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DATA SHEET

**UM18-211127111**

UM18  
Ultrasonic distance sensors

**SICK** Sensor Intelligence

## ULTRASONIC DISTANCE SENSORS

## UM18-211127111

## ORDERING INFORMATION

| Type           | part no. |
|----------------|----------|
| UM18-211127111 | 6048394  |

Further device versions and accessories at [www.sick.com/UM18](http://www.sick.com/UM18)



## DETAILED TECHNICAL DATA

## FEATURES

|                                 |   |
|---------------------------------|---|
| Operating range, limiting range | 30 mm ... 250 mm, 350 mm  |
| Resolution                      | ≥ 0.069 mm  |
| Repeatability                   | ± 0.15 % <sup>1)</sup>  |
| Measurement accuracy            | ± 1 % <sup>2) 3)</sup>  |
| Temperature compensation        | ✓   |
| Response time                   | 32 ms <sup>4)</sup>   |
| Output time                     | 8 ms  |
| Ultrasonic frequency (typical)  | 320 kHz   |
| Additional function             | Teach-in of analog output, Invertable analog output, multifunctional input: external teach / synchronization / multiplexing, synchronization of up to 20 sensors, multiplexing: no cross talk of up to 20 sensors, reset to factory default |
| Safety-related parameters       | MTF <sub>D</sub> 101 years<br>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**

|                            |            |                                     |
|----------------------------|------------|-------------------------------------|
| Analog output              | Number     | 1                                   |
|                            | Type       | Voltage output                      |
|                            | Voltage    | 0 V ... 10 V, $\geq 100,000 \Omega$ |
|                            | Resolution | 12 bit                              |
| Multifunctional input (MF) |            | 1 x MF                              |

**ELECTRONICS**

|                      |                                    |
|----------------------|------------------------------------|
| Supply voltage $U_b$ | DC 15 V ... 30 V <sup>1)</sup>     |
| Power consumption    | $\leq 1.2 \text{ W}$ <sup>2)</sup> |
| Initialization time  | < 300 ms                           |
| Display              | 2 x LED                            |
| Enclosure rating     | IP65 / IP67                        |
| Protection class     | 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**

|                        |  |
|------------------------|--|
| Dimensions (W x H x D) | 18 mm x 18 mm x 52.7 mm  |
| Design                 | Cylindrical  |
| Sending axis           | Straight   |
| Housing material       | Metal (nickel-plated brass, ultrasonic transducer: polyurethane foam, glass epoxy resin) |
| Weight                 | 25 g   |
| Thread size            | M18 x 1  |
| Connection type        | Male connector, M12, 5-pin   |

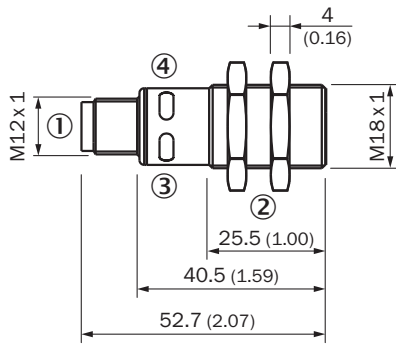
**AMBIENT DATA**

|                                |                   |
|--------------------------------|-------------------|
| Ambient temperature, operation | -25 °C ... +70 °C |
| Ambient temperature, storage   | -40 °C ... +85 °C |

**CERTIFICATES**

|   |   |
|---|---|
| EU declaration of conformity                        | ✓ |
| UK declaration of conformity                        | ✓ |
| ACMA declaration of conformity                      | ✓ |
| Moroccan declaration of conformity                  | ✓ |
| China RoHS  | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cULus certificate                                   | ✓ |

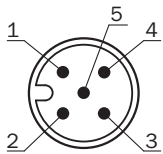
**DIMENSIONAL DRAWING UM18-2XXXXXX1**



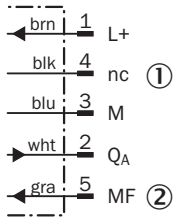
Dimensions in mm (inch)

- ① Connection
- ② Fixing nuts, width 24 mm
- ③ Status display for supply voltage active (green)
- ④ Status indicator switching/analog output (orange)

**CONNECTION TYPE**

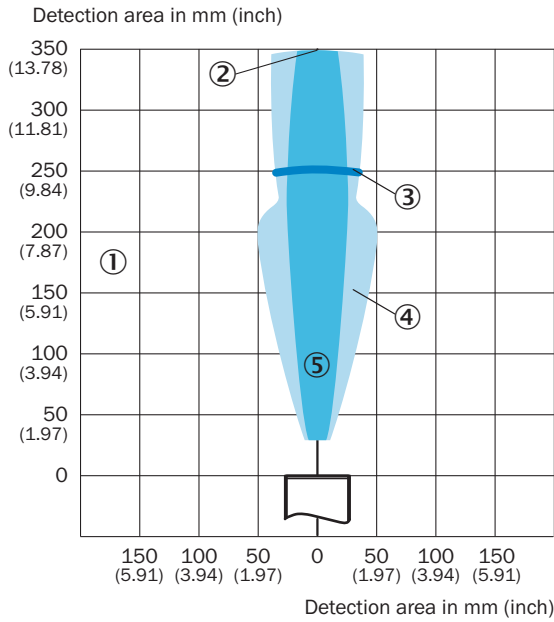


**CONNECTION DIAGRAM UM18-21XXX6XXX UM18-21XXX7XXX CONNECTOR M12, 5-PIN**



- ① Not assigned
- ② multifunctional input/synchronization and multiplex operation/communication Connect+

**DETECTION AREA UM18-211**



- 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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/6048394](http://www.sick.com/6048394)



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Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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