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DATA SHEET

UC40-11411H

UC40
Ultrasonic distance sensors

SICK Sensor Intelligence



ULTRASONIC DISTANCE SENSORS

UC40-11411H

ORDERING INFORMATION

Type	part no.
UC40-11411H	6081950

Further device versions and accessories at www.sick.com/UC40

DETAILED TECHNICAL DATA

FEATURES

Operating range, limiting range	350 mm ... 3,400 mm, 5,000 mm
Resolution	≥ 1 mm
Repeatability	± 0.15 % [1]
Measurement accuracy	± 1 % [2] [3]
Temperature compensation	✓
Response time	160 ms [4]
Switching frequency	4 Hz
Output time	41.6 ms
Ultrasonic frequency (typical)	120 kHz
Detection area (typical)	See diagrams
Additional function	Adjustable operating modes: Switching point (DtO) / Switching window/Background (ObSB), teach-in of digital output, set levels of digital outputs, invertable digital output, set on delay digital output, teach-in of analog output, scaling of analog outputs, Invertable analog output, automatic selection of analog current or voltage output, Analog output switchable to second digital output, synchronization of up to 50 sensors, multiplexing: no cross talk of up to 50 sensors, Adjustable measurement filters: Measured value filters/Filter strength/Foreground suppression/Detection area/Sensitivity and sound beam/False echo suppression, teach-in button(s) (can be deactivated), reset to factory default
General notes	
Items supplied	Push-lock mounting system (1x)
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 ... 2 [1]
Type	Push-pull: PNP/NPN
Function	Configurable Q2 output: analog output / digital output
Maximum output current I_A	≤ 100 mA
Analog output	
Number	1
Type	Current output / voltage output
Function	Automatic selection of analog current or voltage output dependent on load Configurable Q2 output: analog output / digital output
Current	4 mA ... 20 mA, ≤ 500 Ω [2]
Voltage	0 V ... 10 V, ≥ 100,000 Ω
Multifunctional input (MF)	1 x MF
Hysteresis	50 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 9 V ... 30 V [1] [2]
Power consumption	≤ 1.5 W [3]
Initialization time	< 300 ms
Display	4 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] 15 V ... 30 V when using the analog voltage output.

[3] Without load.

MECHANICS

Dimensions (W x H x D)	40 mm x 40 mm x 66 mm
Design	Rectangular
Sending axis	Straight [1]
Housing material	Plastic (PA 66, ultrasonic transducer: polyurethane foam, glass epoxy resin)
Weight	130 g
Connection type	Male connector, M12, 5-pin

[1] Sensor head can be rotated 90°, additional 360° incremental alignment via mounting bracket.

AMBIENT DATA

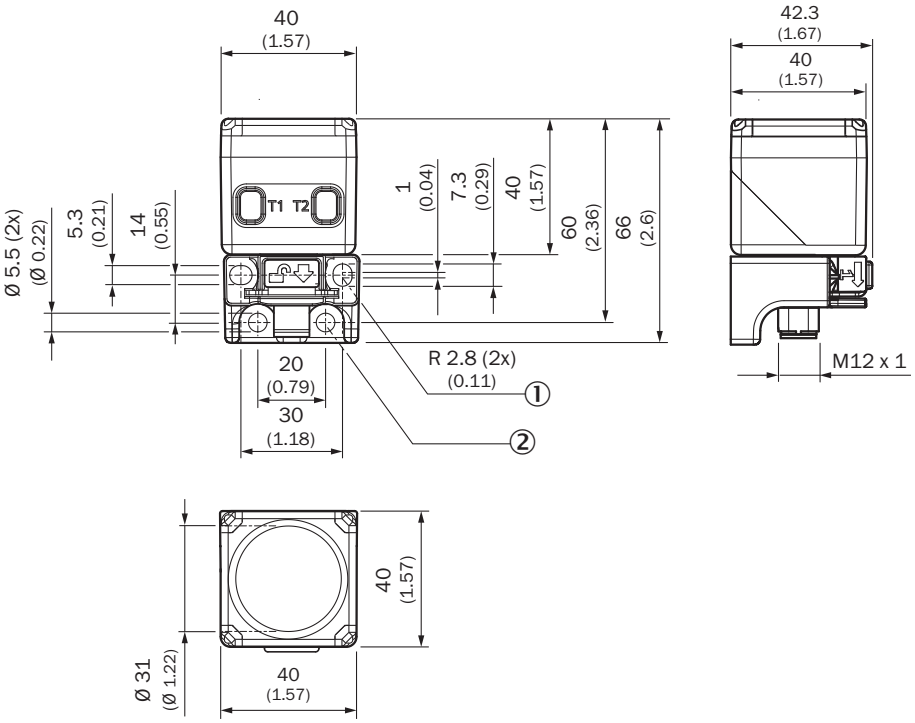
Ambient temperature, operation	–25 °C ... +70 °C
Ambient temperature, storage	–40 °C ... +85 °C

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓

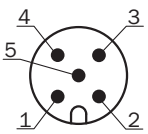
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING UC40-11411X



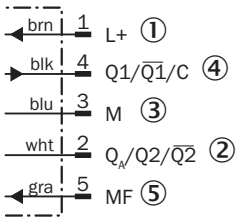
Dimensions in mm (inch)
① 2 fixing holes; radius: 2.8 mm
② 2 fixing holes; diameter: 5.5 mm

CONNECTION TYPE



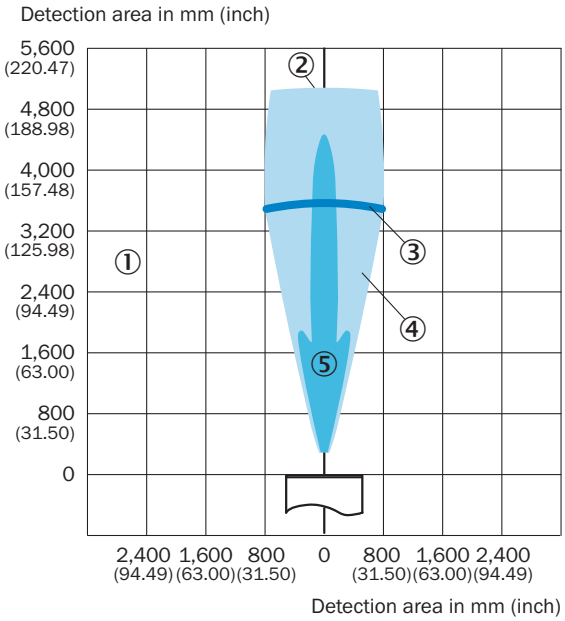
① L^+: Supply voltage, brown
② N/C: Not assigned, white
③ M: Supply voltage 0 V, blue
④ Q/$\bar{Q}$/C: Digital output, IO-Link communication, black
⑤ MF: Multifunction input, synchronization and multiplex operation, communication via Connect+ software, gray

CONNECTION DIAGRAM



① Supply voltage
② Analog output or digital output 2
③ Supply voltage: 0 V
④ Digital output 1, IO-Link communication
⑤ Multifunction input (MF), synchronization and multiplex operation, communication via Connect+ software

DETECTION AREA



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

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/6081950

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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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