



# IMM05-2B5NSVU2K

IMM

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
IMM05-2B5NSVU2K	1103981

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

Detailed technical data

Features

Housing	Metric
Housing	Short-body
Thread size	M5 x 0.5
Diameter	Ø 5 mm
Sensing range $S_n$	2.5 mm
Safe sensing range $S_a$	2.025 mm
Installation type	Quasi-flush
Switching frequency	4,000 Hz
Connection type	Cable, 3-wire, 2 m
Switching output	NPN
Switching output detail	NPN
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP67 <sup>1)</sup>
Special features	Visual adjustment indicator, triple sensing range
Items supplied	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>	$\leq 20\%$ <sup>1)</sup>
<b>Voltage drop</b>	$\leq 2\text{ V}$ <sup>2)</sup>
<b>Time delay before availability</b>	$\leq 30\text{ ms}$
<b>Hysteresis</b>	1 % ... 20 %
<b>Reproducibility</b>	$\leq 2.5\%$ <sup>3)</sup>
<b>Temperature drift (of S<sub>r</sub>)</b>	$\leq 10\%$
<b>EMC</b>	EN 60947-5-2
<b>Continuous current I<sub>a</sub></b>	$\leq 100\text{ mA}$
<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>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>	12 mm
<b>Thread length</b>	10 mm
<b>Tightening torque, max.</b>	$\leq 1.5\text{ Nm}$
<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>	1,662 years
<b>DC<sub>avg</sub></b>	0%

## 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. 0.65
<b>Aluminum (Al)</b>	Approx. 0.38
<b>Copper (Cu)</b>	Approx. 0.33
<b>Brass (Br)</b>	Approx. 0.41

## Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>A</b>	1 mm
<b>B</b>	6 mm

<b>C</b>	5 mm
<b>D</b>	7.5 mm
<b>E</b>	2 mm
<b>F</b>	9 mm

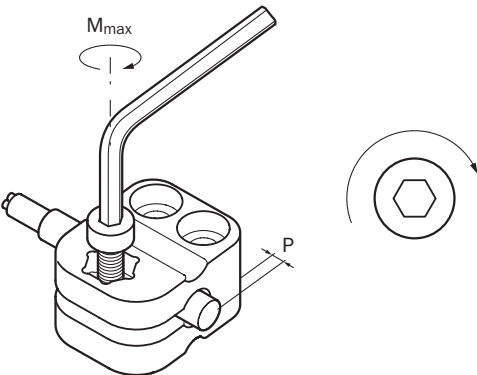
Certificates

<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 certificate</b>	✓

Classifications

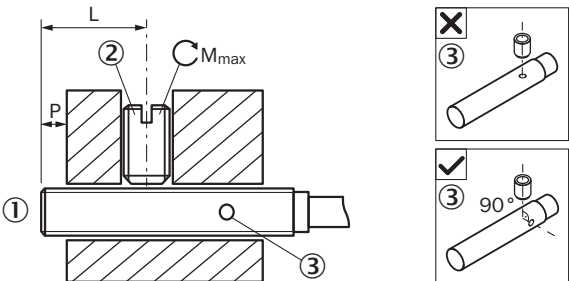
<b>ECLASS 5.0</b>	27270101
<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101
<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 12.0</b>	27274001
<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 BEF-KH-M05 bracket



Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque ( $M_{max}$ )
IMM05-2B5*****	BEF-KH-M05, part no. 2101066	$\geq 2\text{ mm}$	$\leq 0.6\text{ Nm}$

Installation note Fixing with setscrew

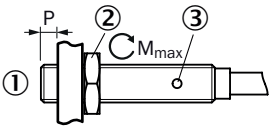


- ① Sensing face
- ② Recommended setscrew: M3, flat point
- ③ Display LED

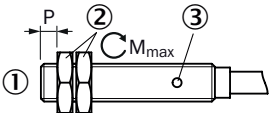
Sensor type	Overrun (P)	Mounting area (L)	Max. tightening torque ( $M_{max}$ )
IMM05-2B5*****K	$\geq 2\text{ mm}$	7.5 mm ... 9 mm	$\leq 0.2\text{ Nm}$
IMM05-2B5*****S	$\geq 2\text{ mm}$	7.5 mm ... 19 mm	$\leq 0.2\text{ Nm}$
IMM05-2B5***TOS	$\geq 2\text{ mm}$	7.5 mm ... 18 mm	$\leq 0.2\text{ Nm}$

Installation note Mounting using mounting nuts

Mounting using one mounting nut



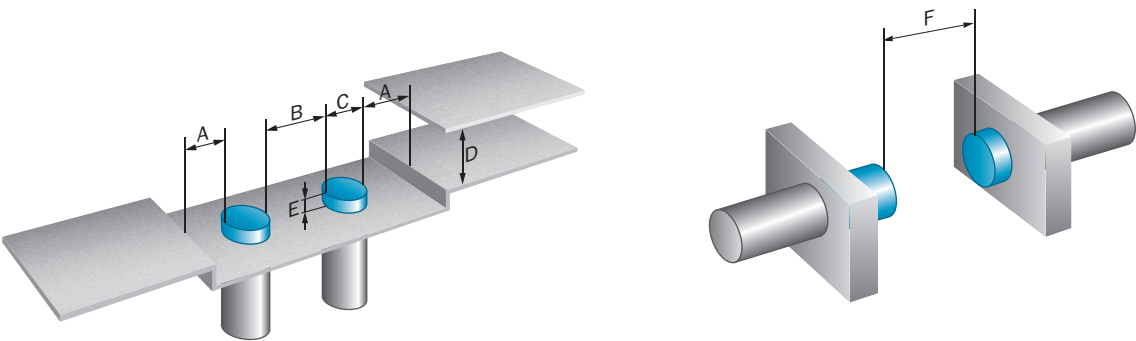
Mounting using two mounting nuts



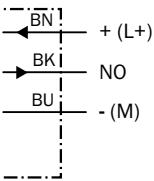
- ① Sensing face
- ② Fastening nut
- ③ Display LED

Sensor type	Overrun (P)	Max. tightening torque ( $M_{max}$ )
IMM04-1B5*****	$\geq 2\text{ mm}$	$\leq 0.8\text{ Nm}$
IMM05-2B5*****	$\geq 2\text{ mm}$	$\leq 1.5\text{ Nm}$

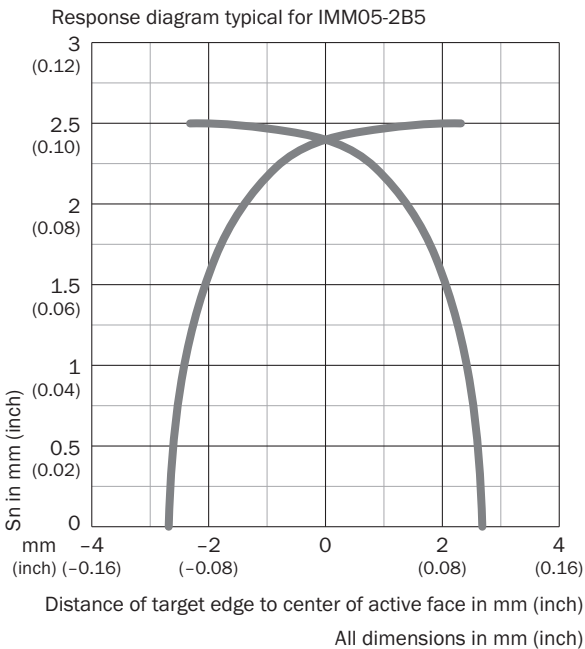
Installation note Quasi-flush installation



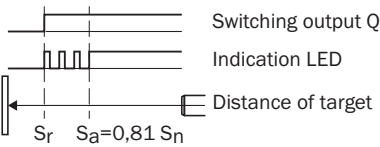
Connection diagram Cd-001



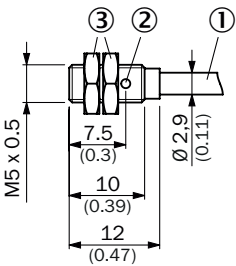
Response diagram



Functional principle Installation aid



Dimensional drawing IMM05, short variant, flush, cable










Dimensions in mm (inch)

- ① Connection
- ② function indicator
- ③ fastening nuts (2 x); 7 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 5 mm housing diameter without fixed stop</li></ul>	BEF-KH-M05	2101066

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <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>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>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>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

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)