



# IMM04-1B5PSVU2S

IMM

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
IMM04-1B5PSVU2S	1103631

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

### 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>	$\leq 2 \text{ V}^{2)}$
<b>Time delay before availability</b>	$\leq 30 \text{ ms}$
<b>Hysteresis</b>	1 % ... 20 %
<b>Reproducibility</b>	$\leq 2.5 \%^{3)}$
<b>Temperature drift (of <math>S_r</math>)</b>	$\leq 10 \%$
<b>EMC</b>	EN 60947-5-2
<b>Continuous current <math>I_a</math></b>	$\leq 100 \text{ mA}$
<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>	$\leq 0.8 \text{ Nm}$
<b>UL File No.</b>	NRKH.E348498

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

<sup>2)</sup> With  $I_a = 200 \text{ mA}$ .

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

## 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

Remark	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

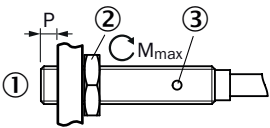
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>IO-Link</b>	✓

## Classifications

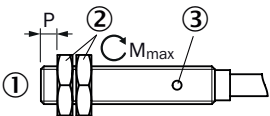
<b>ECLASS 5.0</b>	27270101
<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101
<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 12.0</b>	27274001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



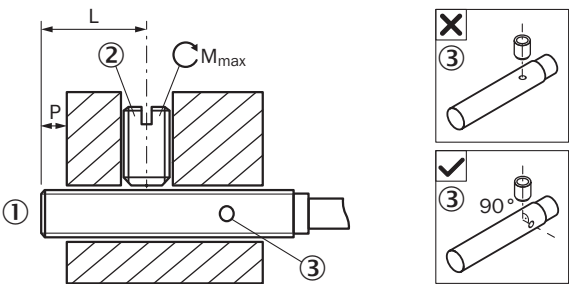
Mounting using two mounting nuts



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

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

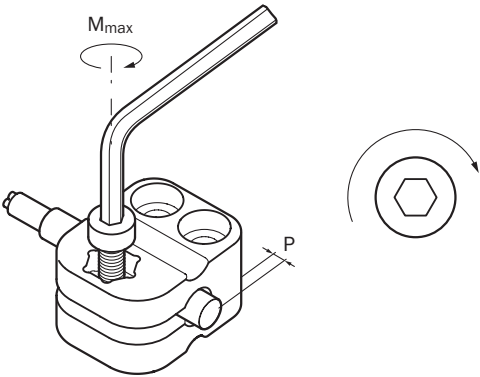
Installation note Fixing with setscrew



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

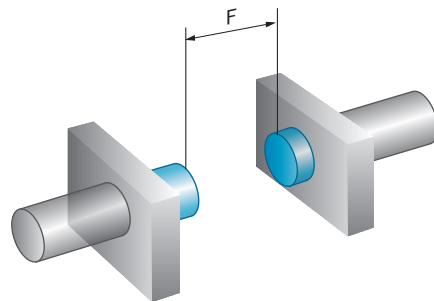
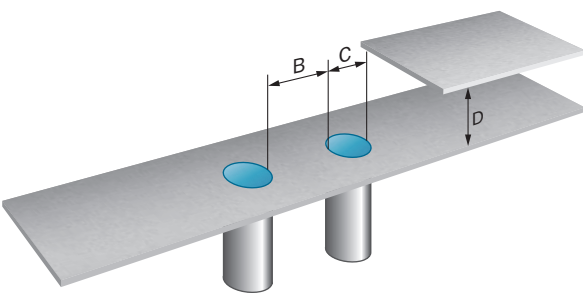
Sensor type	Overrun (P)	Mounting area (L)	Max. tightening torque (M <sub>max</sub> )
IMM04-1B5*****K	≥ 2 mm	7.5 mm ... 9 mm	≤ 0.2 Nm
IMM04-1B5*****S	≥ 2 mm	7.5 mm ... 19 mm	≤ 0.2 Nm

Installation note Mounting using BEF-KH-M04 bracket

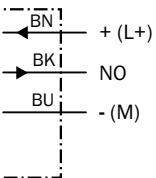


Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque ( $M_{\max}$ )
IMM04-1B5*****	BEF-KH-M04, part no. 2101065	$\geq 2 \text{ mm}$	$\leq 0.6 \text{ Nm}$

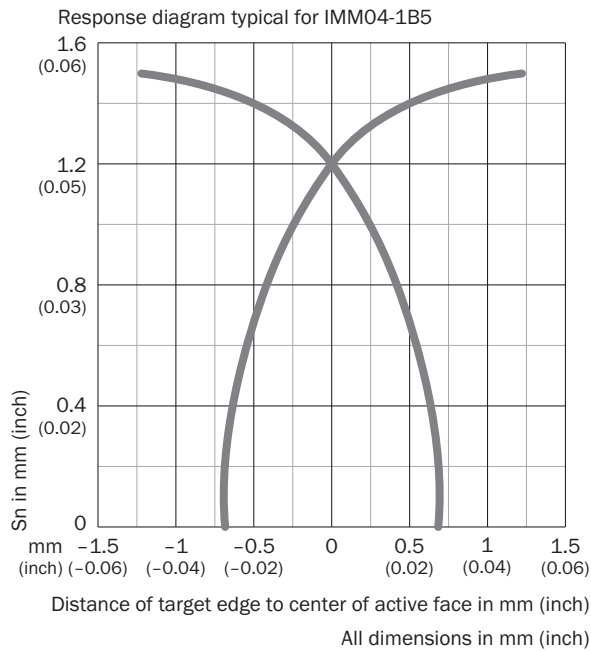
Installation note Flush installation



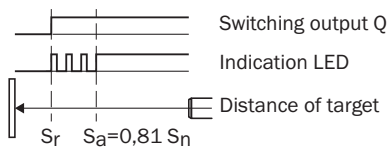
Connection diagram Cd-001



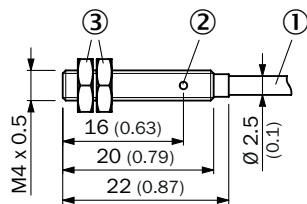
## Response diagram



## 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)

	Brief description	Type	part no.
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 mm² ... 0.5 mm²</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 mm² ... 0.5 mm²</li> </ul>	STE-0803-WSK	6053170



## SICK AT A GLANCE

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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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