



# IMB12-08NPPVC0S

IMB

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type            | Part no. |
|-----------------|----------|
| IMB12-08NPPVC0S | 1074360  |

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

### Detailed technical data

#### Features

|  |  |
|--|--|
| <b>Housing</b>                             | Cylindrical thread design  |
| <b>Housing</b>                             | Standard   |
| <b>Thread size</b>                         | M12 x 1  |
| <b>Diameter</b>                            | Ø 12 mm  |
| <b>Sensing range <math>S_n</math></b>      | 8 mm   |
| <b>Safe sensing range <math>S_a</math></b> | 6.48 mm  |
| <b>Installation type</b>                   | Non-flush  |
| <b>Switching frequency</b>                 | 2,000 Hz   |
| <b>Connection type</b>                     | Male connector M12, 4-pin <sup>1)</sup>  |
| <b>Output type</b>                         | PNP  |
| <b>Output function</b>                     | Complementary  |
| <b>Electrical wiring</b>                   | DC 4-wire  |
| <b>Enclosure rating</b>                    | IP68 <sup>2)</sup><br>IP69K <sup>3)</sup>  |
| <b>Special features</b>                    | Resistant against coolant lubricants<br>Capable of communication via IO-Link 1.0 |

<sup>1)</sup> With gold plated contact pins.

<sup>2)</sup> According to EN 60529.

<sup>3)</sup> According to ISO 20653:2013-03.

#### Communication interface

|                                |  |
|--------------------------------|--|
| <b>Communication interface</b> | IO-Link V1.0                                   |
| <b>Mode</b>                    | COM2 (38,4 kBaud)                              |
| <b>Process data length</b>     | 1 Byte   |
| <b>Process data structure</b>  | Bit 0 = $S_r$ reached<br>Bit 1 = $S_a$ reached |

## Mechanics/electronics

|   |  |
|---|--|
| <b>Supply voltage</b>                       | 10 V DC ... 30 V DC  |
| <b>Ripple</b>                               | ≤ 10 %   |
| <b>Voltage drop</b>                         | ≤ 2 V <sup>1)</sup>  |
| <b>Current consumption</b>                  | ≤ 10 mA <sup>2)</sup>  |
| <b>Hysteresis</b>                           | 3 % ... 20 %   |
| <b>Reproducibility</b>                      | ≤ 2 % <sup>3) 4)</sup>   |
| <b>Temperature drift (of S<sub>r</sub>)</b> | ± 10 %   |
| <b>EMC</b>                                  | According to EN 60947-5-2  |
| <b>Continuous current I<sub>a</sub></b>     | ≤ 200 mA   |
| <b>Short-circuit protection</b>             | ✓  |
| <b>Reverse polarity protection</b>          | ✓  |
| <b>Power-up pulse protection</b>            | ✓  |
| <b>Shock and vibration resistance</b>       | 100 g / 2 ms / 500 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz / 1 mm; 55 Hz ... 500 Hz / 60 g |
| <b>Ambient operating temperature</b>        | -40 °C ... +100 °C   |
| <b>Housing material</b>                     | Stainless steel, V2A (1.4305)  |
| <b>Sensing face material</b>                | Plastic, LCP   |
| <b>Housing length</b>                       | 65 mm  |
| <b>Thread length</b>                        | 43 mm  |
| <b>Tightening torque, max.</b>              | Typ. 32 Nm <sup>5)</sup>   |
| <b>Protection class</b>                     | II <sup>6)</sup>   |
| <b>UL File No.</b>                          | E181493  |

<sup>1)</sup> At I<sub>a</sub> max.

<sup>2)</sup> Without load.

<sup>3)</sup> U<sub>b</sub> and T<sub>a</sub> constant.

<sup>4)</sup> Of S<sub>r</sub>.

<sup>5)</sup> Valid if toothed side of nut is used.

<sup>6)</sup> Reference voltage DC 50 V.

## Reduction factors

|                                   |  |
|-----------------------------------|--|
| <b>Note</b>                       | The values are reference values which may vary |
| <b>Stainless steel (V2A, 304)</b> | Approx. 0.67                                   |
| <b>Aluminum (Al)</b>              | Approx. 0.42                                   |
| <b>Copper (Cu)</b>                | Approx. 0.35                                   |
| <b>Brass (Br)</b>                 | Approx. 0.42                                   |

## Installation note

|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>A</b>      | 12 mm                                 |
| <b>B</b>      | 24 mm                                 |
| <b>C</b>      | 12 mm                                 |
| <b>D</b>      | 24 mm                                 |
| <b>E</b>      | 16 mm                                 |

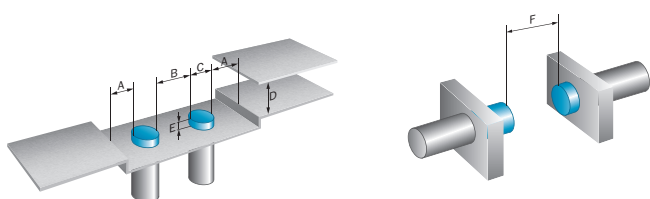
|          |       |
|----------|-------|
| <b>F</b> | 64 mm |
|----------|-------|

Classifications

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 5.0</b>     | 27270101 |
| <b>ECl@ss 5.1.4</b>   | 27270101 |
| <b>ECl@ss 6.0</b>     | 27270101 |
| <b>ECl@ss 6.2</b>     | 27270101 |
| <b>ECl@ss 7.0</b>     | 27270101 |
| <b>ECl@ss 8.0</b>     | 27270101 |
| <b>ECl@ss 8.1</b>     | 27270101 |
| <b>ECl@ss 9.0</b>     | 27270101 |
| <b>ETIM 5.0</b>       | EC002714 |
| <b>ETIM 6.0</b>       | EC002714 |
| <b>UNSPSC 16.0901</b> | 39122230 |

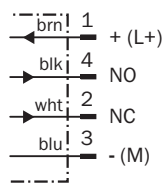
Installation note

Non-flush installation



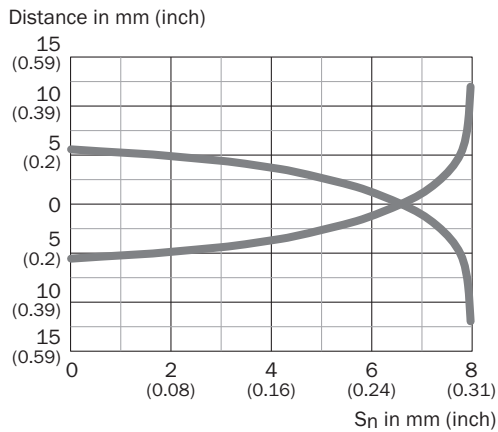
Connection diagram

Cd-006



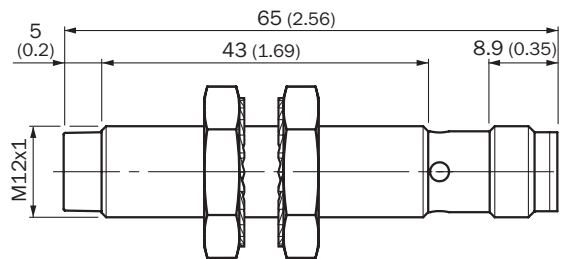
### Characteristic curve

Non-flush installation







### Dimensional drawing (Dimensions in mm (inch))










IMB12 Standard, connector M12, non-flush







### Recommended accessories

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

|   | Brief description   | Type         | Part no. |
|---|---|--------------|----------|
| <b>Universal bar clamp systems</b>  |   |              |          |
|  | Plate N05N for universal clamp bracket, M12, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware | BEF-KHS-N05N | 2051621  |
|  | Plate N11N for universal clamp bracket, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware      | BEF-KHS-N11N | 2071081  |
| <b>Mounting brackets and plates</b>   |   |              |          |
|  | Mounting plate for M12 sensors, Stainless steel, without mounting hardware  | BEF-WG-M12N  | 5320950  |
|  | Mounting bracket for M12 housing, Stainless steel, without mounting hardware  | BEF-WN-M12N  | 5320949  |

|   | Brief description   | Type            | Part no. |
|---|---|-----------------|----------|
| <b>Plug connectors and cables</b>   |   |                 |          |
|    | Head A: female connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: drag chain use, PUR, halogen-free, unshielded, 2 m  | DOL-1204-G02MC  | 6025900  |
|    | Head A: female connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: drag chain use, PP, unshielded, 2 m<br>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-1204-G02MRN | 6058291  |
|    | Head A: female connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: drag chain use, PUR, halogen-free, unshielded, 5 m  | DOL-1204-G05MC  | 6025901  |
|    | Head A: female connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: drag chain use, PP, unshielded, 5 m<br>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-1204-G05MRN | 6058476  |
|    | Head A: female connector, M12, 4-pin, angled with LED<br>Head B: cable<br>Cable: drag chain use, PP, unshielded, 2 m<br>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-1204-L02MRN | 6058482  |
|   | Head A: female connector, M12, 4-pin, angled with LED<br>Head B: cable<br>Cable: drag chain use, PP, unshielded, 5 m<br>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-1204-L05MRN | 6058483  |
|  | Head A: female connector, M12, 4-pin, angled<br>Head B: cable<br>Cable: drag chain use, PP, unshielded, 2 m<br>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-1204-W02MRN | 6058474  |
|  | Head A: female connector, M12, 4-pin, angled<br>Head B: cable<br>Cable: drag chain use, PUR, halogen-free, unshielded, 5 m  | DOL-1204-W05MC  | 6025904  |
|  | Head A: female connector, M12, 4-pin, angled<br>Head B: cable<br>Cable: drag chain use, PP, unshielded, 5 m<br>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-1204-W05MRN | 6058477  |
|  | Head A: male connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: drag chain use, PUR, halogen-free, unshielded, 2 m  | STL-1204-G02MC  | 6028077  |
|   | Head A: male connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: drag chain use, PUR, halogen-free, unshielded, 5 m  | STL-1204-G05MC  | 6048170  |
|  | Head A: male connector, M12, 4-pin, angled<br>Head B: cable<br>Cable: drag chain use, PUR, halogen-free, unshielded, 5 m  | STL-1204-W05MC  | 6037472  |

|  | Brief description  | Type            | Part no. |
|--|--|-----------------|----------|
|   | <p>Head A: female connector, M12, 4-pin, angled<br/>           Head B: male connector, M12, 4-pin, straight<br/>           Cable: drag chain use, PP, unshielded, 2 m<br/>           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.</p>   | DSL-1204-B02MRN | 6058502  |
|  | <p>Head A: female connector, M12, 4-pin, angled<br/>           Head B: male connector, M12, 4-pin, straight<br/>           Cable: drag chain use, PP, unshielded, 5 m<br/>           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.</p>   | DSL-1204-B05MRN | 6058503  |
|   | <p>Head A: female connector, M12, 4-pin, straight<br/>           Head B: male connector, M12, 4-pin, straight<br/>           Cable: drag chain use, PP, unshielded, 2 m<br/>           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.</p> | DSL-1204-G02MRN | 6058499  |
|   | <p>Head A: female connector, M12, 4-pin, straight<br/>           Head B: male connector, M12, 4-pin, straight<br/>           Cable: drag chain use, PUR, halogen-free, unshielded, 5 m</p>   | DSL-1204-G05MC  | 6033245  |
|  | <p>Head A: female connector, M12, 4-pin, straight<br/>           Head B: male connector, M12, 4-pin, straight<br/>           Cable: drag chain use, PP, unshielded, 5 m<br/>           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.</p> | DSL-1204-G05MRN | 6058500  |

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