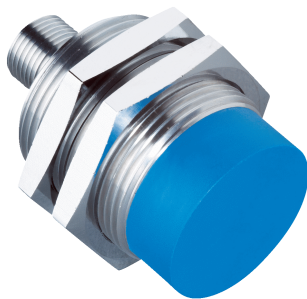


# IMA30-40NE1ZC0K

IMA

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

| Type            | Part no. |
|-----------------|----------|
| IMA30-40NE1ZCOK | 6041796  |

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

Illustration may differ



### Detailed technical data

#### Features

|  |                            |
|--|----------------------------|
| <b>Housing</b>                                       | Cylindrical thread design  |
| <b>Thread size</b>                                   | M30 x 1.5                  |
| <b>Diameter</b>                                      | Ø 30 mm                    |
| <b>Sensing range <math>S_n</math></b>                | 0 mm ... 40 mm             |
| <b>Safe sensing range <math>S_a</math></b>           | 32.4 mm                    |
| <b>Installation type</b>                             | Non-flush                  |
| <b>Connection type</b>                               | Male connector M12, 4-pin  |
| <b>Output function</b>                               | Analog                     |
| <b>Repeatability (<math>T_a</math> not constant)</b> | 0.6 mm <sup>1) 2) 3)</sup> |
| <b>Repeatability (<math>T_a</math> constant)</b>     | ± 0.1 mm                   |
| <b>Resolution</b>                                    | ≤ 10 µm                    |
| <b>Enclosure rating</b>                              | IP67 <sup>4)</sup>         |
| <b>Special features</b>                              | Analog output              |

<sup>1)</sup> As per IEC 60947-5-2.

<sup>2)</sup>  $U_b = DC 20 V \dots 30 V$ .

<sup>3)</sup>  $T_A = 23 \text{ °C} \pm 5 \text{ °C}$ .

<sup>4)</sup> According to EN 60529: 2000-09.

#### Mechanics/electronics

|  |                      |
|--|----------------------|
| <b>Supply voltage</b>                          | 15 V DC ... 30 V DC  |
| <b>Ripple</b>                                  | ≤ 20 % <sup>1)</sup> |
| <b>Time delay before availability</b>          | ≤ 50 ms              |
| <b>Temperature drift (of <math>S_n</math>)</b> | ≤ 10 %               |

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

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

<sup>3)</sup> At voltage output QA1.

<sup>4)</sup> -3 dB if  $s = 20 \text{ mm}$ .

<sup>5)</sup> QA1 loaded, QA2 unloaded.

<sup>6)</sup> QA1 loaded, QA2 loaded: see temperature reduction.

|                                      |  |
|--------------------------------------|--|
| <b>Current consumption, no load</b>  | ≤ 12 mA <sup>2)</sup>  |
| <b>Load current</b>                  | ± 10 mA <sup>3)</sup>  |
| <b>Max. load resistance</b>          | 400 Ω Ub = 15 V<br>1,000 Ω Ub = 30 V   |
| <b>Output voltage Q<sub>A1</sub></b> | s = 0 mm: 0 V/-0 +0,4 V (23 °C)<br>s = 20 mm: +5,2 V/ +0,4 V (23 °C)<br>s = 40 mm: +10 V/ +0,4 V (23 °C) |
| <b>Output current Q<sub>A2</sub></b> | s = 0 mm: 4 mA/ +0,8 mA (23 °C)<br>s = 40 mm: 20 mA/ +0,8 mA (23 °C)                                     |
| <b>Output voltage</b>                | 0 V ... 10 V   |
| <b>Bandwidth</b>                     | 100 Hz <sup>4)</sup>   |
| <b>Short-circuit protection</b>      | ✓  |
| <b>Reverse polarity protection</b>   | ✓  |
| <b>Ambient operating temperature</b> | -25 °C ... +70 °C <sup>5) 6)</sup>   |
| <b>Housing material</b>              | Metal, Nickel-plated brass   |
| <b>Sensing face material</b>         | Plastic  |
| <b>Housing length</b>                | 48.5 mm  |
| <b>Thread length</b>                 | 25 mm  |

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

2) Without load.

3) At voltage output QA1.

4) -3 dB if s = 20 mm.

5) QA1 loaded, QA2 unloaded.

6) QA1 loaded, QA2 loaded: see temperature reduction.

## Reduction factors

|                                   |  |
|-----------------------------------|--|
| <b>Note</b>                       | The values are reference values which may vary |
| <b>Stainless steel (V2A, 304)</b> | Approx. 0.8                                    |
| <b>Aluminum (Al)</b>              | Approx. 0.4                                    |
| <b>Copper (Cu)</b>                | Approx. 0.4                                    |
| <b>Brass (Br)</b>                 | Approx. 0.5                                    |

## Installation note

|               |  |
|---------------|--|
| <b>Remark</b> | Associated graphic see "Installation"                                |
| <b>A</b>      | 40 mm  |
| <b>B</b>      | 120 mm   |
| <b>C</b>      | 30 mm  |
| <b>D</b>      | 120 mm   |
| <b>E</b>      | Aluminium: 25 mm, Steel: 35 mm, Brass: 25 mm, Stainless steel: 20 mm |
| <b>F</b>      | 400 mm   |

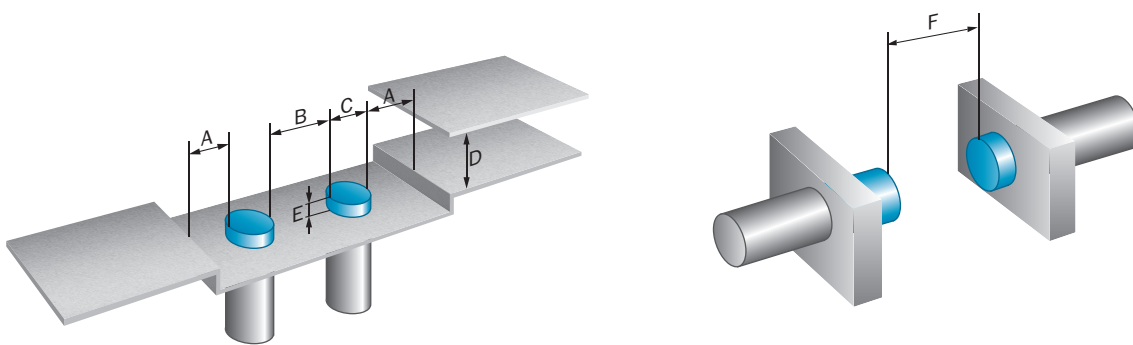
## Classifications

|                     |          |
|---------------------|----------|
| <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 |

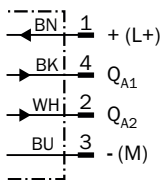
### Installation note

Non-flush installation

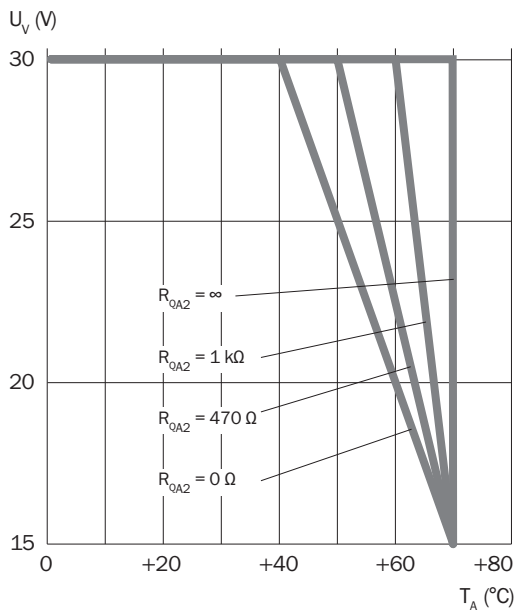


### Connection diagram

Cd-022

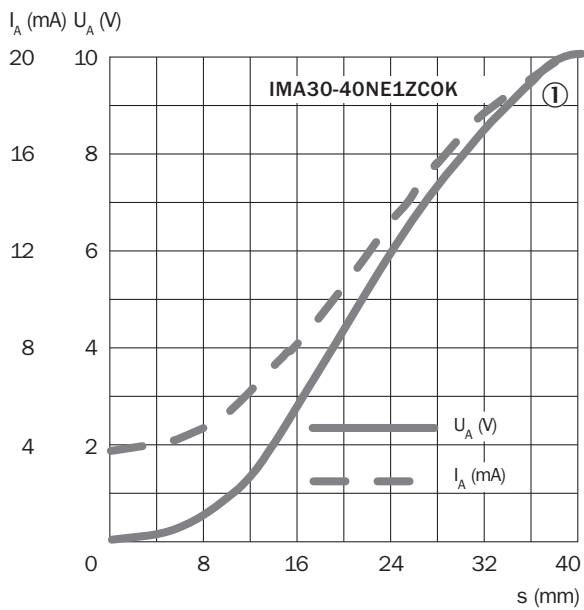


### Temperature derating



### Response diagram

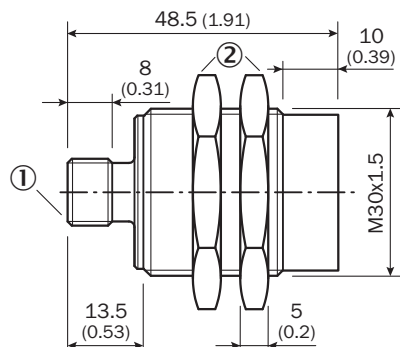
IMA30



① St37 (FE)

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

IMA30, connector, non-flush




- ① Connection
- ② Fastening nuts (2x); width across 36, metal

**Recommended accessories**

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

|                                     | <b>Brief description</b>  | <b>Type</b>        | <b>Part no.</b> |
|-------------------------------------|---|--------------------|-----------------|
| <b>Mounting brackets and plates</b> |   |                    |                 |
|                                     | Mounting bracket for M30 sensors, steel, zinc coated, without mounting hardware   | BEF-WN-M30         | 5308445         |
| <b>Plug connectors and cables</b>   |   |                    |                 |
|                                     | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF2A14-020UB3XLEAX | 2095607         |
|                                     | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m               | YF2A14-020VB3XLEAX | 2096234         |
|                                     | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF2A14-050UB3XLEAX | 2095608         |
|                                     | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m               | YF2A14-050VB3XLEAX | 2096235         |
|                                     | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m   | YG2A14-020UB3XLEAX | 2095766         |
|                                     | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m                 | YG2A14-020VB3XLEAX | 2095895         |
|                                     | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m   | YG2A14-050UB3XLEAX | 2095767         |

|   | <b>Brief description</b>  | <b>Type</b>        | <b>Part no.</b> |
|---|---|--------------------|-----------------|
|  | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG2A14-050VB3XLEAX | 2095897         |

## 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)