



# UC12-12231

UC12

ULTRASONIC DISTANCE SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
UC12-12231	6029832

Other models and accessories → [www.sick.com/UC12](http://www.sick.com/UC12)



### Detailed technical data

#### Features

<b>Operating range, limiting range</b>	55 mm ... 250 mm, 350 mm
<b>Target</b>	Natural objects
<b>Resolution</b>	≥ 0.1 mm
<b>Repeatability</b>	± 0.15 % <sup>1)</sup>
<b>Measurement accuracy</b>	± 1 % <sup>2)</sup>
<b>Temperature compensation</b>	✓
<b>Response time</b>	30 ms
<b>Switching frequency</b>	25 Hz
<b>Output time</b>	8 ms
<b>Ultrasonic frequency (typical)</b>	500 kHz
<b>Detection area (typical)</b>	See diagrams
<b>Additional function</b>	Set switching mode: Distance to object (DtO) / Window (Wnd) / Object between sensor and background (ObSB), teach-in of digital output, teach-in button(s) (can be deactivated), reset to factory default
<b>Safety-related parameters</b>	
	MTTF <sub>D</sub> 101 years
	DC <sub>avg</sub> 0%

<sup>1)</sup> In relation to the current measured value, minimum value ≥ resolution.

<sup>2)</sup> Referring to current measurement value.

#### Interfaces

<b>Digital output</b>	
	Number 2 <sup>1)</sup>
	Type PNP

<sup>1)</sup> PNP: HIGH = V<sub>S</sub> - (< 2 V) / LOW = 0 V.

	Function	Complementary digital outputs (Q, $\bar{Q}$ )
	Maximum output current $I_A$	$\leq 500$ mA
<b>Hysteresis</b>		2 mm

<sup>1)</sup> PNP: HIGH =  $V_S - (< 2$  V) / LOW = 0 V.

## Electronics

<b>Supply voltage <math>U_B</math></b>	DC 10 V ... 30 V <sup>1)</sup>
<b>Power consumption</b>	$\leq 1.2$ W <sup>2)</sup>
<b>Initialization time</b>	< 300 ms
<b>Indication</b>	Dual LED
<b>Enclosure rating</b>	IP65 / IP67
<b>Protection class</b>	III

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

<sup>2)</sup> Without load.

## Mechanics

<b>Dimensions (W x H x D)</b>	15 mm x 48.8 mm x 43.5 mm
<b>Design</b>	Rectangular
<b>Sending axis</b>	Straight
<b>Housing material</b>	Metal (zinc diecast, ultrasonic transducer: polyurethane foam, glass epoxy resin)
<b>Weight</b>	75 g
<b>Connection type</b>	Male connector, M12, 4-pin

## Ambient data

<b>Ambient temperature, operation</b>	-25 °C ... +70 °C
<b>Ambient temperature, storage</b>	-40 °C ... +85 °C

## Certificates

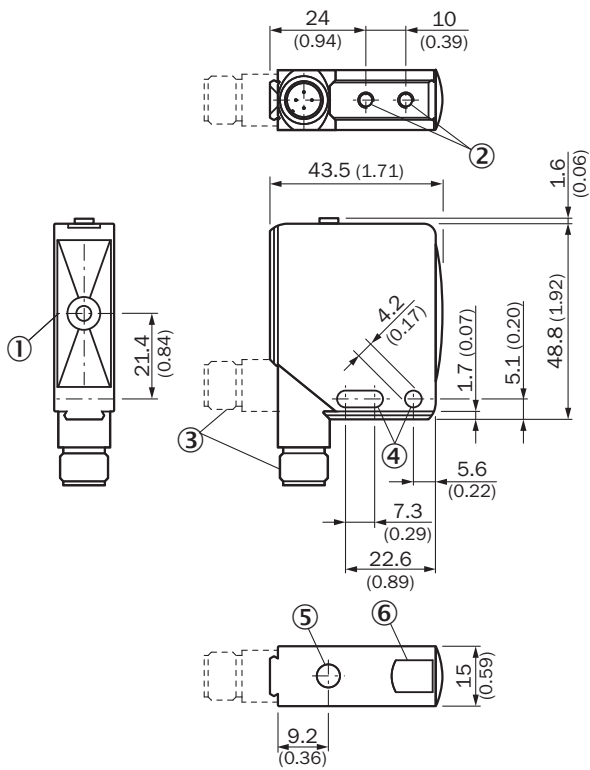
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓

## Classifications

<b>ECLASS 5.0</b>	27270804
<b>ECLASS 5.1.4</b>	27270804
<b>ECLASS 6.0</b>	27270804
<b>ECLASS 6.2</b>	27270804
<b>ECLASS 7.0</b>	27270804
<b>ECLASS 8.0</b>	27270804
<b>ECLASS 8.1</b>	27270804
<b>ECLASS 9.0</b>	27270804

<b>ECLASS 10.0</b>	27270804
<b>ECLASS 11.0</b>	27270804
<b>ECLASS 12.0</b>	27272806
<b>ETIM 5.0</b>	EC001846
<b>ETIM 6.0</b>	EC001846
<b>ETIM 7.0</b>	EC001846
<b>ETIM 8.0</b>	EC001846
<b>UNSPSC 16.0901</b>	41111960

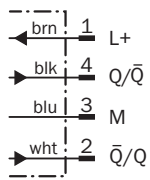
### Dimensional drawing



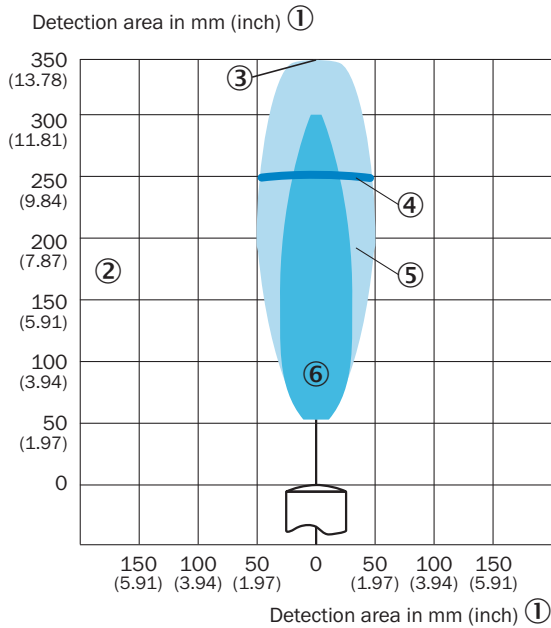
Dimensions in mm (inch)

- ① sender and receiver axis
- ② M4 threaded mounting hole, 4 mm deep
- ③ Connection
- ④ fixing hole
- ⑤ Control elements
- ⑥ Status indicator digital output (orange) and power on (green)

## Connection diagram




## Detection area UC12-12






- ① detection area in mm (inch)
- ② Detection range dependent on reflection properties, size, and alignment of the object
- ③ Limiting range
- ④ operating range
- ⑤ example object: aligned plate 10 mm x 10 mm
- ⑥ Example object: cylindrical bar with a diameter of 10 mm

## Recommended accessories

Other models and accessories → [www.sick.com/UC12](http://www.sick.com/UC12)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket, small</li> <li>• <b>Material:</b> Stainless steel</li> <li>• <b>Details:</b> Stainless steel</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> <li>• <b>Suitable for:</b> W11-2, W12-3, W16</li> </ul>	BEF-WK-W12	2012938

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with chemicals</li> </ul>	YF2A14-020VB3XLEAX	2096234
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with chemicals</li> </ul>	YF2A14-C60VB3XLEAX	2145707
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 1 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with chemicals</li> </ul>	YF2A14-010VB3XLEAX	2145708

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)