

# IMB30-20NNPVC0K

IMB

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.

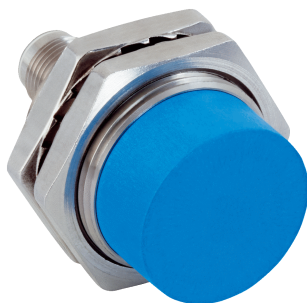


Illustration may differ



## Ordering information

Type	Part no.
IMB30-20NNPVC0K	1074418

**Included in delivery:** BEF-MU-M30N (1)

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>	Short-body
<b>Thread size</b>	M30 x 1.5
<b>Diameter</b>	Ø 30 mm
<b>Sensing range <math>S_n</math></b>	20 mm
<b>Safe sensing range <math>S_a</math></b>	16.2 mm
<b>Installation type</b>	Non-flush
<b>Switching frequency</b>	500 Hz
<b>Connection type</b>	Male connector M12, 4-pin <sup>1)</sup>
<b>Switching output</b>	NPN
<b>Output function</b>	Complementary
<b>Electrical wiring</b>	DC 4-wire
<b>Enclosure rating</b>	IP68 <sup>2)</sup> IP69K <sup>3)</sup>
<b>Special features</b>	Resistant against coolant lubricants, Temperature resistance
<b>Special applications</b>	Zones with coolants and lubricants, Mobile machines, Difficult application conditions
<b>Items supplied</b>	Mounting nut, V2A stainless steel, with locking teeth (2x)

<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>	10 V DC ... 30 V DC
<b>Ripple</b>	≤ 10 %
<b>Voltage drop</b>	≤ 2 V <sup>1)</sup>
<b>Hysteresis</b>	3 % ... 20 %
<b>Reproducibility</b>	≤ 2 % <sup>2) 3)</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>No load current</b>	≤ 10 mA
<b>Short-circuit protection</b>	✓
<b>Reverse polarity protection</b>	✓
<b>Power-up pulse protection</b>	✓
<b>Power-up pulse</b>	≤ 5 ms
<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>	40 mm
<b>Thread length</b>	24 mm
<b>Tightening torque, max.</b>	Typ. 100 Nm <sup>4)</sup> Typ. 100 Nm <sup>5)</sup>
<b>Protection class</b>	III
<b>UL File No.</b>	E181493

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

<sup>2)</sup> Supply voltage U<sub>b</sub> and constant ambient temperature T<sub>a</sub>.

<sup>3)</sup> Of S<sub>r</sub>.

<sup>4)</sup> When using the non-toothed side of the nut.

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

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	2,016 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>	1
<b>Stainless steel (V2A, 304)</b>	Approx. 0.78
<b>Aluminum (Al)</b>	Approx. 0.44
<b>Copper (Cu)</b>	Approx. 0.36
<b>Brass (Br)</b>	Approx. 0.46

## Installation note

<b>Remark</b>	Associated graphic see "Installation"
---------------	---------------------------------------

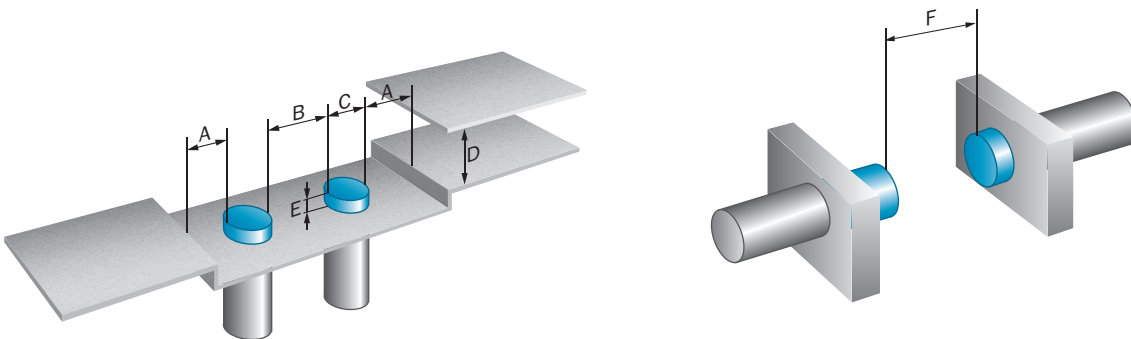
<b>A</b>	20 mm
<b>B</b>	62 mm
<b>C</b>	30 mm
<b>D</b>	60 mm
<b>E</b>	20 mm
<b>F</b>	160 mm

#### Classifications

<b>ECLASS 5.0</b>	27270101
<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101
<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 12.0</b>	27274001
<b>ETIM 5.0</b>	EC002714
<b>ETIM 6.0</b>	EC002714
<b>ETIM 7.0</b>	EC002714
<b>ETIM 8.0</b>	EC002714
<b>UNSPSC 16.0901</b>	39122230

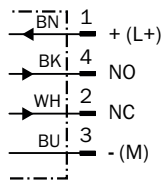
#### Installation note

Non-flush installation



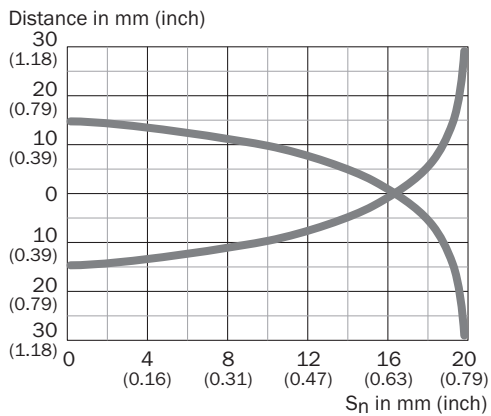
## Connection diagram

Cd-006



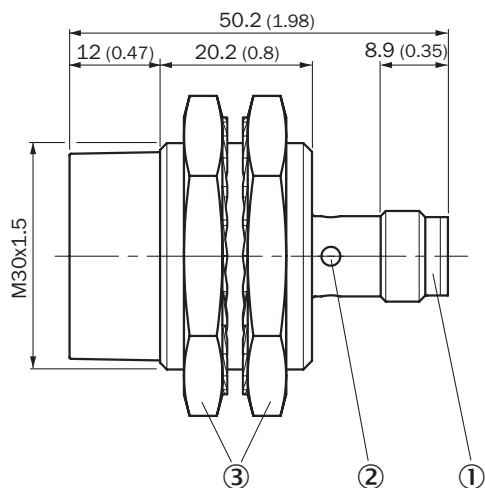
## Response diagram

Response diagram



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





IMB30 Short-body housing, connector M12, non-flush





- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); width across 36, stainless steel V2A

## 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 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-1204-G02MRN	6058291
	Head A: female connector, M12, 4-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-1204-G05MRN	6058476
	Head A: female connector, M12, 4-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-1204-L02MRN	6058482
	Head A: female connector, M12, 4-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., Resistant against lactic acid & hydrogen peroxide (H2O2), only suitable for PNP sensors	DOL-1204-L05MRN	6058483
	Head A: female connector, M12, 4-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-1204-W02MRN	6058474
	Head A: female connector, M12, 4-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., Resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-1204-W05MRN	6058477
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A14-020UB3XLEAX	2095607
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A14-050UB3XLEAX	2095608

	Brief description	Type	Part no.
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YG2A14-050UB3XLEAX	2095767
	Head A: female connector, M12, 4-pin, angled Head B: male connector, M12, 4-pin, straight 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)	DSL-1204-B02MRN	6058502
	Head A: female connector, M12, 4-pin, angled Head B: male connector, M12, 4-pin, straight 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)	DSL-1204-B05MRN	6058503
	Head A: female connector, M12, 4-pin, straight Head B: male connector, M12, 4-pin, straight 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)	DSL-1204-G02MRN	6058499
	Head A: female connector, M12, 4-pin, straight Head B: male connector, M12, 4-pin, straight 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)	DSL-1204-G05MRN	6058500
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: male connector, M12, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A14-050UB3M2A14	2096001

## 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)