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DATA SHEET

# IMB18-08BPSVU2K

IMB  
Inductive proximity sensors

**SICK** Sensor Intelligence

## INDUCTIVE PROXIMITY SENSORS

## IMB18-08BPSVU2K

## ORDERING INFORMATION

Type	part no.
IMB18-08BPSVU2K	1072828

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	Short-body
Thread size	M18 x 1
Diameter	Ø 18 mm
Sensing range $S_n$	8 mm
Safe sensing range $S_s$	6.48 mm
Installation type	Quasi-flush <sup>1)</sup>
Switching frequency	1,000 Hz
Connection type	Cable, 3-wire, 2 m
Switching output	PNP
Switching output detail	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP68 <sup>2)</sup> IP69K <sup>3)</sup>
Special features	Resistant against coolant lubricants, Visual adjustment indicator, Temperature resistance
Special applications	Zones with coolants and lubricants, Mobile machines, Difficult application conditions
Items supplied	Mounting nut, V2A stainless steel, with locking teeth (2x)

<sup>1)</sup> When installed in conductive materials, the sensors must protrude by distance E (E = 2 mm).

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

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

**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
No load current	≤ 10 mA
Cable material	PUR
Conductor size	0.34 mm <sup>2</sup>
Cable diameter	Ø 4.5 mm
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	-40 °C ... +100 °C
Housing material	Stainless steel V2A, DIN 1.4305 / AISI 303
Sensing face material	Plastic, LCP
Housing length	40 mm
Thread length	35 mm
Tightening torque, max.	Typ. 60 Nm <sup>4)</sup> Typ. 90 Nm <sup>5)</sup>
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> When using the non-toothed side of the nut.

<sup>5)</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. 0.55

Aluminum (Al)	Approx. 0.24
Copper (Cu)	Approx. 0.19
Brass (Br)	Approx. 0.24

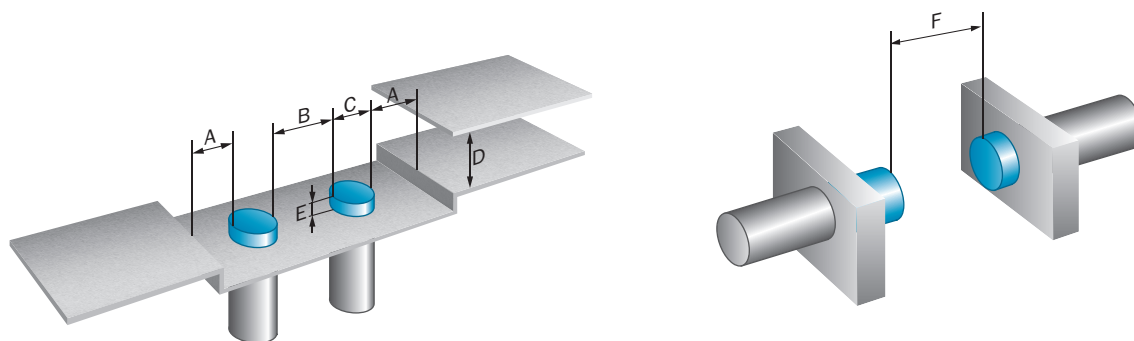
**INSTALLATION NOTE**

Remark	Associated graphic see "Installation"
A	9 mm
B	18 mm
C	18 mm
D	24 mm
E	2 mm
F	64 mm

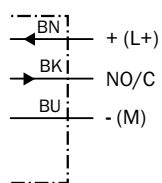
**CERTIFICATES**

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

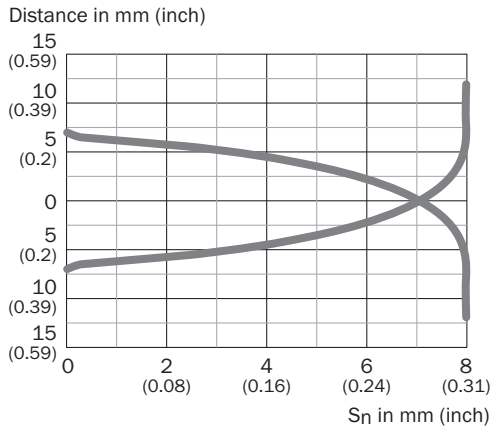
**INSTALLATION NOTE QUASI-FLUSH INSTALLATION**



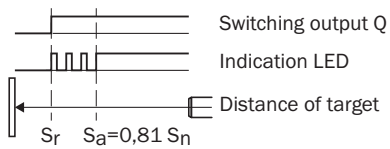
**CONNECTION DIAGRAM CD-452**



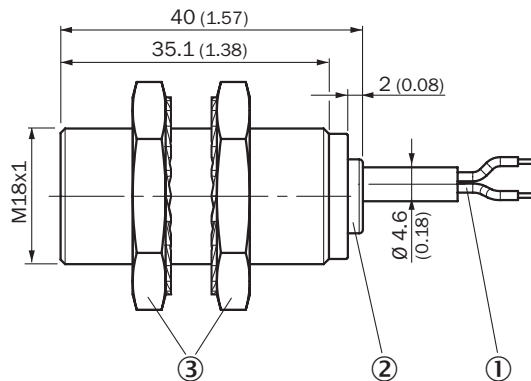
**RESPONSE DIAGRAM**



**FUNCTIONAL PRINCIPLE INSTALLATION AID**



**DIMENSIONAL DRAWING IMB18 SHORT-BODY HOUSING, CABLE, FLUSH**



Dimensions in mm (inch)

- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); width across 24, 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/1072828](http://www.sick.com/1072828)



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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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