



ULTRASONIC SENSORS

ULTIMATE ULTRASONIC SENSOR SOLUTION FROM SICK

UM30, UM18, UM12, UC30, UC12, UC4

SICK
Sensor Intelligence.

Detailed technical data

Performance

Resolution	≥ 0.1 mm
Repeatability ¹⁾	± 0.15 %
Accuracy ¹⁾	
13 mm ... 100 mm, 150 mm	0.17 % / K
13 mm ... 150 mm, 250 mm	± 1 %
Temperature compensation	
13 mm ... 100 mm, 150 mm	-
13 mm ... 150 mm, 250 mm	✓
Switching frequency ¹⁾	
13 mm ... 100 mm, 150 mm	25 Hz
13 mm ... 150 mm, 250 mm	25 Hz / 100 Hz (depending on type)
Ultrasonic frequency (typical)	380 kHz
Detection area (typical)	See diagrams
Additional function ²⁾	Set switching mode: Distance to object (DtO) / Window (Wnd) / Object between sensor and background (ObSB) Teach-in and parameterization of switching output, invertible Teach-in and parameterization of analog output, invertible Temperature compensation Lock user interface

¹⁾ Referring to current measurement value.

²⁾ Functions may vary depending on sensor type.

Interfaces

Resolution analog output	12 bit
Hysteresis	2 mm

Mechanics/electronics

Supply voltage V_s ¹⁾	DC 15 V ... 30 V
Power consumption ²⁾	≤ 0.9 W
Initialization time	< 300 ms
Design	Rectangular
Housing material	ABS-plastic, ultrasonic transducer: polyurethane foam, glass epoxy resin
Connection type	Male connector, M8, 3-pin
Indication	2 x LED
Weight	10 g

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

²⁾ Without load.

Ambient data

Enclosure rating	IP 67
Protection class	III
Ambient temperature	Operation: -25 °C ... +70 °C ¹⁾ Storage: -40 °C ... +85 °C

¹⁾ At operating temperatures of > 50 °C, the rear side of the UC4 must be installed with its surface flat against a bracket.

Ordering information

- **Sending axis:** straight

Working range, limiting range ¹⁾	Response time	Output time	Switching output ²⁾	Analog output	Type	Part no.
13 mm ... 100 mm, 150 mm	10 ms	10 ms	1 x PNP (200 mA) ³⁾	-	UC4-11341	6034667
			1 x NPN (200 mA) ⁴⁾	-	UC4-11345	6034668
13 mm ... 150 mm, 250 mm	30 ms	10 ms	1 x PNP (200 mA) ³⁾	-	UC4-13341	6034669
			1 x NPN (200 mA) ⁴⁾	-	UC4-13345	6034670
	10 ms	5 ms	1 x PNP (200 mA) ³⁾	-	UC4-13341S01	6049509
			1 x NPN (200 mA) ⁴⁾	-	UC4-13345S02	6049510
	30 ms	10 ms	-	1 x 4 mA ... 20 mA ($\leq 500 \Omega$) ⁵⁾	UC4-13346	6054708
1 x 0 V ... 10 V ($\geq 100 \text{ k}\Omega$)				UC4-13347	6054709	

¹⁾ Teach-in from 21 mm.

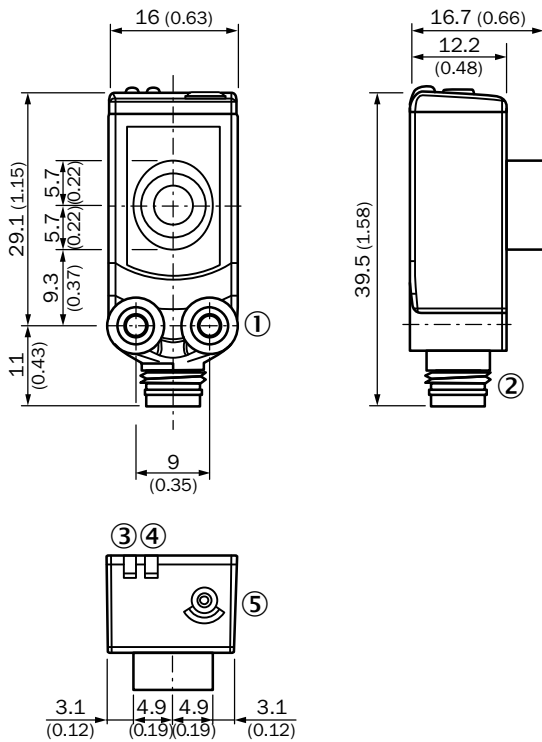
²⁾ Output Q short-circuit protected.

³⁾ PNP: HIGH = V_s - ($< 2 \text{ V}$) / LOW = 0 V.

⁴⁾ NPN: HIGH $\leq 2 \text{ V}$ / LOW = V_s .

⁵⁾ For 4 mA ... 20 mA and $V_s \leq 20 \text{ V}$ max. load $\leq 100 \Omega$.

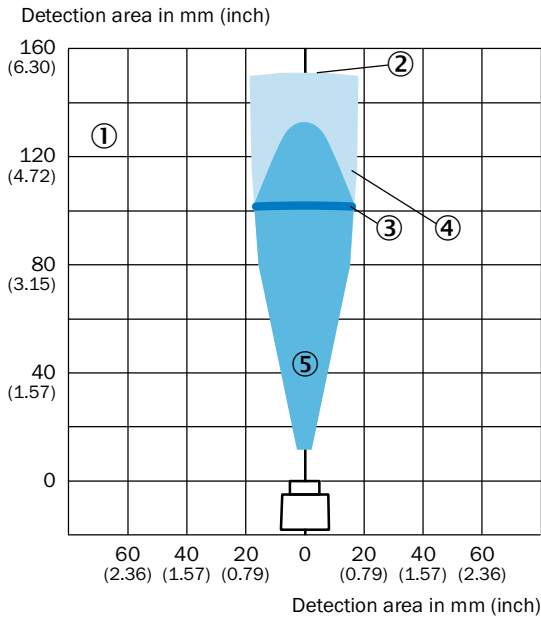
Dimensional drawing (Dimensions in mm (inch))



- ① Threaded mounting hole M3
- ② Connection
- ③ Status indicator switching output (orange)
- ④ Status indicator power on (green)
- ⑤ Control elements

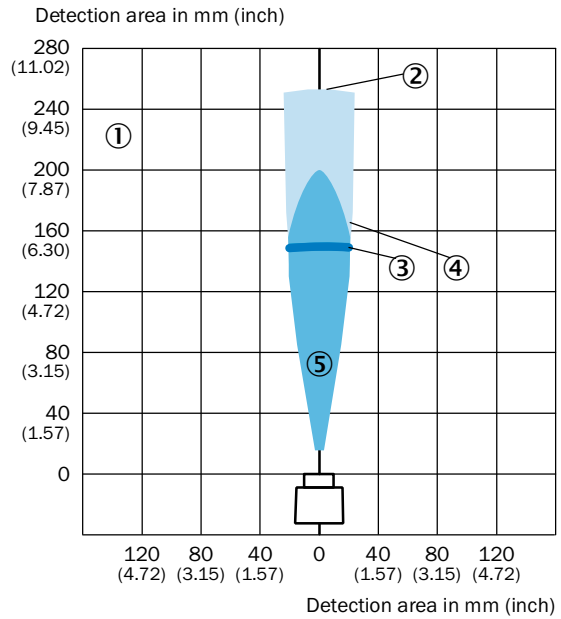
Detection ranges

UC4-11



- ① Sensing range dependent on reflection properties, size and orientation of the object
- ② Limiting range
- ③ Working range
- ④ Example object: aligned plate 100 mm x 100 mm
- ⑤ Example object: pipe with 10 mm diameter

UC4-13



- ① Sensing range dependent on reflection properties, size and orientation of the object
- ② Limiting range
- ③ Working range
- ④ Example object: aligned plate 100 mm x 100 mm
- ⑤ Example object: pipe with 10 mm diameter

Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Mounting bracket for wall mounting	2051628

Terminal and alignment brackets



	Brief description	Part no.
	Ball clamp bracket	2027128

Universal bar clamp systems

	Brief description	Part no.
	Plate H for universal clamp bracket	2022465


Connection systems

Plug connectors and cables

	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Female connector, M8, 3-pin, straight	Cable	PVC, unshielded	2 m	6010785
	Female connector, M8, 3-pin, angled	Cable	PVC, unshielded	2 m	6008489

Further accessories

Hardware

	Brief description	Type	Part no.
	Accessory for ultrasonic channeling for the product family UC4	SonicTube UC4	5329249

