



IM05-1B5NSVT0S

IMM

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|----------------|----------|
| IM05-1B5NSVT0S | 6049737 |

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

Illustration may differ



Detailed technical data

Features

| | |
|--|--|
| Housing | Cylindrical thread design |
| Housing | Standard design |
| 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 | 3,000 Hz |
| Connection type | Connector M8, 3-pin |
| Switching output | NPN |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP67 ¹⁾ |
| Items supplied | Mounting nut, V2A stainless steel (2x) Washer, V2A stainless steel, with locking teeth (2x) |

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 | ≤ 10 ms |
| Hysteresis | 1 % ... 10 % |
| Reproducibility | ≤ 2 % ³⁾ |

¹⁾ Of V_s .

²⁾ With $I_a = 200$ mA.

³⁾ Supply voltage U_b and constant ambient temperature T_a .

| | |
|---|--|
| Temperature drift (of S_r) | ≤ 10 % |
| EMC | EN 60947-5-2 IEC 61000-4-2: (Testlevel 2) IEC 61000-4-4: (Testlevel 3) |
| Short-circuit protection | ✓ |
| Reverse polarity 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, POM |
| Housing length | 38 mm |
| Thread length | 22 mm |
| Tightening torque, max. | ≤ 1.8 Nm |
| UL File No. | NRKH.E191603 |

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 | 186 years |
| DC_{avg} | 0% |
| T_M (mission time) | 20 years |

Reduction factors

| | |
|-----------------------------------|--|
| Note | The values are reference values which may vary |
| Stainless steel (V2A, 304) | Approx. 0.75 |
| Aluminum (Al) | Approx. 0.4 |
| Copper (Cu) | Approx. 0.4 |
| Brass (Br) | Approx. 0.5 |

Installation note

| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
| A | 1.5 mm |
| B | 1 mm |
| C | 5 mm |
| D | 4.5 mm |
| E | 0 mm |
| F | 12 mm |

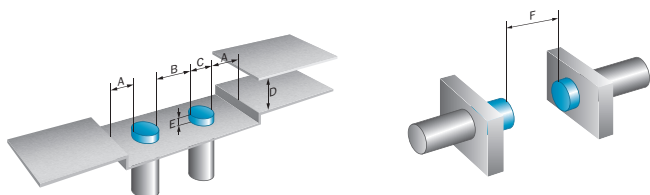
Classifications

| | |
|---------------------|----------|
| eCl@ss 5.0 | 27270101 |
| eCl@ss 5.1.4 | 27270101 |
| eCl@ss 6.0 | 27270101 |
| eCl@ss 6.2 | 27270101 |
| eCl@ss 7.0 | 27270101 |

| | |
|-----------------------|----------|
| eCl@ss 8.0 | 27270101 |
| eCl@ss 8.1 | 27270101 |
| eCl@ss 9.0 | 27270101 |
| eCl@ss 10.0 | 27270101 |
| eCl@ss 11.0 | 27270101 |
| eCl@ss 12.0 | 27274001 |
| ETIM 5.0 | EC002714 |
| ETIM 6.0 | EC002714 |
| ETIM 7.0 | EC002714 |
| ETIM 8.0 | EC002714 |
| UNSPSC 16.0901 | 39122230 |

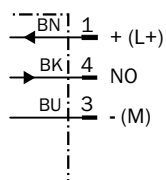
Installation note

Flush installation



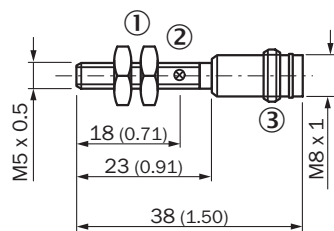
Connection diagram

Cd-002



Dimensional drawing (Dimensions in mm (inch))

Standard-body, flush, connector



- ① Connection
- ② Display LED
- 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. |
|---|---|--------------------|----------|
| Plug connectors and cables | | | |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF8U13-020VA1XLEAX | 2095860 |
| | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U13-050VA1XLEAX | 2095884 |
| | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m | YF8U13-100VA1XLEAX | 2095885 |
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YG8U13-020VA1XLEAX | 2096165 |
| | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG8U13-050VA1XLEAX | 2096166 |
| | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m | YG8U13-100VA1XLEAX | 2096209 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF8U13-020VA1M2A13 | 2096605 |
| | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U13-050VA1M2A13 | 2096606 |
|  | Head A: female connector, M8, 3-pin, straight Cable: unshielded | DOS-0803-G | 7902077 |
|  | Head A: female connector, M8, 3-pin, angled Cable: unshielded | DOS-0803-W | 7902078 |
|  | Head A: male connector, M8, 3-pin, straight Cable: unshielded | STE-0803-G | 6037322 |
| Terminal and alignment brackets | | | |
|  | Plastic (PA6), without mounting hardware | BEF-KH-M05 | 2101066 |

SICK AT A GLANCE

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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.”

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