



IMM05-1B5PSVU2K

IMM

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
IMM05-1B5PSVU2K	1101612

Other models and accessories → www.sick.com/IMM

Detailed technical data

Features

Housing	Cylindrical thread design
Housing	Short-body
Thread size	M5 x 0.5
Diameter	Ø 5 mm
Sensing range S_n	1.5 mm
Safe sensing range S_a	1.215 mm
Installation type	Flush
Switching frequency	4,800 Hz
Connection type	Cable, 3-wire, 2 m
Switching output	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP67 ¹⁾
Special features	Visual adjustment indicator, IO-Link
Items supplied	Mounting nut, V2A stainless steel (2x) Washer, V2A stainless steel, with locking teeth (2x) Cable flag, Polymatic 50 (1 x)

¹⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
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¹⁾ Of V_S .

²⁾ With $I_a = 200$ mA.

³⁾ Supply voltage U_B and constant ambient temperature T_a .

Ripple	$\leq 20 \% ^{1)}$
Voltage drop	$\leq 2 \text{ V} ^{2)}$
Time delay before availability	$\leq 10 \text{ ms}$
Hysteresis	1 % ... 15 %
Reproducibility	$\leq 2.5 \% ^{3)}$
Temperature drift (of S_r)	$\leq 10 \%$
EMC	EN 60947-5-2
Continuous current I_a	$\leq 200 \text{ mA}$
Cable material	PUR
Conductor size	0.14 mm ²
Cable diameter	Ø 2.9 mm
Short-circuit protection	✓
Reverse polarity protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	-25 °C ... +70 °C
Housing material	Stainless steel V2A, DIN 1.4305 / AISI 303
Sensing face material	Plastic, LCP
Housing length	12 mm
Thread length	10 mm
Tightening torque, max.	$\leq 1.5 \text{ Nm}$
UL File No.	NRKH.E348498

¹⁾ Of V_S.

²⁾ With I_a = 200 mA.

³⁾ Supply voltage U_B and constant ambient temperature T_a.

Safety-related parameters

MTTF_D	1,662 years
DC_{avg}	0 %
T_M (mission time)	20 years

Communication interface

Communication interface	IO-Link V1.1
Communication Interface detail	COM2 (38,4 kBaud)
Cycle time	10.4 ms
Process data length	1 Byte
Process data structure	Bit 0 = S _r reached Bit 1 = S _a reached

Reduction factors

Note	The values are reference values which may vary
St37 steel (Fe)	1
Stainless steel (V2A, 304)	Approx. 0.76
Aluminum (Al)	Approx. 0.47

Copper (Cu)	Approx. 0.4
Brass (Br)	Approx. 0.54

Installation note

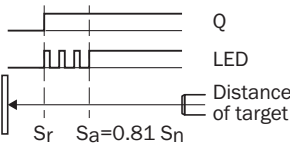
Remark	Associated graphic see "Installation"
B	3 mm
C	5 mm
D	4.5 mm
F	5 mm

Classifications

ECLASS 5.0	27270101
ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC 16.0901	39122230

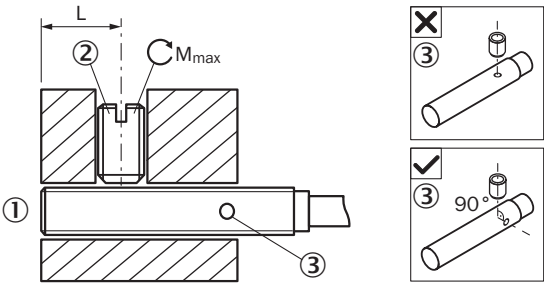
Adjustments

Installation aid



Installation note

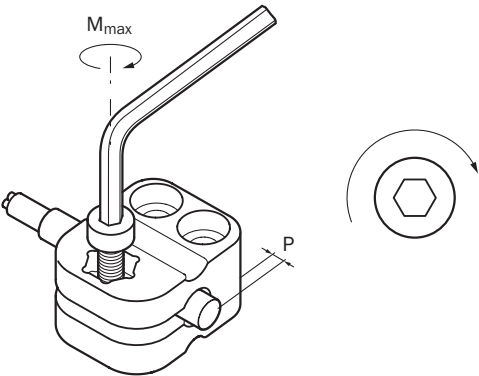
Fixing with setscrew



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

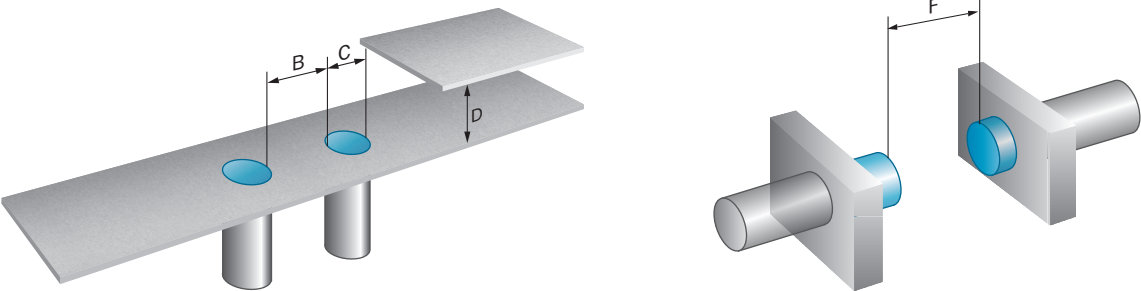
Sensor type	Mounting area (L)	Max. tightening torque (M_{max})
IMM05-1B5****K	5.5 mm ... 9 mm	$\leq 0.2 \text{ Nm}$
IMM05-0B8****S IMM05-1B5****S	5.5 mm ... 19 mm	$\leq 0.2 \text{ Nm}$
IMM05-0B8****TOS IMM05-1B5****TOS	5.5 mm ... 18 mm	$\leq 0.2 \text{ Nm}$

Mounting using BEF-KH-M05 bracket



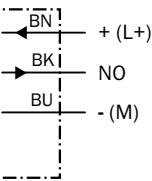
Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque (M_{max})
IMM05-0B8**** IMM05-1B5****	BEF-KH-M05, part no. 2101066	$\geq 0 \text{ mm}$	$\leq 0.6 \text{ Nm}$

Flush installation

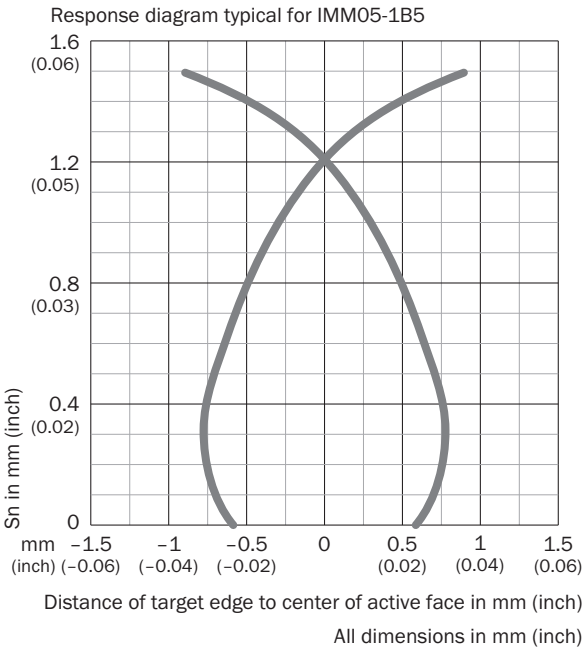


Connection diagram

Cd-001

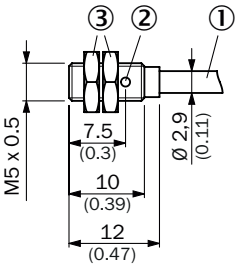


Response diagram



Dimensional drawing (Dimensions in mm (inch))

IMM05, short variant, flush, cable



- 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

	Brief description	Type	Part no.
Distributors			
	• Connection type head A: 3-pin • Slot connection type: M8, 3-pin, A-coded, female connector • Description: Unshielded	Y8A34A2-C2A8000XXX	2115733
	• Connection type head A: 3-pin • Slot connection type: M8, 3-pin, A-coded, female connector • Cable: 5 m, 6-wire, PUR, halogen-free • Description: Unshielded • Application: Drag chain operation	Y8A34A2-LXXXUAA050	2115727
	• Connection type head A: 3-pin • Slot connection type: M8, 3-pin, A-coded, female connector • Description: Unshielded	Y8A36A2-C2A8000XXX	2115734
	• Connection type head A: 3-pin • Slot connection type: M8, 3-pin, A-coded, female connector • Cable: 5 m, 8-wire, PUR, halogen-free • Description: Unshielded • Application: Drag chain operation	Y8A36A2-LXXXUBA050	2115728
Plug connectors and cables			
	• Connection type head A: Male connector, M8, 3-pin, straight • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322
	• Connection type head A: Male connector, M8, 3-pin, angled • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm²	STE-0803-WSK	6053170
Terminal and alignment brackets			
	Plastic (PA6), without mounting hardware	BEF-KH-M05	2101066

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:

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