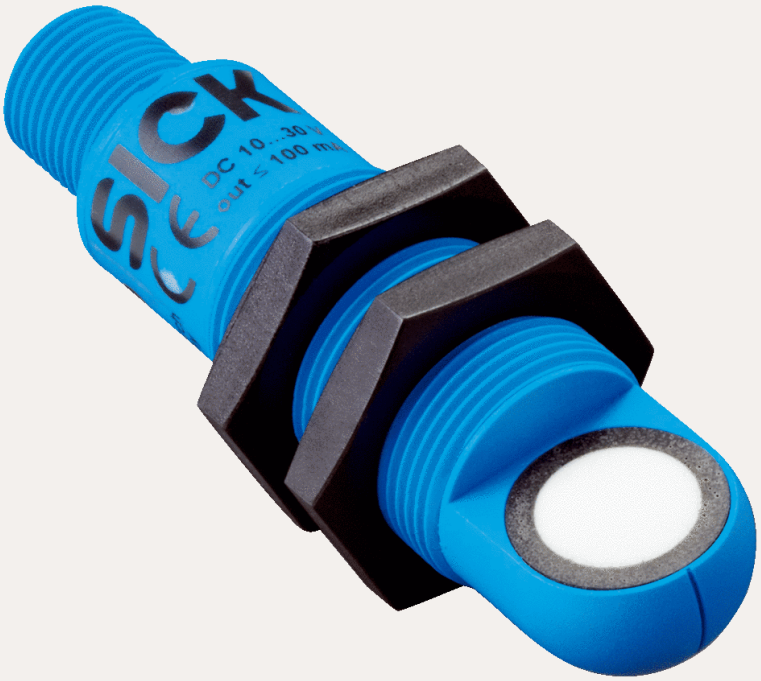
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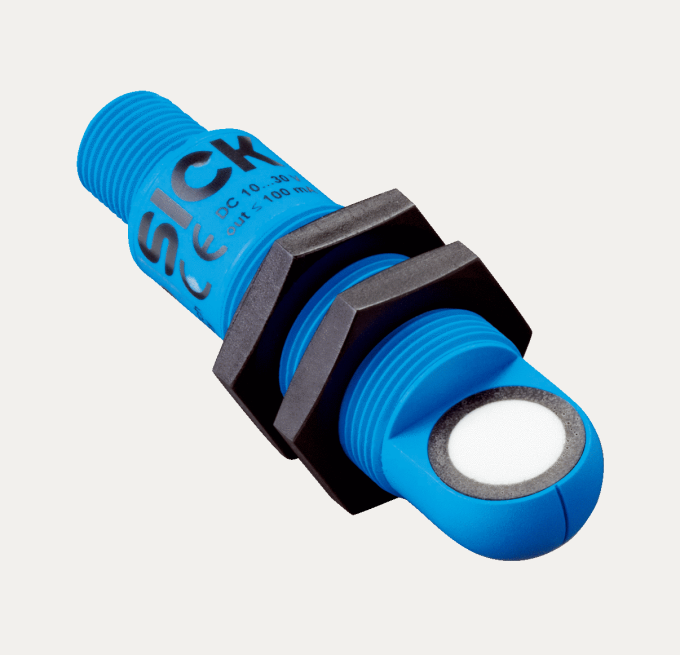



DATA SHEET

# UM18-217165102

UM18
Ultrasonic distance sensors

SICK Sensor Intelligence




# ULTRASONIC DISTANCE SENSORS

# UM18-217165102

## ORDERING INFORMATION

| Type | part no. |
|---|---|
| UM18-217165102 | 6048411 |

Further device versions and accessories at www.sick.com/UM18

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Operating range, limiting range | 20 mm ... 150 mm, 250 mm |
| Resolution | ≥ 0.2 mm |
| Repeatability | ± 0.15 % [1] |
| Measurement accuracy | ± 1 % [2] |
| Response time | 32 ms |
| Switching frequency | 25 Hz |
| Output time | 8 ms |
| Ultrasonic frequency (typical) | 380 kHz |
| Detection area (typical) | See diagrams |
| Additional function | Set switching mode: Distance to object (DtO) / Window (Wnd) / Object between sensor and background (ObSB)<br>Teach-in of digital output<br>Invertible digital output<br>Reset to factory default |
| Safety-related parameters | |
| $MTTF_D$ | 101 years |
| $DC_{avg}$ | 0% |

[1] In relation to the current measured value, minimum value ≥ resolution.

[2] Referring to current measurement value.

### INTERFACES

| | |
|---|---|
| Digital output | |
| Number | 1 [1] |
| Type | NPN |
| Maximum output current $I_A$ | ≤ 200 mA |
| Hysteresis | 2 mm |

[1] NPN: HIGH = ≤ 2 V / LOW = $U_V$.

## ELECTRONICS

| | |
|---|---|
| Supply voltage $U_B$ | DC 10 V ... 30 V [1] |
| Power consumption | ≤ 1.2 W [2] |
| Initialization time | < 300 ms |
| Display | 2 x LED |
| Enclosure rating | IP65 / IP67 |
| Protection class | III |

[1] Limit values, reverse-polarity protected Operation in short-circuit protected network: max. 8 A, class 2.

[2] Without load.

## MECHANICS

| | |
|---|---|
| Dimensions (W x H x D) | 18 mm x 18 mm x 68.7 mm |
| Design | Cylindrical |
| Sending axis | Angled |
| Housing material | Plastic (PBT, ultrasonic transducer: polyurethane foam, glass epoxy resin) |
| Weight | 20 g |
| Thread size | M18 x 1 |
| Connection type | Male connector, M12, 4-pin |

## AMBIENT DATA

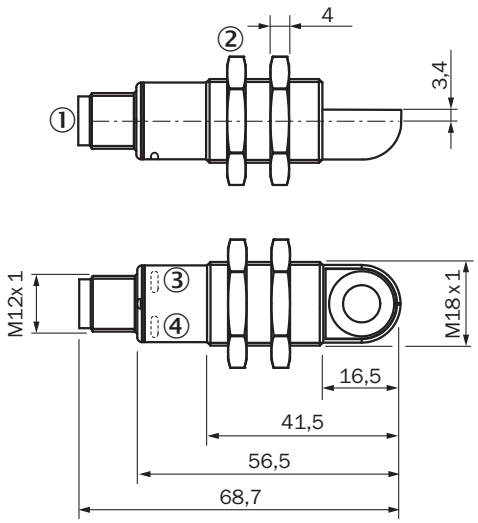
| | |
|---|---|
| Ambient temperature, operation | –25 °C ... +70 °C |
| Ambient temperature, storage | –40 °C ... +85 °C |
| Temperature drift | 0.17 % / K [1] |

[1] Referring to current measurement value.

## CERTIFICATES

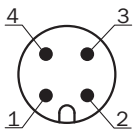
| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cULus certificate | ✓ |

**DIMENSIONAL DRAWING UM18-2XXXXXX2**

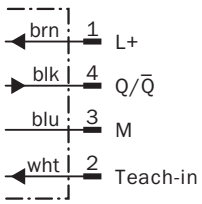



Dimensions in mm (inch)
① Connection
② Fixing nuts, width 24 mm
③ Status display for supply voltage active (green)
④ Status indicator switching/analog output (orange)

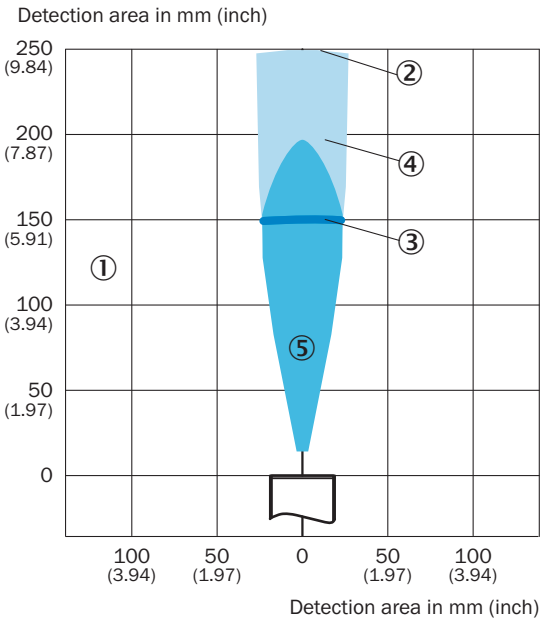
**CONNECTION TYPE**




**CONNECTION DIAGRAM**



**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

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/6048411

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# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

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

SICK

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