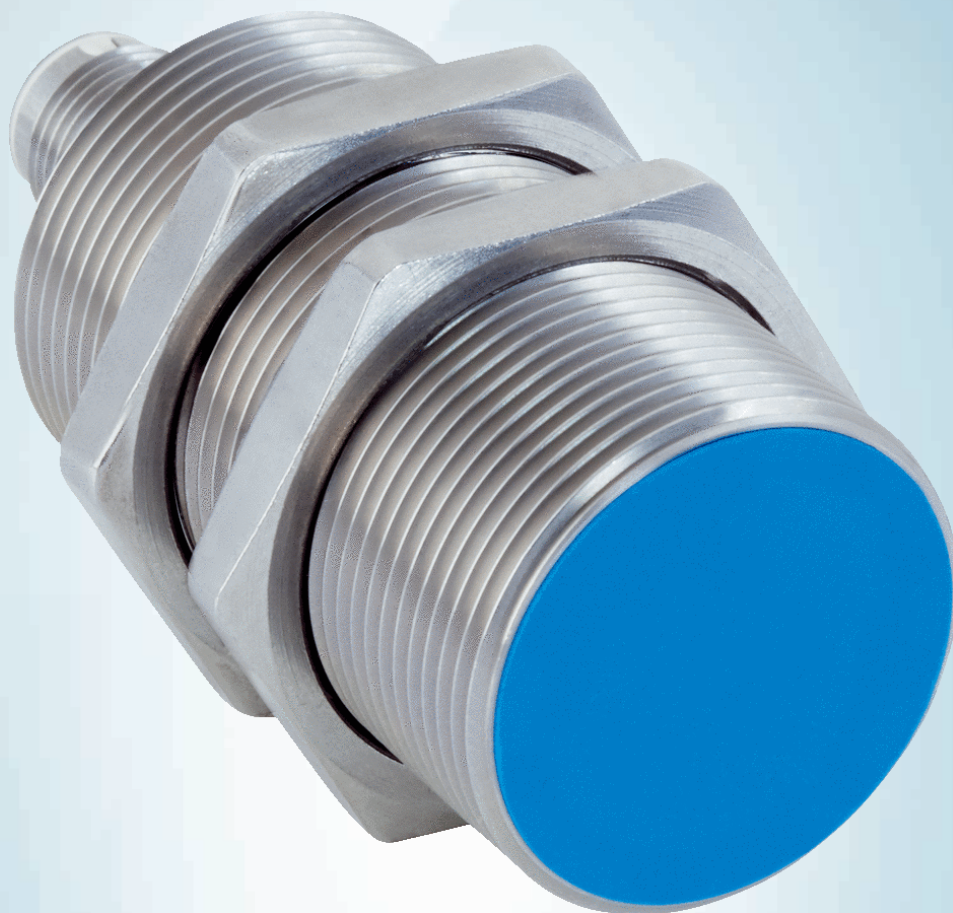




# IMS30-15BPOVC0S

IMS

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.

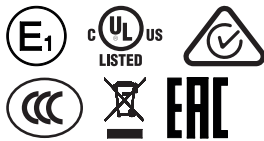


## Ordering information

| Type            | Part no. |
|-----------------|----------|
| IMS30-15BPOVC0S | 1097654  |

**Included in delivery:** BEF-MU-M30 (1)

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



## 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>                 | 300 Hz                                                                                |
| <b>Connection type</b>                     | Male connector M12, 4-pin <sup>1)</sup>                                               |
| <b>Switching output</b>                    | PNP                                                                                   |
| <b>Output function</b>                     | NC                                                                                    |
| <b>Electrical wiring</b>                   | DC 3-wire                                                                             |
| <b>Enclosure rating</b>                    | IP68 <sup>2)</sup><br>IP69K <sup>3)</sup>                                             |
| <b>Special features</b>                    | Resistant against coolant lubricants                                                  |
| <b>Special applications</b>                | Mobile machines, Zones with coolants and lubricants, Difficult application conditions |

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

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

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

### Mechanics/electronics

|                       |                      |
|-----------------------|----------------------|
| <b>Supply voltage</b> | 7.2 V DC ... 60 V DC |
| <b>Ripple</b>         | ≤ 10 %               |

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

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

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

<sup>4)</sup> See "Continuous current  $I_a$  above temperature" characteristic curve.

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Voltage drop</b>                            | $\leq 2.5 \text{ V}^{1)}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Current consumption</b>                     | $10 \text{ mA}^{2)}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Time delay before availability</b>          | 100 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Hysteresis</b>                              | 3 % ... 20 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Reproducibility</b>                         | $\leq 2 \%^{3)}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Temperature drift (of <math>S_r</math>)</b> | $\pm 10 \%$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>EMC</b>                                     | <p>Emitted interference and interference immunity in accordance with Motor Insurance Directive ECE-R10 Rev. 5: E1-Type approval</p> <p>Interference immunity in accordance with DIN ISO 11452-2: 100 V/m</p> <p>AM vertical 20 MHz - 800 MHz; AM horizontal 200 MHz - 800 MHz; PM vertical/horizontal 800 MHz - 2.7 GHz</p> <p>Conducted disturbances in accordance with ISO 7637-2 (pulse/severity/failure criterion 12 V/failure criterion 24 V): 1/IV/C/C, 2a/IV/A/A, 2b/IV/C/C, 3a/IV/A/A, 3b/IV/A/A, 4/IV/C/A, 5a/IV/B/B, 5b/IV/B/B</p> <p>EN 61000-4-2 ESD: 4 kV CD / 8 kV AD</p> <p>EN 61000-4-3 HF radiated: 10 V/m</p> <p>EN 61000-4-4 burst: 2 kV</p> <p>EN 61000-4-5 surge: 0,5 kV L-to-L, Ri: 2 Ohm</p> |
| <b>Environmental test</b>                      | Quick temperature change EN 60068-2-14, Na: TA = -25 °C, TB = 75 °C, t1 = 40 min, t2 = < 10 s, 300 cycles, Delta $S_r \leq 10\%$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Corrosion test</b>                          | Salt spray test EN 60068-2-52: severity 5, 4 cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Continuous current <math>I_a</math></b>     | $\leq 200 \text{ mA}^{4)}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Short-circuit protection</b>                | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Reverse polarity protection</b>             | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Power-up pulse protection</b>               | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Shock and vibration resistance</b>          | <p>Vibration resistance EN 60068-2-6 Fc: 25 g peak (10 Hz ... 2,000 Hz) / -20 °C ... +50 °C,</p> <p>Shock resistance EN 60068-2-27 Ea: 100 g 11 ms; 3 shocks in every direction of the 3 coordinate axes / -40 °C ... +85 °C, Continuous shock resistance EN 60068-2-29 Eb: 40 g 3 ms rise, 7 ms fall / 5,000 shocks in every direction of the 3 coordinate axes / -20 °C ... +50 °C,</p> <p>Broadband noise EN 60068-2-64: 15 g rms (5 Hz ... 2,000 Hz) / 8 hours in every direction of the 3 coordinate axes / -40 °C ... +85 °C</p>                                                                                                                                                                              |
| <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>                          | 70 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Thread length</b>                           | 52.15 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Tightening torque, max.</b>                 | Typ. 100 Nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Items supplied</b>                          | Mounting nut, brass, nickel-plated (2x)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Protection class</b>                        | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>UL File No.</b>                             | E181493                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

1) At  $I_a$  max.

2) Without load.

3)  $U_b$  and  $T_a$  constant.

4) See "Continuous current  $I_a$  above temperature" characteristic curve.

## Safety-related parameters

|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 1,196 years |
| <b>DC<sub>avg</sub></b> | 0%          |

## Reduction factors

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| <b>Note</b>                       | The values are reference values which may vary |
| <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

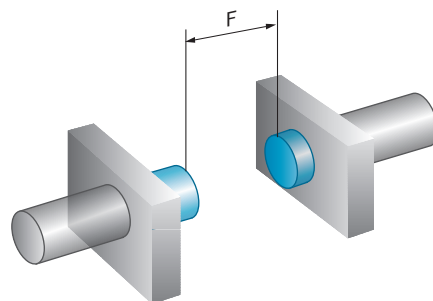
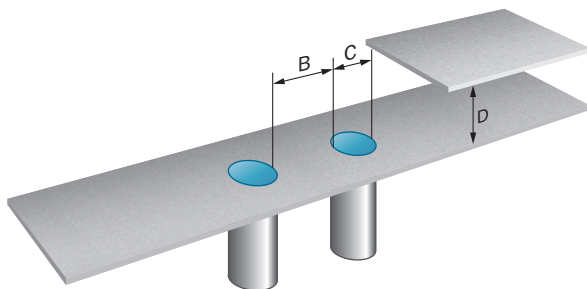
|               |                                       |
|---------------|---------------------------------------|
| <b>Remark</b> | Associated graphic see "Installation" |
| <b>B</b>      | 40 mm                                 |
| <b>C</b>      | 30 mm                                 |
| <b>D</b>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

## Classifications

|                       |          |
|-----------------------|----------|
| <b>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>ECl@ss 10.0</b>    | 27270101 |
| <b>ECl@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 |

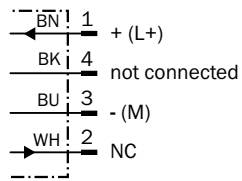
## Installation note

### Flush installation



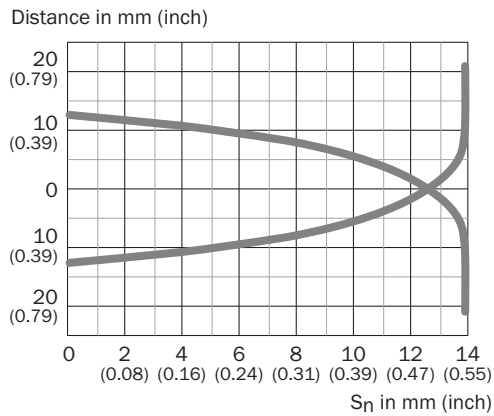
## Connection diagram

Cd-008

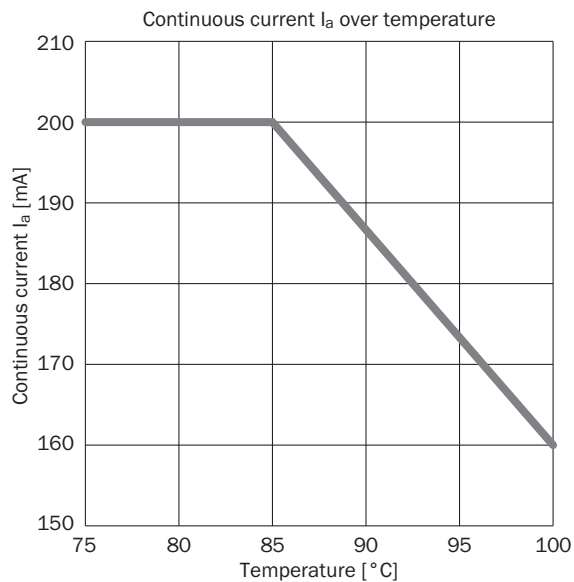


## Characteristic curve

Response diagram

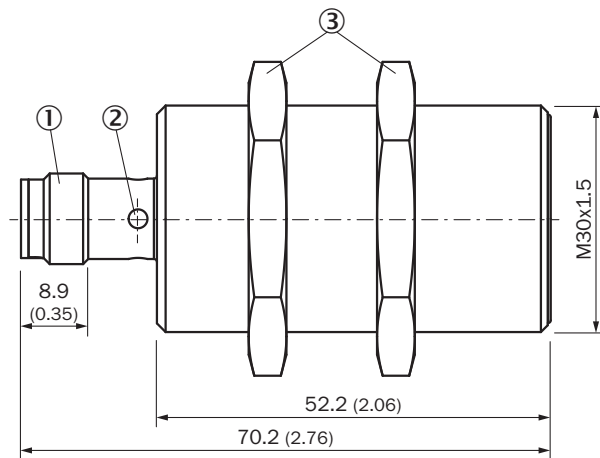


## Temperature derating



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

IMS30, V2A, flush



- ① Connection
- ② Indication LED
- ③ Fastening nuts (2x); width across 36, brass nickel-plated

### Recommended accessories

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

|                                                                                     | Brief description                                                                                                                                         | Type         | Part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|
| Universal bar clamp systems                                                         |                                                                                                                                                           |              |          |
|  | Plate N06N for universal clamp bracket, M18, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322627), mounting hardware | BEF-KHS-N06N | 2051622  |

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