



Ultrasonic sensors UC12

UC12-12231



Model Name > UC12-12231
Part No. > 6029832

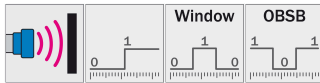


At a glance

- 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:	55 mm ... 250 mm, 350 mm
Repeatability ¹⁾ :	± 0.15 %
Accuracy ²⁾ :	± 1 %
Response time:	30 ms
Switching frequency:	25 Hz
Ultrasonic frequency (typical):	500 kHz
Detection area (typical):	See diagrams
Temperature compensation:	✓
Additional function:	Set switching mode: Distance to object (DtO)/switching 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

Output type ^{1), 2), 3)}: 2 x PNP (500 mA)
Hysteresis: 2 mm

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

Mechanics/electronics

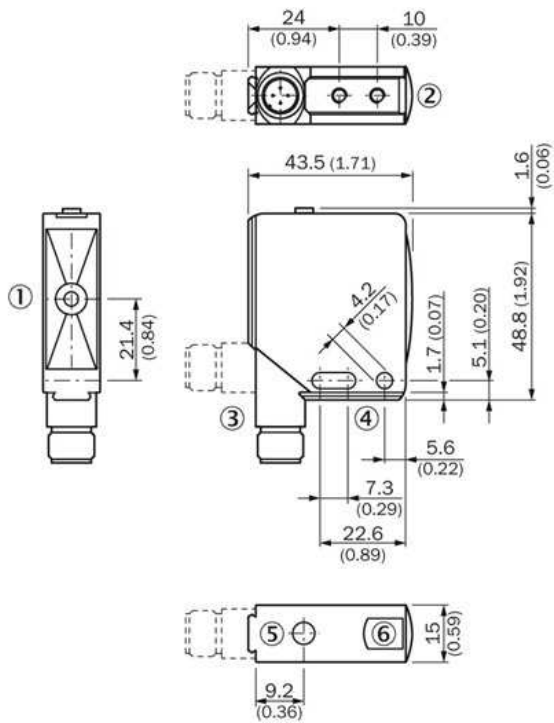
Sending axis: Straight
Supply voltage V_S ¹⁾: DC 10 V ... 30 V
Power consumption ²⁾: $\leq 1.2 W$
Initialization time: $< 300 ms$
Design: Rectangular
Housing material: Die-cast zinc
ultrasonic transducer: polyurethane foam, glass epoxy resin
Electrical connection: Male connector, M12, 4-pin
Indication: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

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

Ambient data

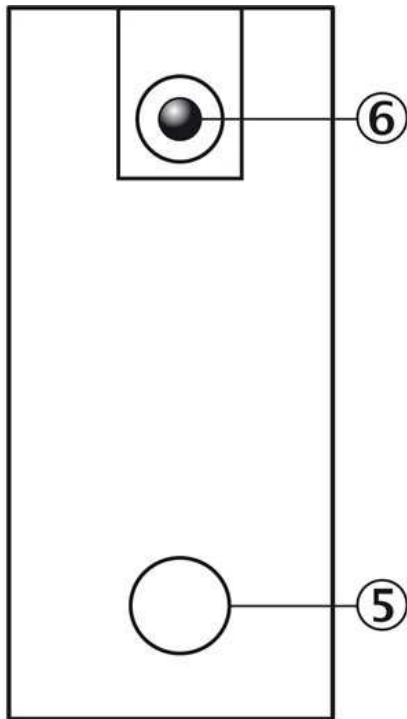
Enclosure rating: IP 67
Protection class: III
Ambient temperature: Operation: -25 ... +70 °C
Storage: -40 ... +85 °C

Dimensional drawing



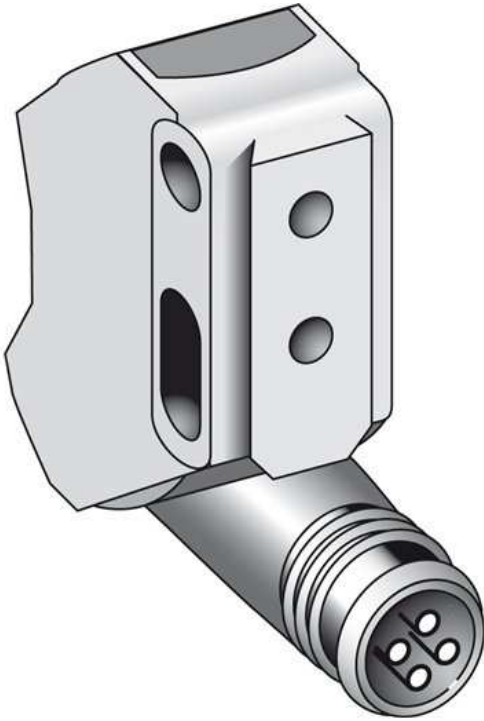
- |1| Transmission and reception axis
- |2| M4 threaded mounting hole, 4 mm deep
- |3| Connection
- |4| Mounting hole
- |5| Control elements
- |6| Status indicator switching
output (orange) and power on (green)

Adjustments

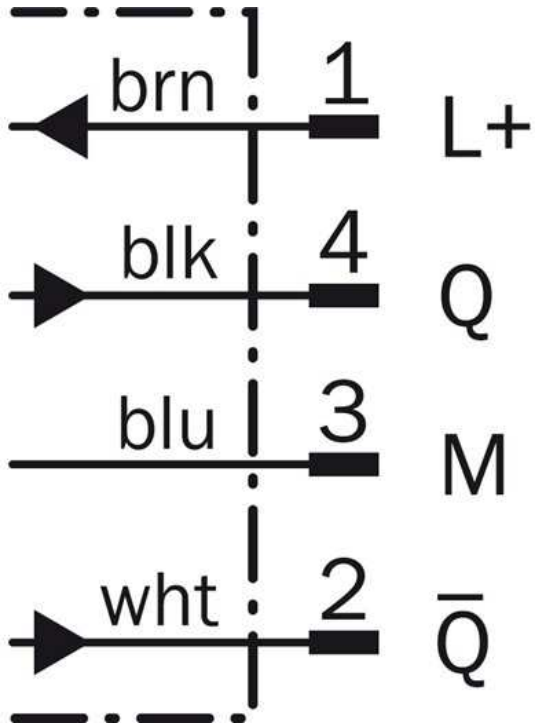


- |5| Control elements
- |6| Status indicator switching
output (orange) and power on (green)

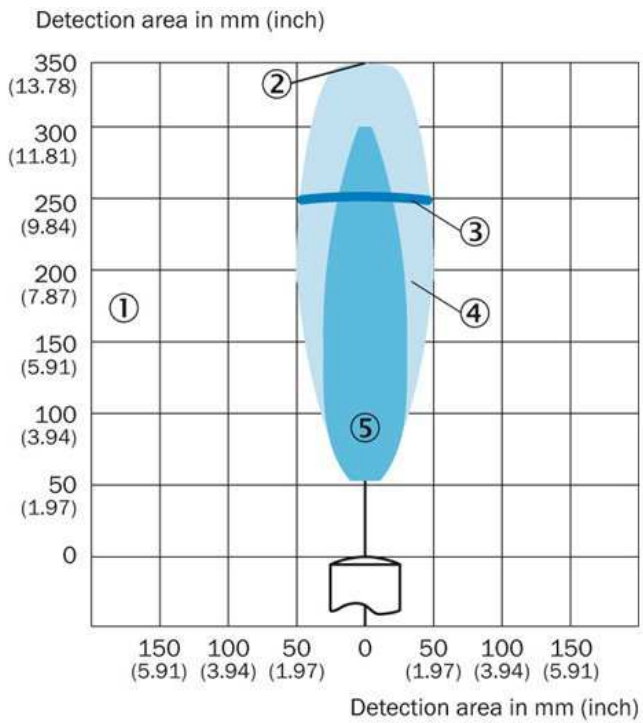
Connection type



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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