



UM18-21112A211

UM18

ULTRASONIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|----------------|----------|
| UM18-21112A211 | 6048390 |

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



Detailed technical data

Mechanics/electronics

| | |
|----------------------------------------|------------------------------------------------------------------------------------|
| Supply voltage V_s | DC 10 V ... 30 V ^{1) 2)} |
| Power consumption | $\leq 1.2 \text{ W}^3)$ |
| Initialization time | < 300 ms |
| Design | Cylindrical |
| Housing material | Nickel-plated brass Ultrasonic transducer: polyurethane foam, glass epoxy resin |
| Connection type | Male connector, M12, 5-pin |
| Indication | 2 x LED |
| Weight | 25 g |
| Sending axis | Straight |
| Enclosure rating | IP67 |
| Protection class | III |

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

²⁾ 15 V ... 30 V when using the analog voltage output.

³⁾ Without load.

Performance

| | |
|----------------------------------------|--------------------------|
| Operating range, limiting range | 30 mm ... 250 mm, 350 mm |
| Target | Natural objects |
| Resolution | $\geq 0.069 \text{ mm}$ |
| Repeatability | $\pm 0.15 \%^1)$ |
| Accuracy | $\pm 1 \%^{1) 2)}$ |
| Temperature compensation | ✓ |

¹⁾ Referring to current measurement value.

²⁾ Temperature compensation can be switched off, without temperature compensation: 0.17 % / K.

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Response time | 32 ms |
| Switching frequency | 25 Hz |
| Output time | 8 ms |
| Ultrasonic frequency (typical) | 320 kHz |
| Detection area (typical) | See diagrams |
| Additional function | Set switching mode: Distance to object (DtO) / Window (Wnd) / Object between sensor and background (ObSB), teach-in of digital output, invertible digital 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 |

¹⁾ Referring to current measurement value.

²⁾ Temperature compensation can be switched off, without temperature compensation: 0.17 % / K.

Interfaces

| | |
|-----------------------------------|-------------------------------------------|
| IO-Link | ✓, V1.0 |
| Function | Process data, parameterization, diagnosis |
| Digital output | |
| Number | 1 ¹⁾ |
| Type | Push-pull: PNP/NPN |
| Maximum output current I_A | ≤ 100 mA |
| Multifunctional input (MF) | 1 x MF |
| Hysteresis | 3 mm |

¹⁾ Push-pull: PNP/NPN HIGH = $U_V - (< 3 \text{ V})$ / LOW < 3 V.

Ambient data

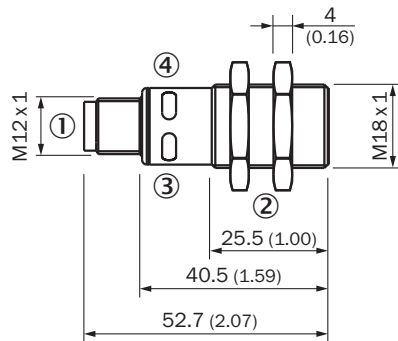
| | |
|--------------------------------------|-------------------|
| Ambient temperature operation | -25 °C ... +70 °C |
| Ambient storage temperature | -40 °C ... +85 °C |

Classifications

| | |
|-----------------------|----------|
| ECl@ss 5.0 | 27270804 |
| ECl@ss 5.1.4 | 27270804 |
| ECl@ss 6.0 | 27270804 |
| ECl@ss 6.2 | 27270804 |
| ECl@ss 7.0 | 27270804 |
| ECl@ss 8.0 | 27270804 |
| ECl@ss 8.1 | 27270804 |
| ECl@ss 9.0 | 27270804 |
| ETIM 5.0 | EC001846 |
| ETIM 6.0 | EC001846 |
| UNSPSC 16.0901 | 41111960 |

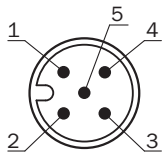
Dimensional drawing (Dimensions in mm (inch))

UM18-2xxxxx1



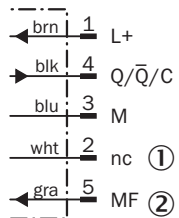
- ① Connection
- ② Mounting nuts, SW 24 mm
- ③ Status display for supply voltage active (green)
- ④ Status indicator switching/analog output (orange)

Connection type



Connection diagram

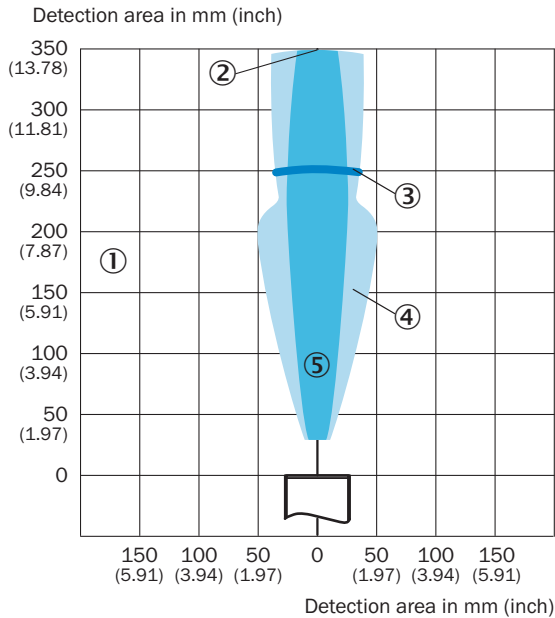
UM18-21xxxAxxx Connector M12, 5-pin



- 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

Recommended accessories

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

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware | BEF-WG-M18 | 5321870 |
| Modules and gateways | | | |
|  | IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A | IOLA2US-01101 (SiLink2 Master) | 1061790 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF2A15- 020VB5XLEAX | 2096239 |
| Deflector mirrors | | | |
|  | 90° sound deflection plate for UM18-1xxxx and UM18-2xxxx, stainless steel, for straight versions | USP-UM18 | 5323658 |

Recommended services

Additional services → www.sick.com/UM18

| | Type | Part no. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------|
| Warranty extensions | | |
| <ul style="list-style-type: none"> • Product area: Identification solutions Vision Distance sensors Detection and ranging solutions • Range of services: The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase) Long-term protection for calculable lump sum. • Duration: Five-year warranty from date of purchase. | Five-year extended warranty | 1680671 |

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