



# IMM04-1B5PSVU2S

IMM

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
IMM04-1B5PSVU2S	1103631

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

Illustration may differ



### Detailed technical data

#### Features

<b>Housing</b>	Metric
<b>Housing</b>	Standard design
<b>Thread size</b>	M4 x 0.5
<b>Diameter</b>	Ø 4 mm
<b>Sensing range <math>S_n</math></b>	1.5 mm
<b>Safe sensing range <math>S_a</math></b>	1.215 mm
<b>Installation type</b>	Quasi-flush
<b>Switching frequency</b>	4,400 Hz
<b>Connection type</b>	Cable, 3-wire, 2 m
<b>Switching output</b>	PNP
<b>Switching output detail</b>	PNP
<b>Output function</b>	NO
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP67 <sup>1)</sup>
<b>Special features</b>	Visual adjustment indicator, IO-Link, triple sensing range
<b>Items supplied</b>	Mounting nut, V2A stainless steel (2x) Washer, V2A stainless steel, with locking teeth (2x) Cable flag, Polymatic 50 (1 x)

<sup>1)</sup> According to EN 60529.

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	≤ 20 % <sup>1)</sup>

<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> With  $I_a = 200$  mA.

<sup>3)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

<b>Voltage drop</b>	≤ 2 V <sup>2)</sup>
<b>Time delay before availability</b>	≤ 30 ms
<b>Hysteresis</b>	1 % ... 20 %
<b>Reproducibility</b>	≤ 2.5 % <sup>3)</sup>
<b>Temperature drift (of S<sub>r</sub>)</b>	≤ 10 %
<b>EMC</b>	EN 60947-5-2
<b>Continuous current I<sub>a</sub></b>	≤ 100 mA
<b>Cable material</b>	PUR
<b>Conductor size</b>	0.08 mm <sup>2</sup>
<b>Cable diameter</b>	Ø 2.5 mm
<b>Short-circuit protection</b>	✓
<b>Power-up pulse protection</b>	✓
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm
<b>Ambient operating temperature</b>	-10 °C ... +60 °C
<b>Housing material</b>	Stainless steel V2A, DIN 1.4305 / AISI 303
<b>Sensing face material</b>	Plastic, LCP
<b>Housing length</b>	22 mm
<b>Thread length</b>	20 mm
<b>Tightening torque, max.</b>	≤ 0.8 Nm
<b>UL File No.</b>	NRKH.E348498

<sup>1)</sup> Of V<sub>S</sub>.

<sup>2)</sup> With I<sub>a</sub> = 200 mA.

<sup>3)</sup> Supply voltage U<sub>B</sub> and constant ambient temperature T<sub>a</sub>.

#### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,638 years
<b>DC<sub>avg</sub></b>	0 %

#### Communication interface

<b>Communication interface</b>	IO-Link V1.1
<b>Communication Interface detail</b>	COM2 (38,4 kBaud)
<b>Cycle time</b>	10.4 ms
<b>Process data length</b>	1 Byte
<b>Process data structure</b>	Bit 0 = Sr reached Bit 1 = Sa reached

#### Reduction factors

<b>Note</b>	The values are reference values which may vary
<b>St37 steel (Fe)</b>	1
<b>Stainless steel (V2A, 304)</b>	Approx. 0.75
<b>Aluminum (Al)</b>	Approx. 0.48
<b>Copper (Cu)</b>	Approx. 0.43
<b>Brass (Br)</b>	Approx. 0.56

## Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>B</b>	7 mm
<b>C</b>	4 mm
<b>D</b>	4.5 mm
<b>F</b>	4 mm

## Certificates

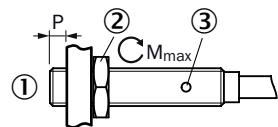
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>IO-Link</b>	✓

## Classifications

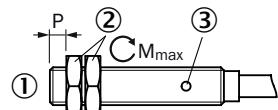
<b>ECLASS 5.0</b>	27270101
<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101
<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 12.0</b>	27274001
<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 Mounting using mounting nuts

Mounting using one mounting nut



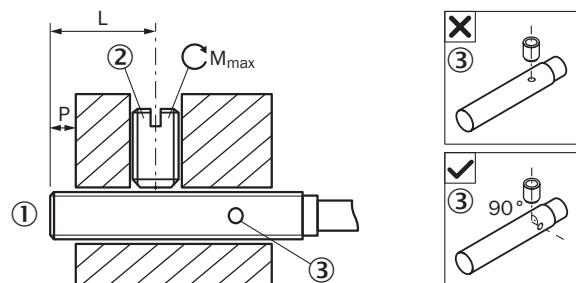
Mounting using two mounting nuts



- ① Sensing face
- ② Fastening nut
- ③ Display LED

<b>Sensor type</b>	<b>Overrun (P)</b>	<b>Max. tightening torque (M<sub>max</sub>)</b>
IMM04-1B5*****	≥ 2 mm	≤ 0.8 Nm
IMM05-2B5*****	≥ 2 mm	≤ 1.5 Nm

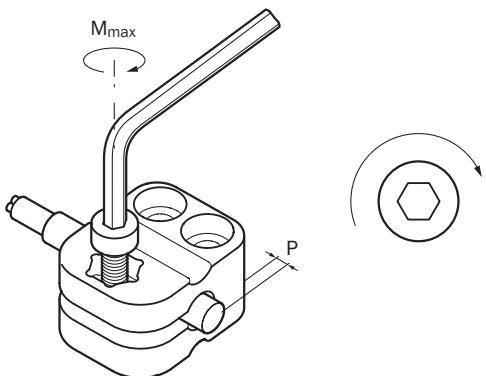
## Installation note Fixing with setscrew



- ① Sensing face
- ② Recommended setscrew: M3, flat point
- ③ Display LED

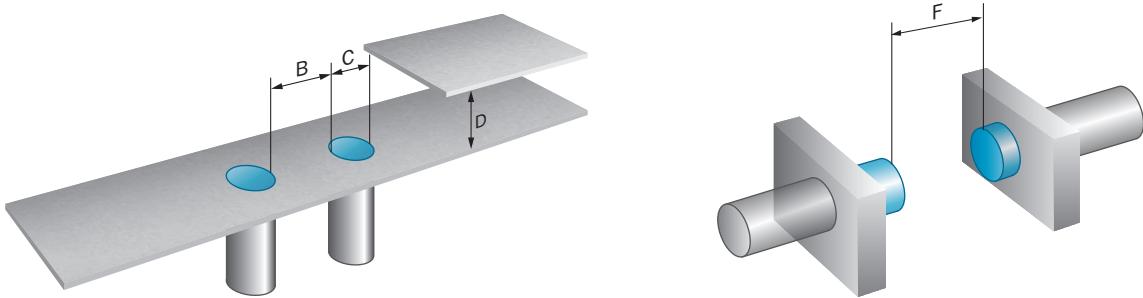
<b>Sensor type</b>	<b>Overrun (P)</b>	<b>Mounting area (L)</b>	<b>Max. tightening torque (M<sub>max</sub>)</b>
IMM04-1B5*****K	≥ 2 mm	7.5 mm ... 9 mm	≤ 0.2 Nm
IMM04-1B5*****S	≥ 2 mm	7.5 mm ... 19 mm	≤ 0.2 Nm

Installation note Mounting using BEF-KH-M04 bracket

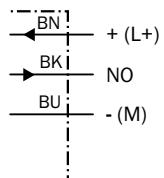


Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque ( $M_{max}$ )
IMM04-1B5*****	BEF-KH-M04, part no. 2101065	$\geq 2$ mm	$\leq 0.6$ Nm

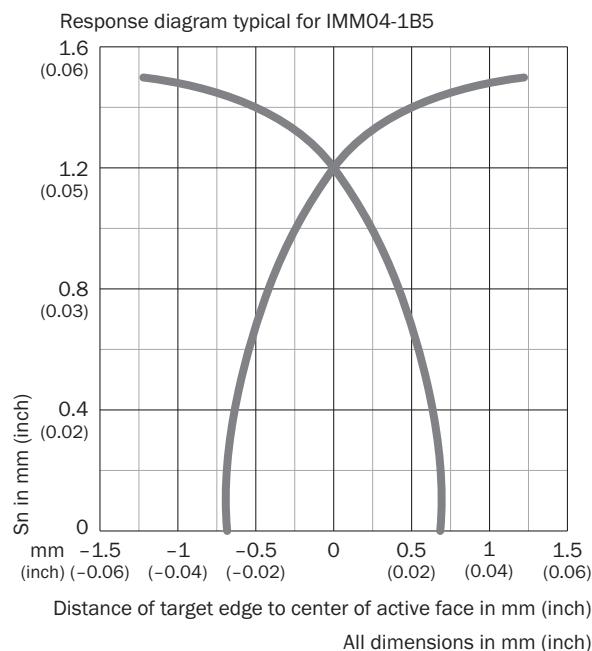
Installation note Flush installation



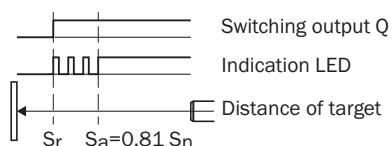
Connection diagram Cd-001



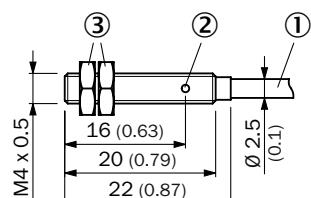
## Response diagram



## Functional principle Installation aid



## Dimensional drawing IMM04, standard variant, flush, cable



Dimensions in mm (inch)

- ① Connection
- ② function indicator
- ③ fastening nuts (2 x); 6 mm hex, stainless steel

## Recommended accessories

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

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic (PA6)</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Usable for:</b> Round sensors with 4 mm housing diameter without fixed stop</li> </ul>	BEF-KH-M04	2101065
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> 3-pin</li> <li><b>Number of slots:</b> 4</li> <li><b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li><b>Items supplied:</b> 5 x labeling plates</li> <li><b>Description:</b> Unshielded</li> </ul>	Y8A34A2-C2A8000XXX	2115733
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> 3-pin</li> <li><b>Number of slots:</b> 4</li> <li><b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li><b>Items supplied:</b> 5 x labeling plates</li> <li><b>Cable:</b> 5 m, 6-wire, PUR, halogen-free</li> <li><b>Description:</b> Unshielded</li> <li><b>Application:</b> Drag chain operation</li> </ul>	Y8A34A2-LXXXUAA050	2115727
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> 3-pin</li> <li><b>Number of slots:</b> 6</li> <li><b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li><b>Items supplied:</b> 5 x labeling plates</li> <li><b>Description:</b> Unshielded</li> </ul>	Y8A36A2-C2A8000XXX	2115734
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> 3-pin</li> <li><b>Number of slots:</b> 6</li> <li><b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li><b>Items supplied:</b> 5 x labeling plates</li> <li><b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Unshielded</li> <li><b>Application:</b> Drag chain operation</li> </ul>	Y8A36A2-LXXXUBA050	2115728
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0803-G	6037322
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 3-pin, angled, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0803-WSK	6053170

## 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."**

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