



# IMI12-04BPONC0S

IMI

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type            | Part no. |
|-----------------|----------|
| IMI12-04BPONC0S | 1093916  |

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

## Detailed technical data

### Features

|                                            |                                                                        |
|--------------------------------------------|------------------------------------------------------------------------|
| <b>Housing</b>                             | Cylindrical thread design                                              |
| <b>Thread size</b>                         | M12 x 1                                                                |
| <b>Diameter</b>                            | Ø 12 mm                                                                |
| <b>Sensing range <math>S_n</math></b>      | 4 mm                                                                   |
| <b>Safe sensing range <math>S_a</math></b> | 3.24 mm                                                                |
| <b>Installation type</b>                   | Flush                                                                  |
| <b>Switching frequency</b>                 | 100 Hz                                                                 |
| <b>Connection type</b>                     | Male connector M12, 4-pin                                              |
| <b>Switching output</b>                    | PNP                                                                    |
| <b>Output function</b>                     | NC                                                                     |
| <b>Electrical wiring</b>                   | DC 3-wire                                                              |
| <b>Enclosure rating</b>                    | IP68, IP69K <sup>1)</sup>                                              |
| <b>Special features</b>                    | Sensing face made of stainless steel V4A, Resistant to cleaning agents |
| <b>Special applications</b>                | Hygienic and washdown zones, Difficult application conditions          |

<sup>1)</sup> According to EN 60529.

### Mechanics/electronics

|                            |                      |
|----------------------------|----------------------|
| <b>Supply voltage</b>      | 10 V DC ... 30 V DC  |
| <b>Ripple</b>              | ≤ 10 % <sup>1)</sup> |
| <b>Voltage drop</b>        | ≤ 2 V <sup>2)</sup>  |
| <b>Current consumption</b> | 10 mA <sup>3)</sup>  |

<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> With  $I_{max}$ .

<sup>3)</sup> Without load.

<sup>4)</sup> Of  $S_r$ .

|                                             |                                                                                                   |
|---------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Time delay before availability</b>       | ≤ 300 ms                                                                                          |
| <b>Hysteresis</b>                           | 1 % ... 20 %                                                                                      |
| <b>Reproducibility</b>                      | ≤ 2 % <sup>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 / 5 ms / 1000 cycles; 150 g / 1 Mio cycles; 10 Hz ... 55 Hz, 1 mm / 55 Hz ... 500 Hz / 60 g |
| <b>Ambient operating temperature</b>        | -25 °C ... +75 °C                                                                                 |
| <b>Housing material</b>                     | Stainless steel V4A, DIN 1.4404 / AISI 316L                                                       |
| <b>Sensing face material</b>                | Stainless steel V4A, DIN 1.4404 / AISI 316L                                                       |
| <b>Housing length</b>                       | 63.8 mm                                                                                           |
| <b>Thread length</b>                        | 46.8 mm                                                                                           |
| <b>Tightening torque, max.</b>              | ≤ 32 Nm                                                                                           |
| <b>Items supplied</b>                       | Mounting nut, V4A stainless steel (2x)                                                            |
| <b>Protection class</b>                     | III                                                                                               |
| <b>UL File No.</b>                          | E181493                                                                                           |

<sup>1)</sup> Of V<sub>S</sub>.

<sup>2)</sup> With I max.

<sup>3)</sup> Without load.

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

## Safety-related parameters

|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 1,892 years |
| <b>DC<sub>avg</sub></b> | 0%          |

## Reduction factors

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| <b>Note</b>                       | The values are reference values which may vary |
| <b>St37 steel (Fe)</b>            | Approx. 1                                      |
| <b>Stainless steel (V2A, 304)</b> | Approx. 0.67                                   |
| <b>Aluminum (Al)</b>              | Approx. 0.71                                   |
| <b>Copper (Cu)</b>                | Approx. 0.51                                   |
| <b>Brass (Br)</b>                 | Approx. 0.8                                    |

## Installation note

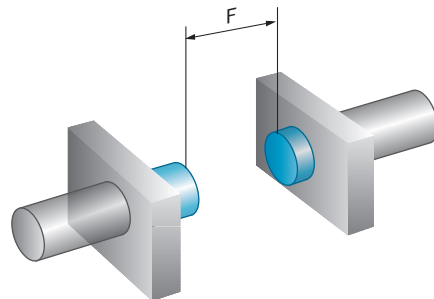
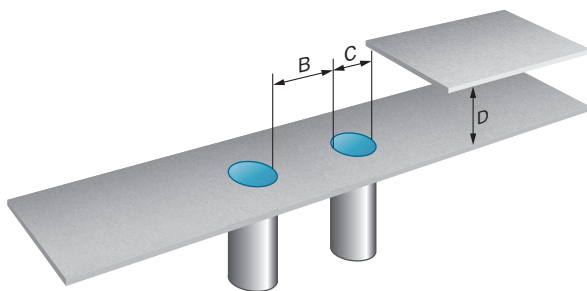
|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>B</b>      | 12 mm                                 |
| <b>C</b>      | 12 mm                                 |
| <b>D</b>      | 25 mm                                 |
| <b>F</b>      | 32 mm                                 |

## Classifications

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

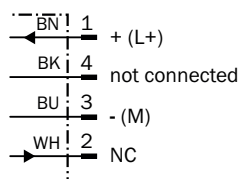
## Installation note

Flush installation

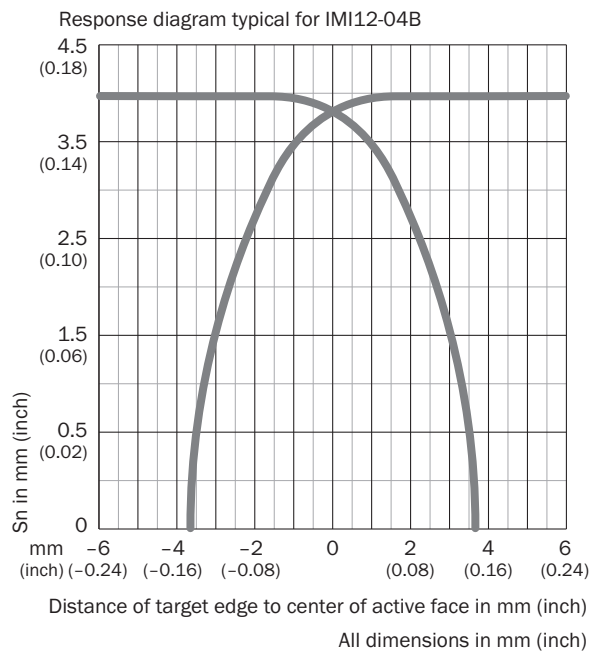


## Connection diagram

Cd-008

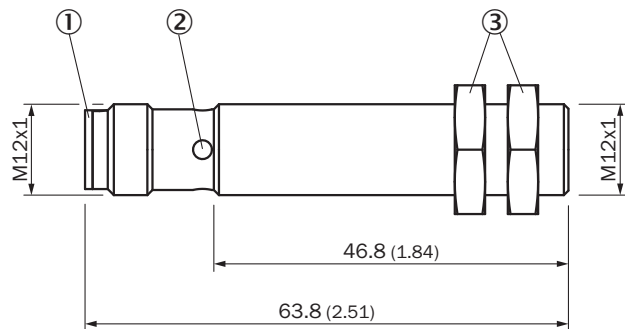


## Response diagram



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

IMI12 Inox, flush



- ① Connection
- ② Indication LED
- ③ Fastening nuts (2 x); width across 17, stainless steel V4A

## 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)