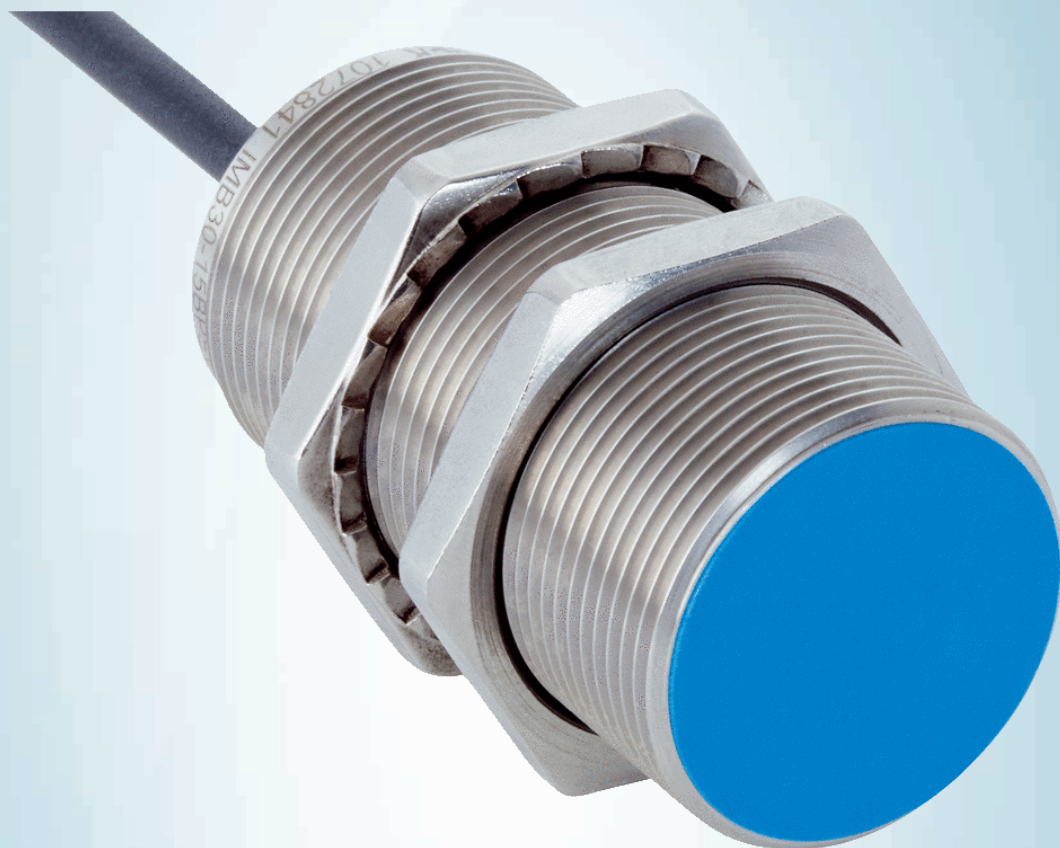




# IMB30-15BPSVU2S

IMB

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type            | Part no. |
|-----------------|----------|
| IMB30-15BPSVU2S | 1072841  |

**Included in delivery:** BEF-MU-M30N (2)

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>                         | M30 x 1.5                                                                             |
| <b>Diameter</b>                            | Ø 30 mm                                                                               |
| <b>Sensing range <math>S_n</math></b>      | 15 mm                                                                                 |
| <b>Safe sensing range <math>S_a</math></b> | 12.15 mm                                                                              |
| <b>Installation type</b>                   | Flush                                                                                 |
| <b>Switching frequency</b>                 | 500 Hz                                                                                |
| <b>Connection type</b>                     | Cable, 3-wire, 2 m                                                                    |
| <b>Switching output</b>                    | PNP                                                                                   |
| <b>Output function</b>                     | NO                                                                                    |
| <b>Electrical wiring</b>                   | DC 3-wire                                                                             |
| <b>Enclosure rating</b>                    | IP68 <sup>1)</sup><br>IP69K <sup>2)</sup>                                             |
| <b>Special features</b>                    | Resistant against coolant lubricants, Visual adjustment indicator, IO-Link            |
| <b>Special applications</b>                | Zones with coolants and lubricants, Mobile machines, Difficult application conditions |

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

<sup>2)</sup> According to ISO 20653:2013-03.

#### Mechanics/electronics

|                       |                     |
|-----------------------|---------------------|
| <b>Supply voltage</b> | 10 V DC ... 30 V DC |
|-----------------------|---------------------|

<sup>1)</sup> At  $I_a$  max.

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

<sup>3)</sup>  $U_b$  and  $T_a$  constant.

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

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

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

|                                             |                                                                                                  |
|---------------------------------------------|--------------------------------------------------------------------------------------------------|
| <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>Cable material</b>                       | PUR                                                                                              |
| <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, DIN 1.4305 / AISI 303                                                       |
| <b>Sensing face material</b>                | Plastic, LCP                                                                                     |
| <b>Housing length</b>                       | 60 mm                                                                                            |
| <b>Thread length</b>                        | 55 mm                                                                                            |
| <b>Tightening torque, max.</b>              | Typ. 100 Nm <sup>5)</sup>                                                                        |
| <b>Items supplied</b>                       | Mounting nut, V2A stainless steel, with locking teeth (2x)                                       |
| <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.

## Safety-related parameters

|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 1,971 years |
| <b>DC<sub>avg</sub></b> | 0%          |

## Communication interface

|                                       |                                                                  |
|---------------------------------------|------------------------------------------------------------------|
| <b>Communication interface</b>        | IO-Link V1.0                                                     |
| <b>Communication Interface detail</b> | COM2 (38,4 kBaud)                                                |
| <b>Process data length</b>            | 1 Byte                                                           |
| <b>Process data structure</b>         | Bit 0 = S <sub>r</sub> reached<br>Bit 1 = S <sub>a</sub> reached |

## Reduction factors

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| <b>Note</b>                       | The values are reference values which may vary |
| <b>St37 steel (Fe)</b>            | 1                                              |
| <b>Stainless steel (V2A, 304)</b> | Approx. 0.62                                   |

|                      |              |
|----------------------|--------------|
| <b>Aluminum (Al)</b> | Approx. 0.26 |
| <b>Copper (Cu)</b>   | Approx. 0.17 |
| <b>Brass (Br)</b>    | Approx. 0.27 |

#### Installation note

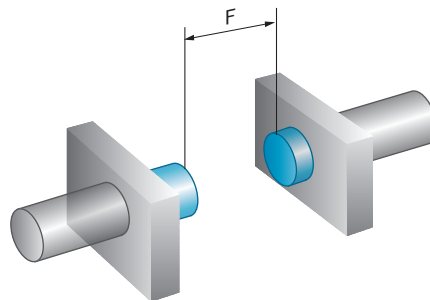
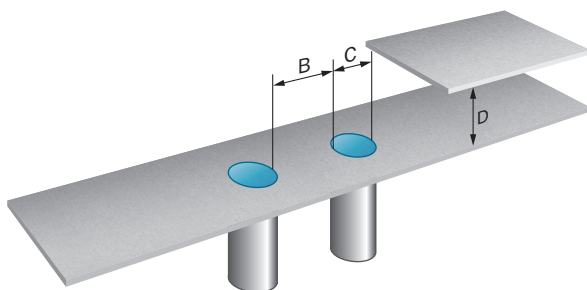
|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>B</b>      | 40 mm                                 |
| <b>C</b>      | 30 mm                                 |
| <b>D</b>      | 45 mm                                 |
| <b>F</b>      | 120 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 |

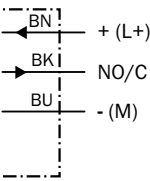
#### Installation note

##### Flush installation



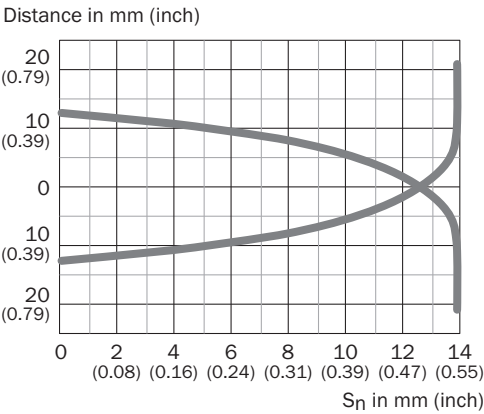
Connection diagram

Cd-452



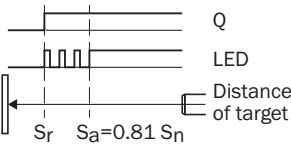
Characteristic curve

Response diagram



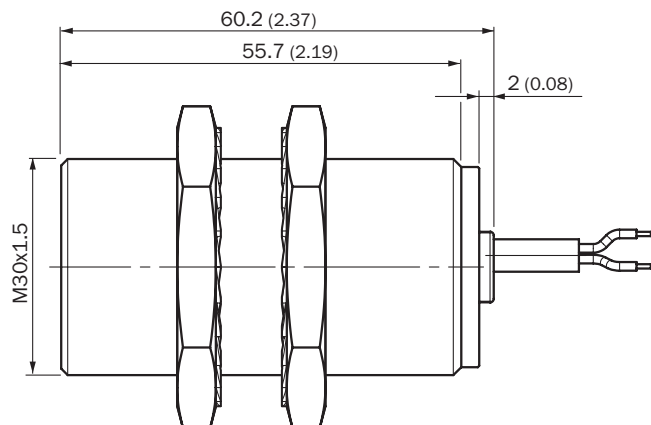
Adjustments

Installation aid



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

IMB30 Standard, cable, flush



### Recommended accessories

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

|                                                                                     | Brief description                                                                                         | Type        | Part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------|----------|
| Mounting brackets and plates                                                        |                                                                                                           |             |          |
|  | Mounting plate for M30 sensors, steel, zinc coated, without mounting hardware                             | BEF-WG-M30  | 5321871  |
|  | Mounting bracket for M30 sensors, steel, zinc coated, without mounting hardware                           | BEF-WN-M30  | 5308445  |
| Plug connectors and cables                                                          |                                                                                                           |             |          |
|  | Head A: female connector, M12, 4-pin, straight<br>Head B: -<br>Cable: unshielded                          | DOS-1204-GN | 6028357  |
|  | Head A: female connector, M12, 4-pin, angled<br>Head B: -<br>Cable: unshielded                            | DOS-1204-WN | 6028358  |
|  | Head A: male connector, M12, 4-pin, straight<br>Head B: -<br>Cable: unshielded                            | STE-1204-GN | 6028359  |
|  | Head A: male connector, M12, 4-pin, straight<br>Head B: -<br>Cable: unshielded<br>For 2 cable connections | STE-1204-TN | 6028360  |

## Recommended services

Additional services → [www.sick.com/IMB](https://www.sick.com/IMB)

|                                                                                                                                                                                                                                                                                                                                                           | Type                   | Part no.   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------|
| Function Block Factory                                                                                                                                                                                                                                                                                                                                    |                        |            |
| <ul style="list-style-type: none"> <li><b>Description:</b> The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&amp;R. More information on the FBF can be found <a _blank"="" href="https://fbf.cloud.sick.com target=">here</a>.</li> </ul> | 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.”

## WORLDWIDE PRESENCE:

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