



# MM12-60ANS-ZUK

MME

MAGNETIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

| Type           | Part no. |
|----------------|----------|
| MM12-60ANS-ZUK | 1040026  |

Included in delivery: BEF-MU-M12 (1)

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

Detailed technical data

Features

|                          |   |
|--------------------------|---|
| Housing                  | Cylindrical thread design               |
| Housing                  | Short-body                              |
| Thread size              | M12 x 1                                 |
| Diameter                 | Ø 12 mm                                 |
| Sensing range $S_n$      | 0 mm ... 60 mm <sup>1)</sup>            |
| Safe sensing range $S_a$ | 48.6 mm                                 |
| Magnetic sensitivity     | 1 mT                                    |
| Switching frequency      | 1,000 Hz                                |
| Connection type          | Cable, 3-wire, 2 m                      |
| Switching output         | NPN                                     |
| Output function          | NO                                      |
| Electrical wiring        | DC 3-wire                               |
| Magnetic alignment       | Axial                                   |
| Enclosure rating         | IP67 <sup>2)</sup>                      |
| Items supplied           | Mounting nut, brass, nickel-plated (2x) |

<sup>1)</sup> Sensing range based on installation in non-magnetic material using Magnet MAG-3010-B (M4.0).

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

Mechanics/electronics

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

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

<sup>2)</sup> At  $I_a$  max.

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

<sup>4)</sup> Von Sr (VS und Ta constant).

<sup>5)</sup> Pulsed.

|   |                                  |
|---|----------------------------------|
| <b>Time delay before availability</b>       | ≤ 20 ms                          |
| <b>Hysteresis</b>                           | 1 % ... 10 %                     |
| <b>Reproducibility</b>                      | ≤ 1 % <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>Cable material</b>                       | PUR                              |
| <b>Short-circuit protection</b>             | ✓ <sup>5)</sup>                  |
| <b>Reverse polarity protection</b>          | ✓                                |
| <b>Power-up pulse protection</b>            | ✓                                |
| <b>Shock and vibration resistance</b>       | 30 g, 11 ms / 10 ... 55 Hz, 1 mm |
| <b>Ambient operating temperature</b>        | -25 °C ... +75 °C                |
| <b>Housing material</b>                     | Metal, Nickel-plated brass       |
| <b>Housing length</b>                       | 48 mm                            |
| <b>Thread length</b>                        | 28 mm                            |
| <b>Tightening torque, max.</b>              | 15 Nm                            |

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

<sup>2)</sup> At I<sub>a</sub> max.

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

<sup>4)</sup> Von S<sub>r</sub> (V<sub>S</sub> und T<sub>a</sub> constant).

<sup>5)</sup> Pulsed.

#### Safety-related parameters

|                                     |             |
|-------------------------------------|-------------|
| <b>MTTF<sub>D</sub></b>             | 1,980 years |
| <b>DC<sub>avg</sub></b>             | 0%          |
| <b>T<sub>M</sub> (mission time)</b> | 20 years    |

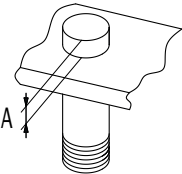
#### Classifications

|                     |          |
|---------------------|----------|
| <b>eCl@ss 5.0</b>   | 27270104 |
| <b>eCl@ss 5.1.4</b> | 27270104 |
| <b>eCl@ss 6.0</b>   | 27270104 |
| <b>eCl@ss 6.2</b>   | 27270104 |
| <b>eCl@ss 7.0</b>   | 27270104 |
| <b>eCl@ss 8.0</b>   | 27270104 |
| <b>eCl@ss 8.1</b>   | 27270104 |
| <b>eCl@ss 9.0</b>   | 27270104 |
| <b>eCl@ss 10.0</b>  | 27270104 |
| <b>eCl@ss 11.0</b>  | 27270104 |
| <b>eCl@ss 12.0</b>  | 27274301 |
| <b>ETIM 5.0</b>     | EC002544 |
| <b>ETIM 6.0</b>     | EC002544 |
| <b>ETIM 7.0</b>     | EC002544 |
| <b>ETIM 8.0</b>     | EC002544 |


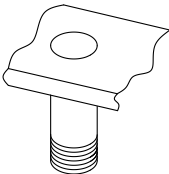
|                |          |
|----------------|----------|
| UNSPSC 16.0901 | 39122230 |
|----------------|----------|

Installation note

installation in  
magnetizable material

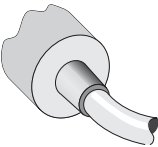


installation in  
non-magnetizable material



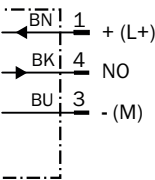
| Ø   | A<br>(mm) | M<br>(Nm) |
|-----|-----------|-----------|
| M12 | 10        | < 15      |

Connection type



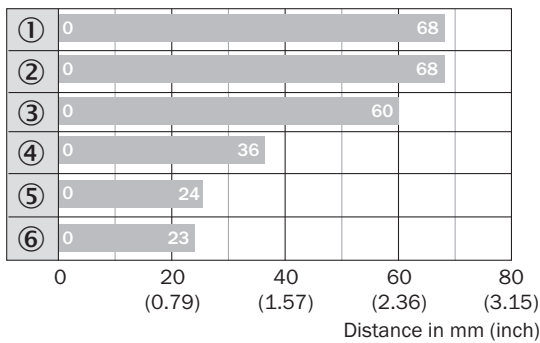
Connection diagram

Cd-002



Sensing range diagram

Sensing range

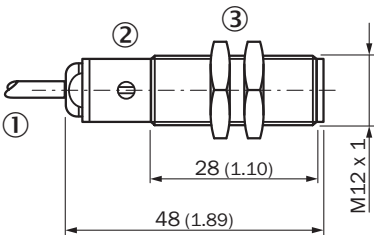


Max. sensing range S<sub>n</sub>, flush or non-flush installation, non-magnetizable material

| Magnet type          | Part no. |
|----------------------|----------|
| ① MAG-3315-B (M 5.1) | 7902086  |
| ② MAG-3015-B (M 5.0) | 7901786  |
| ③ MAG-3010-B (M 4.0) | 7901785  |
| ④ MAG-2006-B (M 3.0) | 7901784  |
| ⑤ MAG-0625-A (M 2.0) | 7901783  |
| ⑥ MAG-1003-S (M 1.0) | 7901782  |

Dimensional drawing (Dimensions in mm (inch))

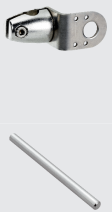



MM12, cable, short-body housing



- ① Connection
- ② Display LED
- ③ Fastening nuts (2x); width across 17, metal

### Recommended accessories

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

|   | Brief description   | Type         | Part no. |
|---|---|--------------|----------|
| Universal bar clamp systems   |   |              |          |
|  | Plate N05 for universal clamp bracket, M12, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware     | BEF-KHS-N05  | 2051611  |
|   | Plate N05N for universal clamp bracket, M12, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322627), mounting hardware | BEF-KHS-N05N | 2051621  |
|   | Mounting bar, straight, 200 mm, stainless steel, Stainless steel (1.4571)   | BEF-MS12G-NA | 4058914  |
| Mounting brackets and plates  |   |              |          |
|  | Mounting plate for M12 sensors, steel, zinc coated, without mounting hardware   | BEF-WG-M12   | 5321869  |
|  | Mounting bracket for M12 sensors, steel, zinc coated, without mounting hardware   | BEF-WN-M12   | 5308447  |
| Terminal and alignment brackets   |   |              |          |
|  | Clamping block for round sensors M12, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included                              | BEF-KH-M12   | 2051479  |
|   | Clamping block for round sensors M12, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included                                 | BEF-KHF-M12  | 2051480  |

## 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)