



UM12-1172271

UM12

ULTRASONIC SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

| Type         | part no. |
|--------------|----------|
| UM12-1172271 | 6053545  |

Other models and accessories → [www.sick.com/UM12](http://www.sick.com/UM12)



## Detailed technical data

### Features

|                                        |                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Operating range, limiting range</b> | 20 mm ... 150 mm, 250 mm                                                                    |
| <b>Target</b>                          | Natural objects                                                                             |
| <b>Resolution</b>                      | ≥ 0.069 mm                                                                                  |
| <b>Repeatability</b>                   | ± 0.15 % <sup>1)</sup>                                                                      |
| <b>Measurement accuracy</b>            | ± 1 % <sup>2)</sup>                                                                         |
| <b>Temperature compensation</b>        | ✓                                                                                           |
| <b>Response time</b>                   | 24 ms <sup>3)</sup>                                                                         |
| <b>Output time</b>                     | 8 ms                                                                                        |
| <b>Ultrasonic frequency (typical)</b>  | 380 kHz                                                                                     |
| <b>Additional function</b>             | Teach-in of analog output, Invertable analog output, reset to factory default <sup>4)</sup> |
| <b>Safety-related parameters</b>       | MTTF <sub>D</sub> 101 years                                                                 |
|                                        | DC <sub>avg</sub> 0%                                                                        |

<sup>1)</sup> In relation to the current measured value, minimum value ≥ resolution.

<sup>2)</sup> Referring to current measurement value.

<sup>3)</sup> Subsequent smoothing of the analog output, depending on the application, may increase the response time by up to 200 %.

<sup>4)</sup> Functions may vary depending on sensor type.

### Interfaces

|                      |            |                           |
|----------------------|------------|---------------------------|
| <b>Analog output</b> | Number     | 1                         |
|                      | Type       | Voltage output            |
|                      | Voltage    | 0 V ... 10 V, ≥ 100,000 Ω |
|                      | Resolution | 12 bit                    |

## Electronics

|                                        |                                |
|----------------------------------------|--------------------------------|
| <b>Supply voltage <math>U_B</math></b> | DC 15 V ... 30 V <sup>1)</sup> |
| <b>Power consumption</b>               | $\leq 0.9$ W <sup>2)</sup>     |
| <b>Initialization time</b>             | < 300 ms                       |
| <b>Indication</b>                      | 2 x LED                        |
| <b>Enclosure rating</b>                | IP65 / IP67                    |
| <b>Protection class</b>                | III                            |

<sup>1)</sup> Limit values, reverse-polarity protected Operation in short-circuit protected network: max. 8 A, class 2.

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

## Mechanics

|                               |                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Dimensions (W x H x D)</b> | 12 mm x 12 mm x 60.1 mm                                                                       |
| <b>Design</b>                 | Cylindrical                                                                                   |
| <b>Sending axis</b>           | Straight                                                                                      |
| <b>Housing material</b>       | Metal (nickel-plated brass, PBT, ultrasonic transducer: polyurethane foam, glass epoxy resin) |
| <b>Weight</b>                 | 15 g                                                                                          |
| <b>Thread size</b>            | M12 x 1                                                                                       |
| <b>Connection type</b>        | Male connector, M12, 4-pin                                                                    |

## Ambient data

|                                       |                   |
|---------------------------------------|-------------------|
| <b>Ambient temperature, operation</b> | -25 °C ... +70 °C |
| <b>Ambient temperature, storage</b>   | -40 °C ... +85 °C |

## Certificates

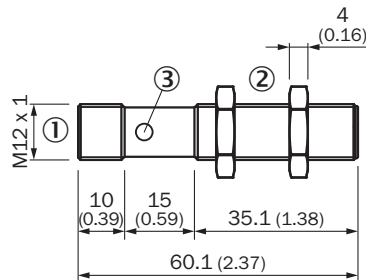
|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                         | ✓ |
| <b>cULus certificate</b>                  | ✓ |

## Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270804 |
| <b>ECLASS 5.1.4</b> | 27270804 |
| <b>ECLASS 6.0</b>   | 27270804 |
| <b>ECLASS 6.2</b>   | 27270804 |
| <b>ECLASS 7.0</b>   | 27270804 |
| <b>ECLASS 8.0</b>   | 27270804 |
| <b>ECLASS 8.1</b>   | 27270804 |
| <b>ECLASS 9.0</b>   | 27270804 |
| <b>ECLASS 10.0</b>  | 27270804 |
| <b>ECLASS 11.0</b>  | 27270804 |
| <b>ECLASS 12.0</b>  | 27272806 |
| <b>ETIM 5.0</b>     | EC001846 |

|                       |          |
|-----------------------|----------|
| <b>ETIM 6.0</b>       | EC001846 |
| <b>ETIM 7.0</b>       | EC001846 |
| <b>ETIM 8.0</b>       | EC001846 |
| <b>UNSPSC 16.0901</b> | 41111960 |

### Dimensional drawing UM12-11x2261, UM12-11x2271



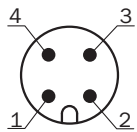
Dimensions in mm (inch)

① Connection

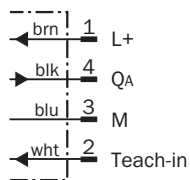
② Mounting nuts, SW 17 mm

③ status display supply voltage active (green), switching and analog output (orange)

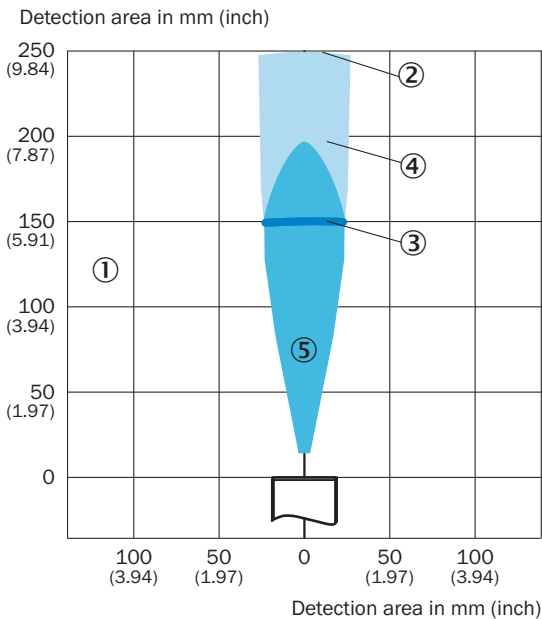
### Connection type



### Connection diagram UM12-11x2261, UM12-11x2271



Detection area UM1x-x17



- ① Detection range dependent on reflection properties, size, and alignment of the object
- ② Limiting range
- ③ operating range
- ④ example object: aligned plate 500 mm x 500 mm
- ⑤ Example object: cylindrical bar with a diameter of 10 mm

Recommended accessories

Other models and accessories → [www.sick.com/UM12](http://www.sick.com/UM12)

|                                                                                     | Brief description                                                                                                                                                                                                                             | Type       | part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                               |            |          |
|  | <ul style="list-style-type: none"><li>• <b>Description:</b> Mounting plate for M12 sensors</li><li>• <b>Material:</b> Steel</li><li>• <b>Details:</b> Steel, zinc coated</li><li>• <b>Items supplied:</b> Without mounting hardware</li></ul> | BEF-WG-M12 | 5321869  |

|                                                                                   | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                     | Type               | part no. |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| connectors and cables                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |          |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>   | YF2A14-020VB3XLEAX | 2096234  |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF2A14-C60VB3XLEAX | 2145707  |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 1 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>   | YF2A14-010VB3XLEAX | 2145708  |

## 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)