# UM18-218126111

UM18

**ULTRASONIC DISTANCE SENSORS**

**SICK**
Sensor Intelligence.

# UM18-218126111 | UM18
## ULTRASONIC DISTANCE SENSORS

## Ordering information

| Type | Part no. |
|------|----------|
| UM18-218126111 | 6048404 |

Other models and accessories ➔ www.sick.com/UM18

## Detailed technical data

### Features

| | |
|---|---|
| **Operating range, limiting range** | 120 mm … 1,000 mm, 1,300 mm |
| **Target** | Natural objects |
| **Resolution** | ≥ 0.069 mm |
| **Repeatability** | ± 0.15 % [1] |
| **Measurement accuracy** | ± 1 % [2] [3] |
| **Temperature compensation** | ✔ |
| **Response time** | 80 ms [4] |
| **Output time** | 20 ms |
| **Ultrasonic frequency (typical)** | 200 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** | |
| $MTTF_D$ | 101 years |
| $DC_{avg}$ | 0% |

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

[2] Referring to current measurement value.

[3] Temperature compensation can be switched off, without temperature compensation: 0.17 % / K.

[4] 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 | Current output |
| | Current | 4 mA … 20 mA, ≤ 500 Ω [1] |
| | Resolution | 12 bit |
| **Multifunctional input (MF)** | | 1 x MF |

[1] For 4 mA … 20 mA and $V_s$ ≤ 20 V max. load ≤ 100 Ω.

## Electronics

| | |
|---|---|
| **Supply voltage U$_B$** | DC 10 V … 30 V [1] |
| **Power consumption** | ≤ 1.2 W [2] |
| **Initialization time** | < 300 ms |
| **Indication** | 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 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 |

## Classifications

| | |
|---|---|
| **ECLASS 5.0** | 27270804 |
| **ECLASS 5.1.4** | 27270804 |
| **ECLASS 6.0** | 27270804 |
| **ECLASS 6.2** | 27270804 |
| **ECLASS 7.0** | 27270804 |
| **ECLASS 8.0** | 27270804 |
| **ECLASS 8.1** | 27270804 |
| **ECLASS 9.0** | 27270804 |
| **ECLASS 10.0** | 27270804 |
| **ECLASS 11.0** | 27270804 |
| **ECLASS 12.0** | 27272806 |
| **ETIM 5.0** | EC001846 |
| **ETIM 6.0** | EC001846 |
| **ETIM 7.0** | EC001846 |
| **ETIM 8.0** | EC001846 |
| **UNSPSC 16.0901** | 41111960 |

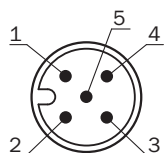## Dimensional drawing (Dimensions in mm (inch))

UM18-2xxxxxx1
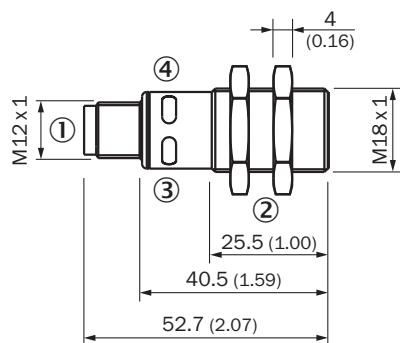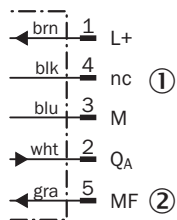


① Connection
② Fixing nuts, width 24 mm
③ Status display for supply voltage active (green)
④ Status indicator switching/analog output (orange)

## Connection type



## Connection diagram

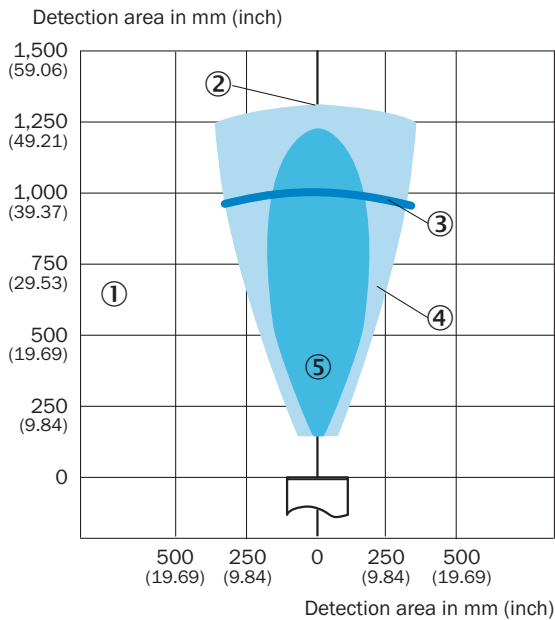UM18-21xxx6xxx UM18-21xxx7xxx Connector M12, 5-pin



| brn | 1 | L+ |
| blk | 4 | nc ① |
| blu | 3 | M |
| wht | 2 | $Q_A$ |
| gra | 5 | MF ② |

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

## Detection area

UM18-218

Detection area in mm (inch)



Detection area in mm (inch)
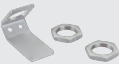
① Detection range dependent on reflection properties, size, and alignment of the object
② Limiting range
③ Operating range
④ Example object: aligned plate 500 mm x 500 mm
⑤ Example object: pipe with 27 mm diameter

## Recommended accessories

Other models and accessories ➜ www.sick.com/UM18

| | Brief description | Type | Part no. |
|---|---|---|---|
| **Cloning modules** | | | |
| | Tool for visualization, configuration and cloning, 3-digit LED display, supply voltage: DV 9 V … 30 V | Connect+ adapter (CPA) | 6037782 |
| **Deflector mirrors** | | | |
| | 90° sound deflection plate for UM18-1xxxx and UM18-2xxxx, stainless steel, for straight versions | USP-UM18 | 5323658 |
| **Mounting brackets and plates** | | | |
| | Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware | BEF-WG-M18 | 5321870 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 2 m, 5-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Zones with chemicals | YF2A15-020VB5XLEAX | 2096239 |

## 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**

SICK AG  |  Waldkirch  |  Germany  |  www.sick.com

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