



# UM30-211118

UM30

ULTRASONIC SENSORS

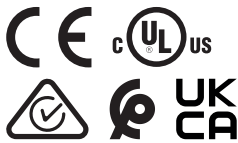
**SICK**  
Sensor Intelligence.



## Ordering information

| Type        | part no. |
|-------------|----------|
| UM30-211118 | 6036921  |

Other models and accessories → [www.sick.com/UM30](http://www.sick.com/UM30)



## Detailed technical data

### Features

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating range, limiting range</b> | 30 mm ... 250 mm, 350 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Target</b>                          | Natural objects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Resolution</b>                      | ≥ 0.18 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Repeatability</b>                   | ± 0.15 % <sup>1)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Measurement accuracy</b>            | ± 1 % <sup>2) 3)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Temperature compensation</b>        | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Response time</b>                   | 32 ms <sup>4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Switching frequency</b>             | 25 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Output time</b>                     | 8 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Ultrasonic frequency (typical)</b>  | 320 kHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Detection area (typical)</b>        | See diagrams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Additional function</b>             | Adjustable operating modes: Switching point (DtO) / Switching window/Background (ObSB), teach-in of digital output, set levels of digital outputs, invertable digital output, set on delay digital output, teach-in of analog output, scaling of analog outputs, Invertable analog output, Multifunctional input: synchronization / multiplexing, synchronization of up to 50 sensors, multiplexing: no cross talk of up to 50 sensors, adjustable measurement filters: Measured value filters/Filter strength/Foreground suppression/Detection area/Sensitivity and sound beam, Display (can be deactivated), reset to factory default |
| <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> Temperature compensation can be switched off, without temperature compensation: 0.17 % / K.

<sup>4)</sup> Subsequent smoothing of the analog output, depending on the application, may increase the response time by up to 200 %.

## Interfaces

|                                   |                              |                                                                           |
|-----------------------------------|------------------------------|---------------------------------------------------------------------------|
| <b>Digital output</b>             | Number                       | 1 <sup>1)</sup>                                                           |
|                                   | Type                         | PNP                                                                       |
|                                   | Maximum output current $I_A$ | $\leq 200 \text{ mA}$                                                     |
| <b>Analog output</b>              | Number                       | 1                                                                         |
|                                   | Type                         | Current output / voltage output                                           |
|                                   | Function                     | Automatic selection of analog current or voltage output dependent on load |
|                                   | Current                      | 4 mA ... 20 mA, $\leq 500 \Omega$ <sup>2)</sup>                           |
|                                   | Voltage                      | 0 V ... 10 V, $\geq 100,000 \Omega$                                       |
|                                   | Resolution                   | 12 bit                                                                    |
| <b>Multifunctional input (MF)</b> |                              | 1 x MF                                                                    |
| <b>Hysteresis</b>                 |                              | 3 mm                                                                      |

<sup>1)</sup> PNP: HIGH =  $V_S - (< 2 \text{ V})$  / LOW = 0 V.

<sup>2)</sup> For 4 mA ... 20 mA and  $V_S \leq 20 \text{ V}$  max. load  $\leq 100 \Omega$ .

## Electronics

|                                        |                                    |
|----------------------------------------|------------------------------------|
| <b>Supply voltage <math>U_B</math></b> | DC 9 V ... 30 V <sup>1) 2)</sup>   |
| <b>Power consumption</b>               | $\leq 2.4 \text{ W}$ <sup>3)</sup> |
| <b>Initialization time</b>             | < 300 ms                           |
| <b>Indication</b>                      | LED display, 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> 15 V ... 30 V when using the analog voltage output.

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

## Mechanics

|                               |                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Dimensions (W x H x D)</b> | 30 mm x 30 mm x 84 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>                 | 150 g                                                                                         |
| <b>Thread size</b>            | M30 x 1.5                                                                                     |
| <b>Connection type</b>        | Male connector, M12, 5-pin                                                                    |

## Ambient data

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

## Certificates

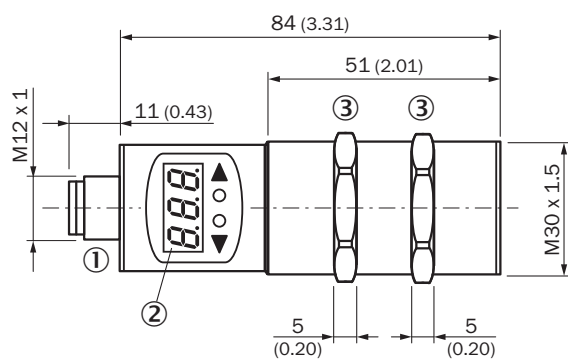
|                                     |   |
|-------------------------------------|---|
| <b>EU declaration of conformity</b> | ✓ |
| <b>UK declaration of conformity</b> | ✓ |

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

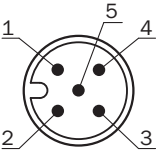
## Dimensional drawing UM30-211, UM30-212, UM30-213



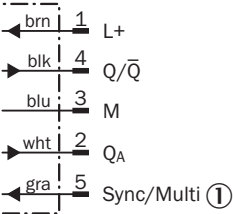
Dimensions in mm (inch)

- ① Connection
- ② Display
- ③ Mounting nuts, SW 36 mm

Connection type

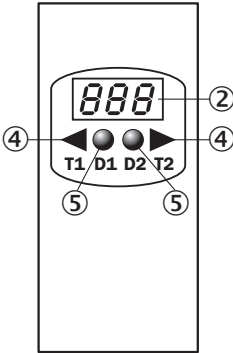


Connection diagram UM30-21x118 Connector M12, 5-pin



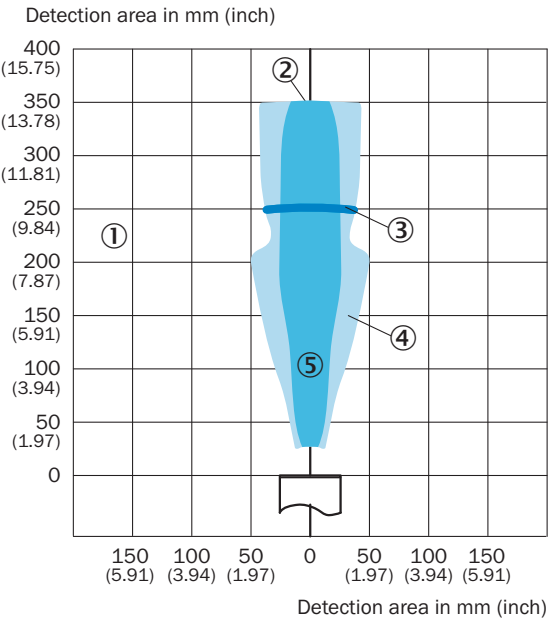
① Synchronization and multiplex mode, Connect+ communication

Adjustment possible



- ② Display
- ④ Control elements
- ⑤ Status indicators

Detection area UM30-211



- 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/UM30](http://www.sick.com/UM30)

|                     | Brief description                                                                                                                                                                                                                                                                                 | Type                   | part no. |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------|
| programming devices |                                                                                                                                                                                                                                                                                                   |                        |          |
|                     | <ul style="list-style-type: none"><li>• <b>Product segment:</b> Integration modules and adapters</li><li>• <b>Product family:</b> Cloning modules</li><li>• <b>Description:</b> Tool for visualization, configuration and cloning, 3-digit LED display, supply voltage: DV 9 V ... 30 V</li></ul> | Connect+ adapter (CPA) | 6037782  |
| Mounting systems    |                                                                                                                                                                                                                                                                                                   |                        |          |
|                     | <ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket for M30 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-WN-M30             | 5308445  |

|                                                                                   | Brief description                                                                                                                                                                                                                                                                                                                                                                                                              | Type               | part no. |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| connectors and cables                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |          |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M12, 5-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, 5-wire, PVC</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul>   | YF2A15-020VB5XLEAX | 2096239  |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M12, 5-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, 5-wire, PVC</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul> | YF2A15-C60VB5XLEAX | 2145570  |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M12, 5-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> 3 m, 5-wire, PVC</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul>   | YF2A15-030VB5XLEAX | 2145572  |

## 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)