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DATA SHEET

UM18-21712C211

UM18
Ultrasonic distance sensors

SICK Sensor Intelligence



ULTRASONIC DISTANCE SENSORS

UM18-21712C211

ORDERING INFORMATION

Type	part no.
UM18-21712C211	6066164

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	≥ 0.069 mm
Repeatability	± 0.15 % [1]
Measurement accuracy	± 1 % [2] [3]
Temperature compensation	✓
Response time	32 ms [4]
Switching frequency	25 Hz
Output time	8 ms
Ultrasonic frequency (typical)	380 kHz
Additional function	Adjustable operating modes: Switching point (DtO) / Switching window/Background (ObSB), teach-in of digital output, invertible digital output, 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

IO-Link	✓ , IO-Link V1.1
Function	Process data, parameterization, diagnosis, data storage
Digital output	
Number	1 [1]
Type	Push-pull: PNP/NPN
Maximum output current I_A	≤ 100 mA
Analog output	
Number	1
Type	Current output
Current	4 mA ... 20 mA, ≤ 500 Ω [2]
Resolution	12 bit
Multifunctional input (MF)	1 x MF
Hysteresis	2 mm

[1] Push-pull: PNP/NPN HIGH = U_V - (< 3 V) / LOW < 3 V.

[2] 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
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 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

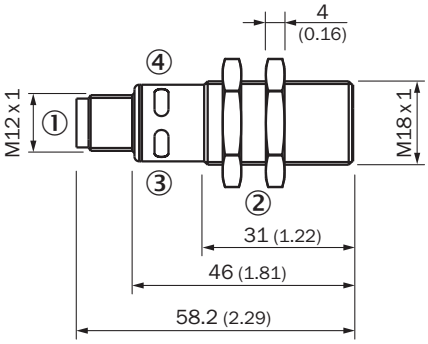
Ambient temperature, operation	–25 °C ... +70 °C
Ambient temperature, storage	–40 °C ... +85 °C

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

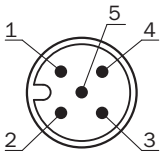
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING UM18-2XXXXXX1

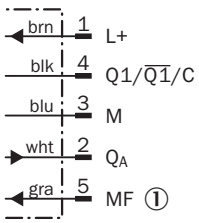


Dimensions in mm (inch)
① Connection
② Fixing nuts, width 24 mm
③ Status display for supply voltage active (green)
④ Status indicator switching/analog output (orange)

CONNECTION TYPE

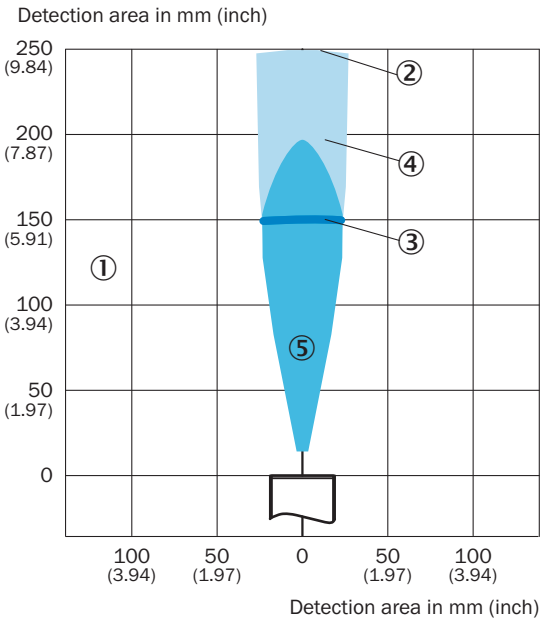


CONNECTION DIAGRAM UM18-21XXXCXXX_DXXX, MALE CONNECTOR M12, 5-PIN



① multifunctional input/synchronization and multiplex operation/communication Connect+

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/6066164

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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

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