<sup>5)</sup> When using the non-toothed side of the nut.

<sup>6)</sup> Valid if toothed side of nut is used.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,971 years
<b>DC<sub>avg</sub></b>	0 %

## Communication interface

<b>Communication interface</b>	IO-Link V1.0
<b>Communication Interface detail</b>	COM2 (38,4 kBaud)
<b>Process data length</b>	1 Byte
<b>Process data structure</b>	Bit 0 = S <sub>r</sub> reached Bit 1 = S <sub>a</sub> reached

## Reduction factors

<b>Note</b>	The values are reference values which may vary
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<b>St37 steel (Fe)</b>	1
<b>Stainless steel (V2A, 304)</b>	Approx. 0.74
<b>Aluminum (Al)</b>	Approx. 0.43
<b>Copper (Cu)</b>	Approx. 0.33
<b>Brass (Br)</b>	Approx. 0.46

#### Installation note

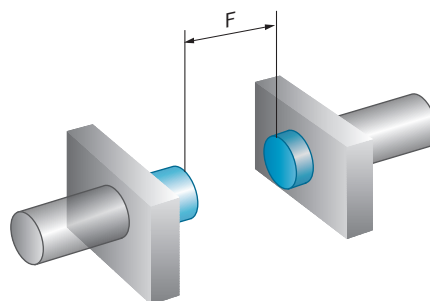
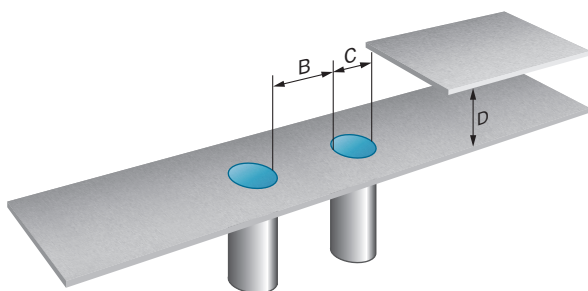
<b>Remark</b>	Associated graphic see "Installation"
<b>B</b>	6.5 mm
<b>C</b>	8 mm
<b>D</b>	6 mm
<b>F</b>	16 mm

#### Classifications

<b>ECl@ss 5.0</b>	27270101
<b>ECl@ss 5.1.4</b>	27270101
<b>ECl@ss 6.0</b>	27270101
<b>ECl@ss 6.2</b>	27270101
<b>ECl@ss 7.0</b>	27270101
<b>ECl@ss 8.0</b>	27270101
<b>ECl@ss 8.1</b>	27270101
<b>ECl@ss 9.0</b>	27270101
<b>ECl@ss 10.0</b>	27270101
<b>ECl@ss 11.0</b>	27270101
<b>ETIM 5.0</b>	EC002714
<b>ETIM 6.0</b>	EC002714
<b>ETIM 7.0</b>	EC002714
<b>ETIM 8.0</b>	EC002714
<b>UNSPSC 16.0901</b>	39122230

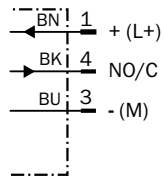
#### Installation note

##### Flush installation



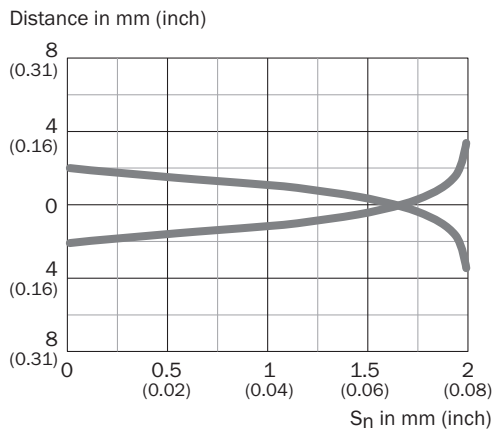
## Connection diagram

Cd-453



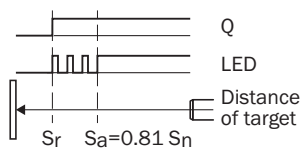
## Characteristic curve

Response diagram



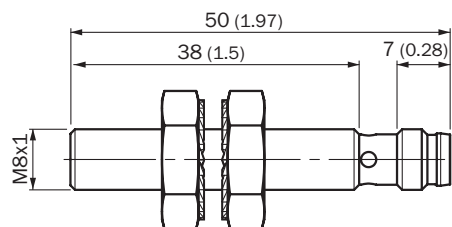
## Adjustments

Installation aid



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

IMB08 Standard, connector, M8, flush



## Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting plate for M8 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M08	5321722
	Mounting bracket for M8 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M08	5321721
Plug connectors and cables			
	Head A: female connector, M8, 3-pin, straight Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-0803-G02MRN	6058504
	Head A: female connector, M8, 3-pin, straight Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-0803-G05MRN	6058505
	Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2), only suitable for PNP sensors	DOL-0803-L02MRN	6058787
	Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-0803-L05MRN	6058788
	Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-0803-W02MRN	6058507
	Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-0803-W05MRN	6058508
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF8U13-020UA1XLEAX	2094782

	Brief description	Type	Part no.
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YG8U13-020UA1XLEAX	2094794
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m Only suitable for PNP sensors	YI8U13-020UA1XLEAX	2095593
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF8U13-020UA1M8U13	2096304
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF8U13-050UA1M8U13	2096308

## Recommended services

Additional services → [www.sick.com/IMB](https://www.sick.com/IMB)

	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 target='_blank'">here</a>.</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)