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DATA SHEET

IMM05-2B5PSVU2S

IMM
Inductive proximity sensors

SICK Sensor Intelligence

Illustration may differ

INDUCTIVE PROXIMITY SENSORS

IMM05-2B5PSVU2S

ORDERING INFORMATION

Type	part no.
IMM05-2B5PSVU2S	1101832

Further device versions and accessories at www.sick.com/IMM

DETAILED TECHNICAL DATA

FEATURES

Housing	Metric
Housing	Standard design
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	PNP
Switching output detail	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP67 [1]
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)

[1] According to EN 60529.

MECHANICS/ELECTRONICS

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 20 % [1]
Voltage drop	≤ 2 V [2]
Time delay before availability	≤ 30 ms
Hysteresis	1 % ... 20 %
Reproducibility	≤ 2.5 % [3]
Temperature drift (of S_r)	≤ 10 %
EMC	EN 60947-5-2
Continuous current I_a	≤ 100 mA
Cable material	PUR
Conductor size	0.14 mm²
Cable diameter	Ø 2.9 mm
Short-circuit protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	–10 °C ... +60 °C
Housing material	Stainless steel V2A, DIN 1.4305 / AISI 303
Sensing face material	Plastic, LCP
Housing length	25 mm
Thread length	23 mm
Tightening torque, max.	≤ 1.5 Nm
UL File No.	NRKH.E348498

[1] Of V_S.

[2] With Ia = 200 mA.

[3] Supply voltage U_B and constant ambient temperature Ta.

SAFETY-RELATED PARAMETERS

$MTTF_D$	1,350 years
DC_{avg}	0%

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 = Sr reached Bit 1 = Sa reached

REDUCTION FACTORS

Note	The values are reference values which may vary
St37 steel (Fe)	1
Stainless steel (V2A, 304)	Approx. 0.65
Aluminum (Al)	Approx. 0.38
Copper (Cu)	Approx. 0.33
Brass (Br)	Approx. 0.41

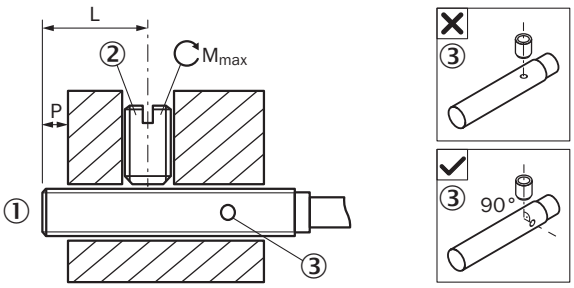
INSTALLATION NOTE

Remark	Associated graphic see "Installation"
A	1 mm
B	6 mm
C	5 mm
D	7.5 mm
E	2 mm
F	9 mm

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link certificate	✓

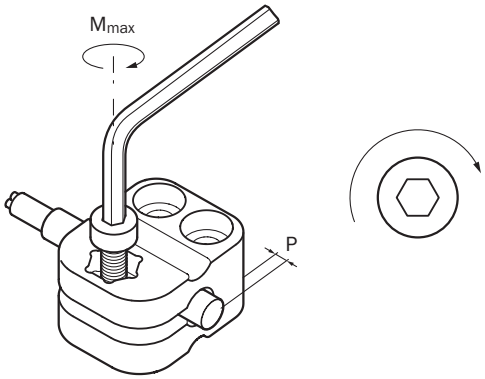
INSTALLATION NOTE FIXING WITH SETSCREW



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	≥ 2 mm	7.5 mm ... 9 mm	≤ 0.2 Nm
IMM05-2B5*****S	≥ 2 mm	7.5 mm ... 19 mm	≤ 0.2 Nm
IMM05-2B5***T0S	≥ 2 mm	7.5 mm ... 18 mm	≤ 0.2 Nm

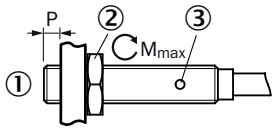
INSTALLATION NOTE MOUNTING USING BEF-KH-M05 BRACKET



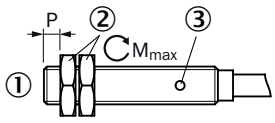
Sensor type	Mounting adapter	Overrun (P)	Max. tightening torque (M_{max})
IMM05-2B5******	BEF-KH-M05, part no. 2101066	≥ 2 mm	≤ 0.6 Nm

INSTALLATION NOTE MOUNTING USING MOUNTING NUTS

Mounting using one mounting nut



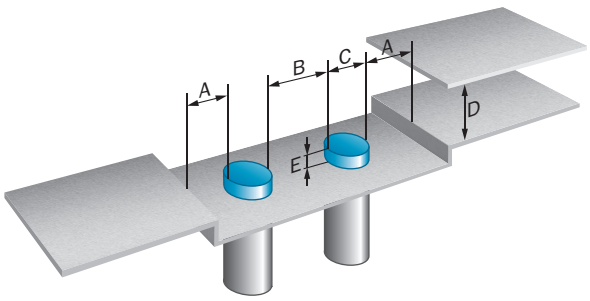
Mounting using two mounting nuts

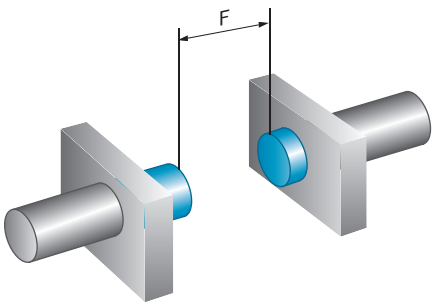


① Sensing face
② Fastening nut
③ Display LED

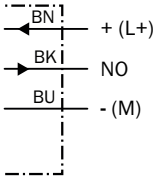
Sensor type	Overrun (P)	Max. tightening torque (M_{max})
IMM04-1B5******	≥ 2 mm	≤ 0.8 Nm
IMM05-2B5******	≥ 2 mm	≤ 1.5 Nm

INSTALLATION NOTE QUASI-FLUSH INSTALLATION

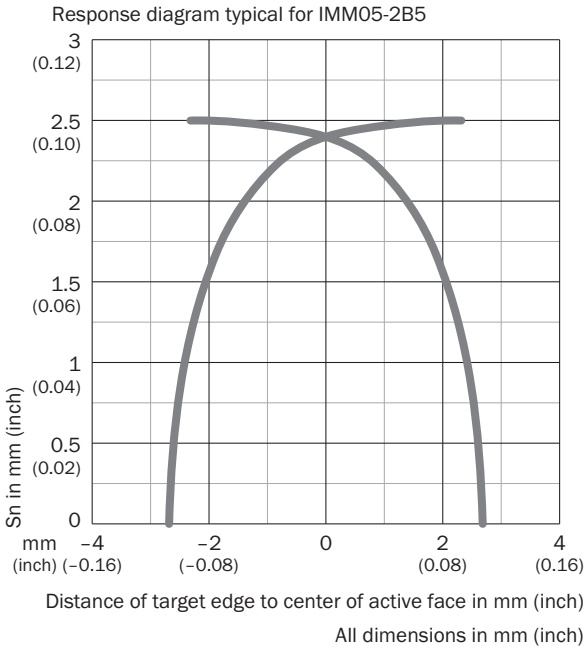




CONNECTION DIAGRAM CD-001

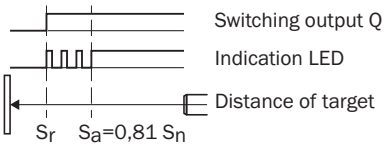


RESPONSE DIAGRAM

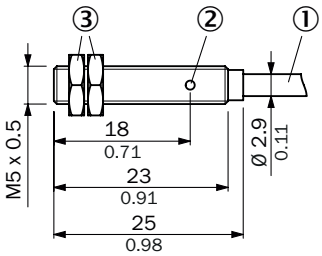


All dimensions in mm (inch)

FUNCTIONAL PRINCIPLE INSTALLATION AID



DIMENSIONAL DRAWING IMM05, STANDARD VARIANT, FLUSH, CABLE



Dimensions in mm (inch)
① Connection
② function indicator
③ fastening nuts (2 x); 8 mm hex, stainless steel

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1101832

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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