



IMB08-02BPSVT0S

IMB

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|-----------------|----------|
| IMB08-02BPSVT0S | 1070168 |

Included in delivery: BEF-MU-M08N (1)

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

Illustration may differ



Detailed technical data

Features

| | |
|--|--|
| Housing | Cylindrical thread design |
| Housing | Standard |
| Thread size | M8 x 1 |
| Diameter | Ø 8 mm |
| Sensing range S_n | 2 mm |
| Safe sensing range S_a | 1.62 mm |
| Installation type | Flush |
| Switching frequency | 4,000 Hz |
| Connection type | Connector M8, 3-pin ¹⁾ |
| Switching output | PNP |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP68 ²⁾ IP69K ³⁾ |
| Special features | Resistant against coolant lubricants, Visual adjustment indicator, IO-Link, Temperature resistance |
| Special applications | Zones with coolants and lubricants, Mobile machines, Difficult application conditions |

¹⁾ With gold plated contact pins.

²⁾ According to EN 60529.

³⁾ According to ISO 20653:2013-03.

Mechanics/electronics

| | |
|---|--|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | ≤ 10 % |
| Voltage drop | ≤ 2 V ¹⁾ |
| Current consumption | 10 mA ²⁾ |
| Hysteresis | 3 % ... 20 % |
| Reproducibility | ≤ 2 % ^{3) 4)} |
| Temperature drift (of S_r) | ± 10 % |
| EMC | According to EN 60947-5-2 |
| Continuous current I_a | ≤ 200 mA |
| Short-circuit protection | ✓ |
| Reverse polarity protection | ✓ |
| Power-up pulse protection | ✓ |
| Shock and vibration resistance | 100 g / 11 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz, 1 mm / 55 Hz ... 500 Hz / 15 g |
| Ambient operating temperature | -40 °C ... +100 °C |
| Housing material | Stainless steel V2A, DIN 1.4305 / AISI 303 |
| Sensing face material | Plastic, LCP |
| Housing length | 50 mm |
| Thread length | 38 mm |
| Tightening torque, max. | Typ. 7 Nm ⁵⁾ Typ. 14 Nm ⁶⁾ |
| Items supplied | Mounting nut, V2A stainless steel, with locking teeth (2x) |
| Protection class | III |
| UL File No. | E181493 |

1) At I_a max.

2) Without load.

3) U_b and T_a constant.

4) Of S_r.

5) When using the non-toothed side of the nut.

6) Valid if toothed side of nut is used.

Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,971 years |
| DC_{avg} | 0 % |

Communication interface

| | |
|---------------------------------------|--|
| Communication interface | IO-Link V1.0 |
| Communication Interface detail | COM2 (38,4 kBaud) |
| 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. 0.74 |
| Aluminum (Al) | Approx. 0.43 |
| Copper (Cu) | Approx. 0.33 |
| Brass (Br) | Approx. 0.46 |

Installation note

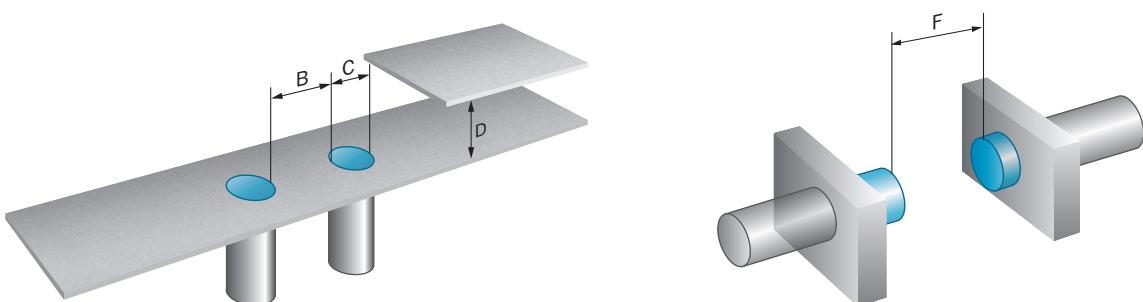
| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
| B | 6.5 mm |
| C | 8 mm |
| D | 6 mm |
| F | 16 mm |

Classifications

| | |
|-----------------------|----------|
| ECI@ss 5.0 | 27270101 |
| ECI@ss 5.1.4 | 27270101 |
| ECI@ss 6.0 | 27270101 |
| ECI@ss 6.2 | 27270101 |
| ECI@ss 7.0 | 27270101 |
| ECI@ss 8.0 | 27270101 |
| ECI@ss 8.1 | 27270101 |
| ECI@ss 9.0 | 27270101 |
| ECI@ss 10.0 | 27270101 |
| ECI@ss 11.0 | 27270101 |
| ETIM 5.0 | EC002714 |
| ETIM 6.0 | EC002714 |
| ETIM 7.0 | EC002714 |
| ETIM 8.0 | EC002714 |
| UNSPSC 16.0901 | 39122230 |

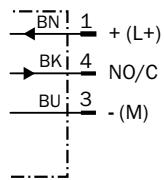
Installation note

Flush installation



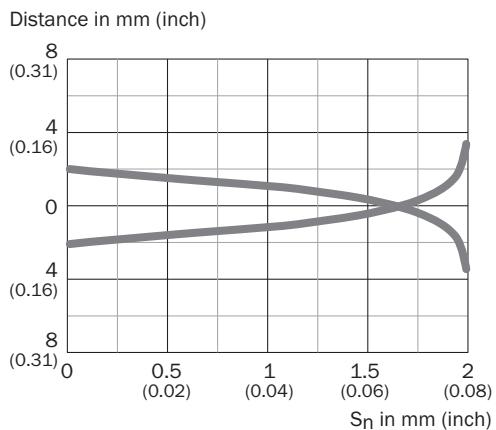
Connection diagram

Cd-453



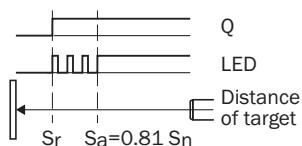
Characteristic curve

Response diagram



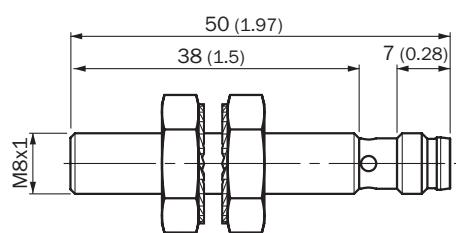
Adjustments

Installation aid



Dimensional drawing (Dimensions in mm (inch))

IMB08 Standard, connector, M8, flush



Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|--------------------|-----------------|
| Mounting brackets and plates | | | |
|  | Mounting plate for M8 sensors, steel, zinc coated, without mounting hardware | BEF-WG-M08 | 5321722 |
|  | Mounting bracket for M8 sensors, steel, zinc coated, without mounting hardware | BEF-WN-M08 | 5321721 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M8, 3-pin, straight Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) | DOL-0803-G02MRN | 6058504 |
| | Head A: female connector, M8, 3-pin, straight Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) | DOL-0803-G05MRN | 6058505 |
|  | Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2), only suitable for PNP sensors | DOL-0803-L02MRN | 6058787 |
| | Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked. | DOL-0803-L05MRN | 6058788 |
|  | Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) | DOL-0803-W02MRN | 6058507 |
| | Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked. | DOL-0803-W05MRN | 6058508 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF8U13-020UA1XLEAX | 2094782 |

| | Brief description | Type | Part no. |
|---|--|--------------------|-----------------|
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YG8U13-020UA1XLEAX | 2094794 |
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m Only suitable for PNP sensors | YI8U13-020UA1XLEAX | 2095593 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF8U13-020UA1M8U13 | 2096304 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF8U13-050UA1M8U13 | 2096308 |

Recommended services

Additional services → www.sick.com/IMB

| | Type | Part no. |
|--|------------------------|-----------------|
| Function Block Factory | | |
| • Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here. | Function Block Factory | On request |

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."

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