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DATA SHEET

UM12-1172251

UM12
Ultrasonic distance sensors

SICK
Sensor Intelligence



ULTRASONIC DISTANCE SENSORS

UM12-1172251

ORDERING INFORMATION

Type	part no.
UM12-1172251	6053543

Further device versions and accessories at www.sick.com/UM12

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]
Temperature compensation	✓
Response time	24 ms
Switching frequency	30 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, reset to factory default [3]
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] Functions may vary depending on sensor type.

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	≤ 0.75 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)	12 mm x 12 mm x 55.1 mm
Design	Cylindrical
Sending axis	Straight
Housing material	Metal (nickel-plated brass, PBT, ultrasonic transducer: polyurethane foam, glass epoxy resin)
Weight	15 g
Thread size	M12 x 1
Connection type	Male connector, M12, 4-pin

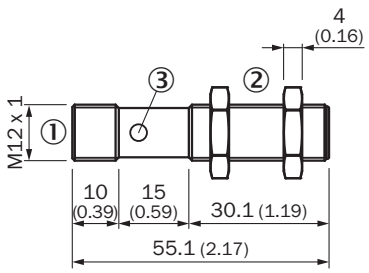
AMBIENT DATA

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

CERTIFICATES

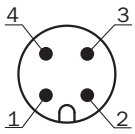
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓

DIMENSIONAL DRAWING UM12-11X2211, UM12-11X2251

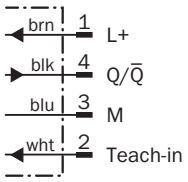


Dimensions in mm (inch)
① Connection
② Mounting nuts, SW 17 mm
③ Status indicator supply voltage active (green), switching and analog output (orange)

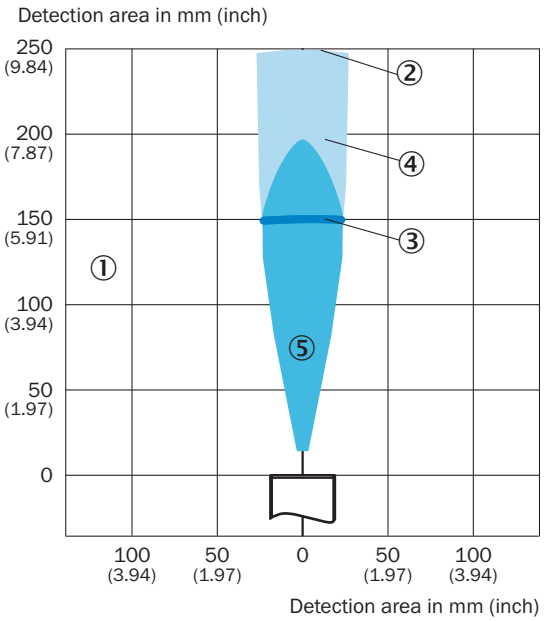
CONNECTION TYPE



CONNECTION DIAGRAM UM12-11X2211, UM12-11X2251



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/6053543

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SICK AT A GLANCE

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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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