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DATA SHEET

**IMB12-04BPSVC0SX01**

IMB  
Inductive proximity sensors

**SICK** Sensor Intelligence

## INDUCTIVE PROXIMITY SENSORS

IM-  
B12-04BPSVC0SX01

## ORDERING INFORMATION

Type	part no.
IMB12-04BPSVC0SX01	<a href="#">1099569</a>

Further device versions and accessories at [www.sick.com/IMB](http://www.sick.com/IMB)



Illustration may differ

## DETAILED TECHNICAL DATA

## FEATURES

Housing	Metric
Housing	Standard design
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range $S_n$	4 mm
Safe sensing range $S_s$	3.24 mm
Installation type	Flush
Switching frequency	2,000 Hz
Connection type	Male connector M12, 4-pin <sup>1)</sup>
Switching output	PNP
Switching output detail	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP67 <sup>2)</sup>
Special features	Resistant against coolant lubricants, Visual adjustment indicator, ATEX
Special applications	Zones with coolants and lubricants, Mobile machines, Difficult application conditions, Explosive areas
Items supplied	Mounting nut, V2A stainless steel, with locking teeth (2x) Cable housing/cover

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

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

**MECHANICS/ELECTRONICS**

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 10 %
Voltage drop	≤ 2 V <sup>1)</sup>
Hysteresis	3 % ... 20 %
Reproducibility	≤ 2 % <sup>2)</sup> <sup>3)</sup>
Temperature drift (of S <sub>r</sub> )	± 10 %
EMC	According to EN 60947-5-2
Continuous current I <sub>a</sub>	≤ 200 mA <sup>4)</sup>
No load current	≤ 10 mA
Short-circuit protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	100 g / 2 ms / 500 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g
Ambient operating temperature	-20 °C ... +85 °C
Housing material	Stainless steel V2A, DIN 1.4305 / AISI 303
Sensing face material	Plastic, LCP
Housing length	65 mm
Thread length	48 mm
Tightening torque, max.	Typ. 20 Nm <sup>5)</sup> Typ. 32 Nm <sup>6)</sup>
ATEX marking	II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135°C Dc X
Ex area category	3G, 3D
Protection class	III
UL File No.	E181493

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

<sup>2)</sup> Supply voltage U<sub>s</sub> and constant ambient temperature T<sub>a</sub>.

<sup>3)</sup> Of S<sub>r</sub>.

<sup>4)</sup> Depend on ambient temperature. For details see operating instructions under „performance data of the sensor“.

<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**

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

**COMMUNICATION INTERFACE**

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

**REDUCTION FACTORS**

Note	The values are reference values which may vary
St37 steel (Fe)	1
Stainless steel (V2A, 304)	Approx. 0.65

Aluminum (Al)	Approx. 0.35
Copper (Cu)	Approx. 0.24
Brass (Br)	Approx. 0.38

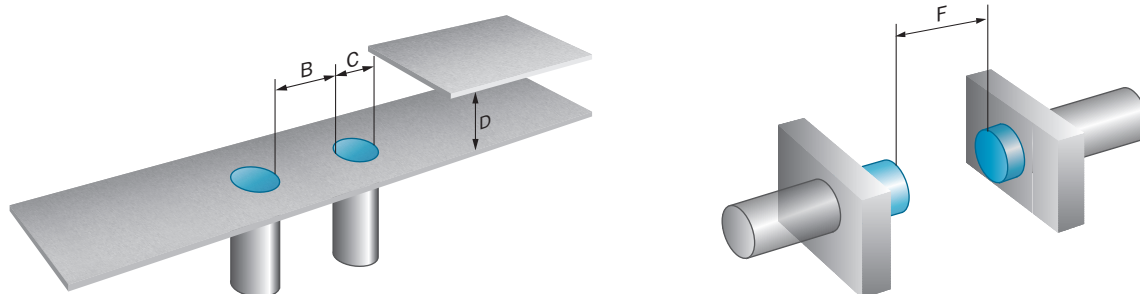
**INSTALLATION NOTE**

Remark	Associated graphic see "Installation"
B	12 mm
C	12 mm
D	12 mm
F	32 mm

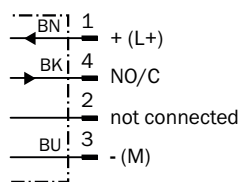
**CERTIFICATES**

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

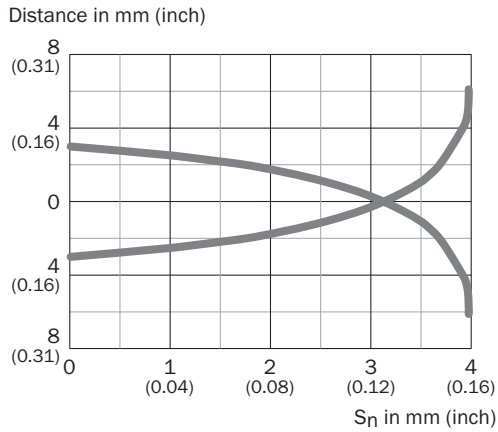
**INSTALLATION NOTE FLUSH INSTALLATION**



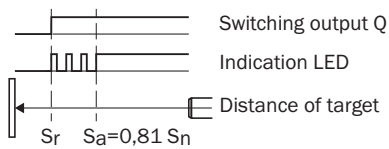
**CONNECTION DIAGRAM CD-456**



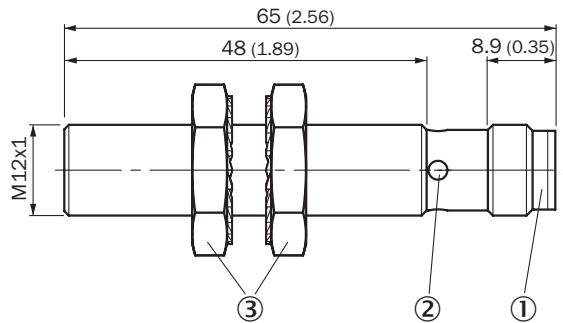
**RESPONSE DIAGRAM**



**FUNCTIONAL PRINCIPLE INSTALLATION AID**



**DIMENSIONAL DRAWING IMB12 STANDARD, CONNECTOR, M12, FLUSH**



Dimensions in mm (inch)

- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); width across 17, stainless steel V2A

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1099569](http://www.sick.com/1099569)



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# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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