



DATA SHEET

UC40-11311H

UC40
Ultrasonic distance sensors

SICK

Sensor Intelligence



ULTRASONIC DISTANCE SENSORS

UC40-11311H

ORDERING INFORMATION

Type	part no.
UC40-11311H	6081949

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



DETAILED TECHNICAL DATA

FEATURES

Operating range, limiting range	200 mm ... 1,300 mm, 2,000 mm
Resolution	≥ 1 mm
Repeatability	± 0.15 % ¹⁾
Measurement accuracy	± 1 % ^{2) 3)}
Temperature compensation	✓
Response time	96 ms ⁴⁾
Switching frequency	7 Hz
Output time	24 ms
Ultrasonic frequency (typical)	200 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	Function	✓, IO-Link V1.1 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
	Resolution	12 bit
Multifunctional input (MF)		1 x MF
Hysteresis		20 mm

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

²⁾ For 4 mA ... 20 mA and V_V ≤ 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	120 g
Connection type	Male connector, M12, 5-pin

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

AMBIENT DATA

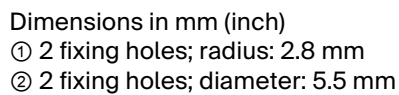
Ambient temperature, operation	-25 °C ... +70 °C
Ambient temperature, storage	-40 °C ... +85 °C

CERTIFICATES

EU declaration of conformity	✓
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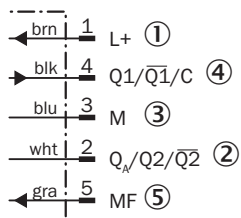
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A diagram of a circular object with five holes and a notch. The holes are labeled 1, 2, 3, 4, and 5. The notch is labeled 6.

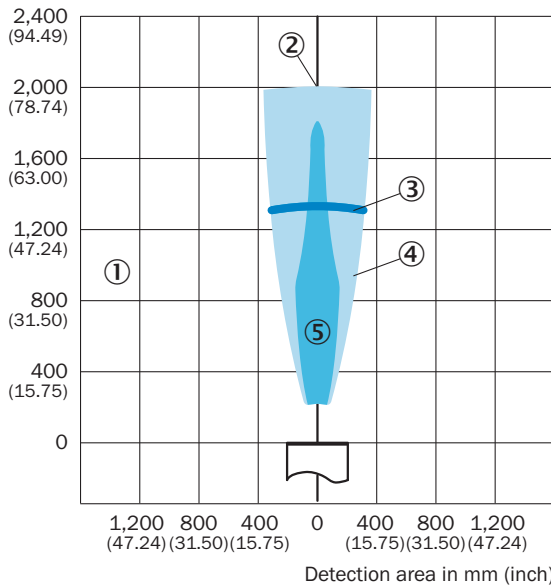
- ① L+: Supply voltage, brown
② N/C: Not assigned, white
③ M: Supply voltage 0 V, blue
④ Q/Q/C: Digital output, IO-Link communication, black
⑤ MF: Multifunction input, synchronization and multiplex operation, communication via Connect+ software, gray

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

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

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/6081949



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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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