



## Ultrasonic sensors UC12

UC12-11231



**Model Name** > UC12-11231  
**Part No.** > 6029831

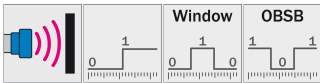


**At a glance**

- Object detection independent of material color and ambient light - even transparent foils, glass, liquids and bottles are reliably detected
- Fast and easy teach-in with single push-button
- Immune to dirt, dust and fog
- Two ambivalent switching outputs (Q, /Q)
- Excellent background suppression
- Three operation modes: Distance to Object (DtO), Window (Wnd) or Object between sensor and background (ObSB)

**Your benefits**

- Fast commissioning due to single-button teach-in
- Full mechanical compatibility to photoelectric sensors increase application flexibility without machine modification
- Standard proximity, window and reflection modes provide application flexibility, which increases reliability and productivity
- Integrated temperature compensation ensures high measurement accuracy
- Complementary switching outputs immediately signal broken wiring, reducing faulty production results



**Performance**

Resolution:	≥ 0.1 mm
Working range, limiting range:	20 mm ... 150 mm, 250 mm
Repeatability <sup>1)</sup> :	± 0.15 %
Accuracy <sup>2)</sup> :	± 1 %
Response time:	30 ms
Switching frequency:	25 Hz
Ultrasonic frequency (typical):	380 kHz
Detection area (typical):	See diagrams
Temperature compensation:	✓
Additional function:	Set switching mode: Distance to object (DtO)/Window (Wnd)/Object between sensor and background (ObSB) Teach-in of switching output Temperature compensation Reset to factory default Lock user interface
Output time:	8 ms

1) 2) Referring to current measurement value

### Interfaces

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Switching output <sup>1), 2), 3)</sup>: 2 x PNP (500 mA)  
Hysteresis: 2 mm

<sup>1)</sup> Output Q short-circuit protected <sup>2)</sup> Complementary switching outputs (Q, /Q) <sup>3)</sup> PNP: HIGH =  $V_S - (< 2 V)$ /LOW = 0 V

### Mechanics/electronics

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Sending axis: Straight  
Supply voltage  $V_S$  <sup>1)</sup>: DC 10 V ... 30 V  
Power consumption <sup>2)</sup>:  $\leq 1.2 W$   
Initialization time:  $< 300 ms$   
Design: Rectangular  
Housing material: Die-cast zinc  
ultrasonic transducer: polyurethane foam, glass epoxy resin  
Connection type: Male connector, M12, 4-pin  
Indication: Dual LED  
Weight: 75 g

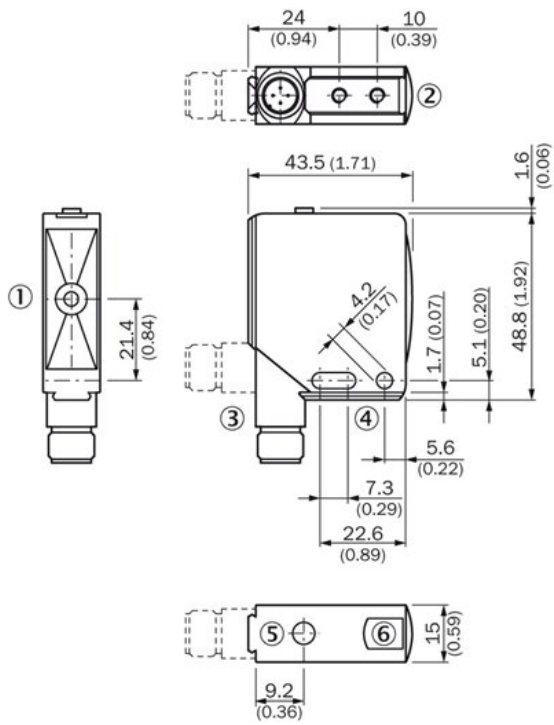
<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> Without load

### Ambient data

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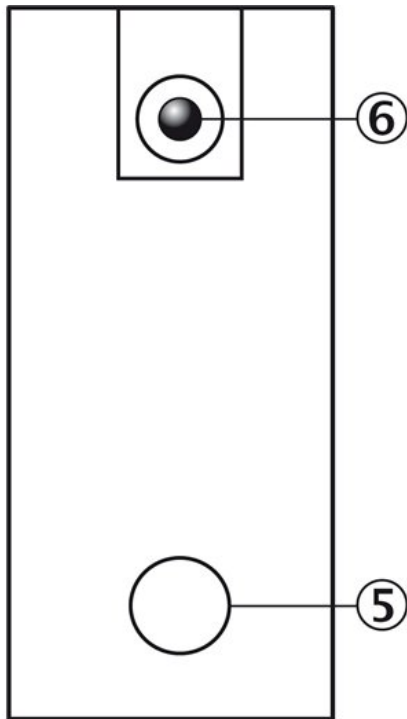
Enclosure rating: IP 67  
Protection class: III  
Ambient temperature: Operation: -25 ... +70 °C  
Storage: -40 ... +85 °C

## Dimensional drawing



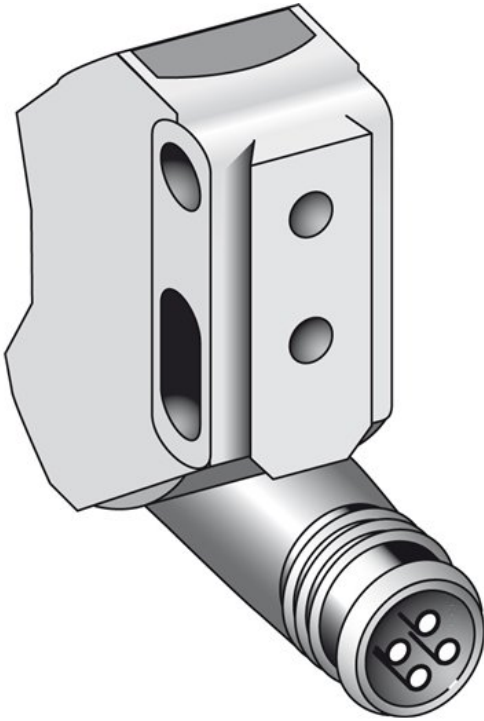
- |1| Transmission and reception axis
- |2| M4 threaded mounting hole, 4 mm deep
- |3| Connection
- |4| Mounting hole
- |5| Control elements
- |6| Status indicator switching  
output (orange) and power on (green)

## Adjustments

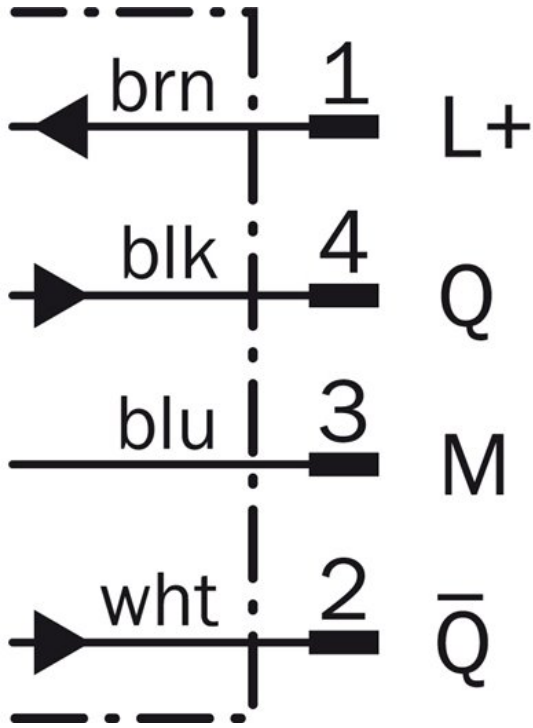


- |5| Control elements
- |6| Status indicator switching  
output (orange) and power on (green)

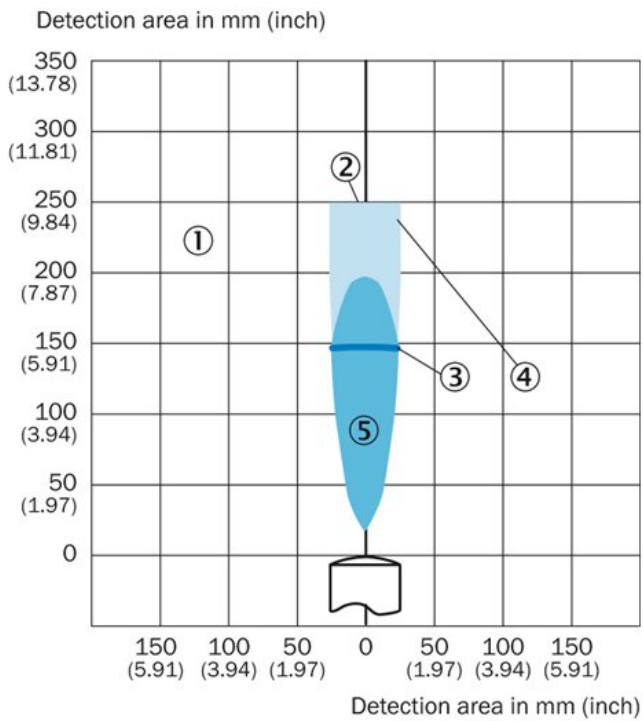
Connection type



Connection diagram



## Detection area



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

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