



# IMM05-1B5PSVU2S

IMM

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
IMM05-1B5PSVU2S	1101013

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

### Detailed technical data

#### Features

<b>Housing</b>	Cylindrical thread design
<b>Housing</b>	Standard design
<b>Thread size</b>	M5 x 0.5
<b>Diameter</b>	Ø 5 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>	Flush
<b>Switching frequency</b>	4,800 Hz
<b>Connection type</b>	Cable, 3-wire, 2 m
<b>Switching output</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
<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
-----------------------	---------------------

<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>Ripple</b>	≤ 20 % <sup>1)</sup>
<b>Voltage drop</b>	≤ 2 V <sup>2)</sup>
<b>Time delay before availability</b>	≤ 10 ms
<b>Hysteresis</b>	1 % ... 15 %
<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>	≤ 200 mA
<b>Cable material</b>	PUR
<b>Conductor size</b>	0.14 mm <sup>2</sup>
<b>Cable diameter</b>	Ø 2.9 mm
<b>Short-circuit protection</b>	✓
<b>Reverse polarity 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>	-25 °C ... +70 °C
<b>Housing material</b>	Stainless steel V2A, DIN 1.4305 / AISI 303
<b>Sensing face material</b>	Plastic, LCP
<b>Housing length</b>	25 mm
<b>Thread length</b>	23 mm
<b>Tightening torque, max.</b>	≤ 1.5 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>	1,350 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years

### 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. 0.76
<b>Aluminum (Al)</b>	Approx. 0.47

<b>Copper (Cu)</b>	Approx. 0.4
<b>Brass (Br)</b>	Approx. 0.54

Installation note

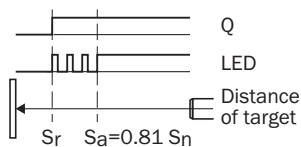
<b>Remark</b>	Associated graphic see "Installation"
<b>B</b>	3 mm
<b>C</b>	5 mm
<b>D</b>	4.5 mm
<b>F</b>	5 mm

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

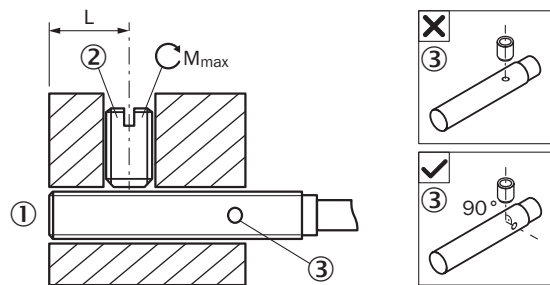
Adjustments

Installation aid



### Installation note

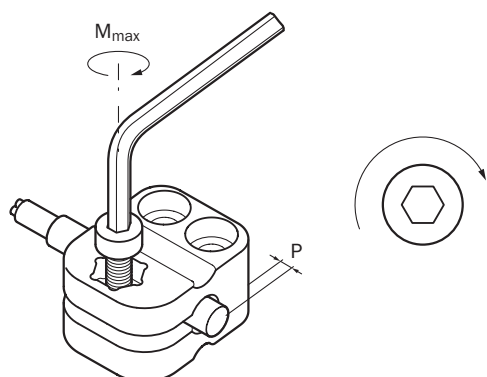
Fixing with setscrew



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

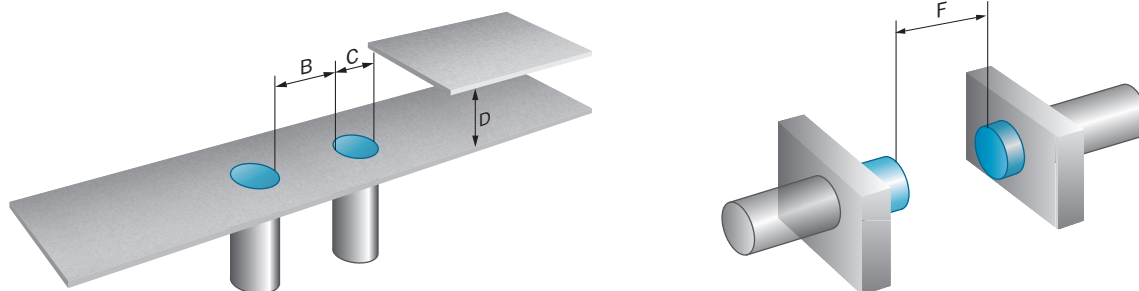
Sensor type	Mounting area (L)	Max. tightening torque ( $M_{max}$ )
IMM05-1B5****K	5.5 mm ... 9 mm	$\leq 0.2$ Nm
IMM05-0B8****S IMM05-1B5****S	5.5 mm ... 19 mm	$\leq 0.2$ Nm
IMM05-0B8***TOS IMM05-1B5***TOS	5.5 mm ... 18 mm	$\leq 0.2$ Nm

Mounting using BEF-KH-M05 bracket



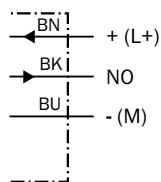
Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque ( $M_{max}$ )
IMM05-0B8**** IMM05-1B5****	BEF-KH-M05, part no. 2101066	$\geq 0$ mm	$\leq 0.6$ Nm

Flush installation

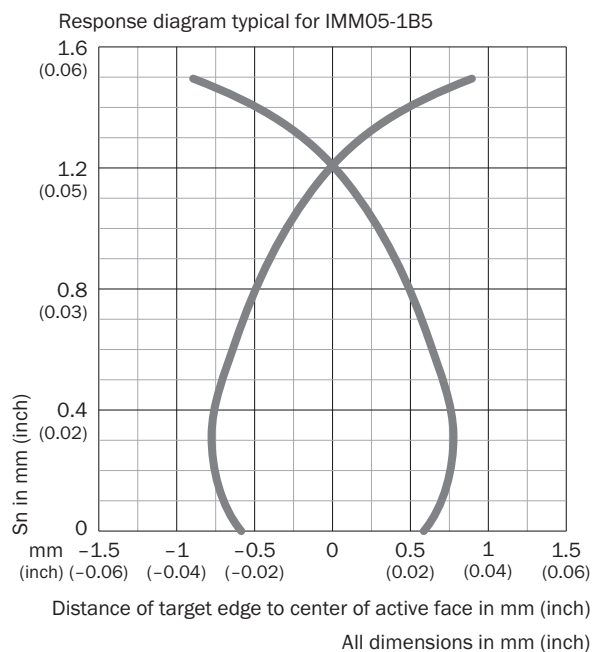


### Connection diagram

Cd-001

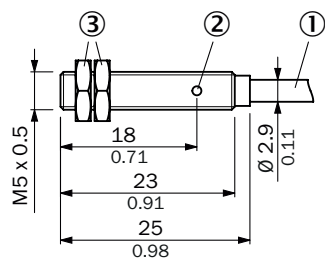


### Response diagram



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








IMM05, standard variant, flush, cable



- ① Connection
- ② Function indicator
- ③ Fastening nuts (2 x); 8 mm hex, stainless steel

## Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, straight</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</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
Terminal and alignment brackets			
	Plastic (PA6), without mounting hardware	BEF-KH-M05	2101066
Others			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> 3-pin</li> <li>• <b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Items supplied:</b> 5 x labeling plates</li> </ul>	Y8A34A2-C2A8000XXX	2115733
		Y8A36A2-C2A8000XXX	2115734
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> 3-pin</li> <li>• <b>Slot connection type:</b> M8, 3-pin, A-coded, female connector</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> <li>• <b>Items supplied:</b> 5 x labeling plates</li> </ul>	Y8A34A2-LXXXUAA050	2115727
		Y8A36A2-LXXXUBA050	2115728

## 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)