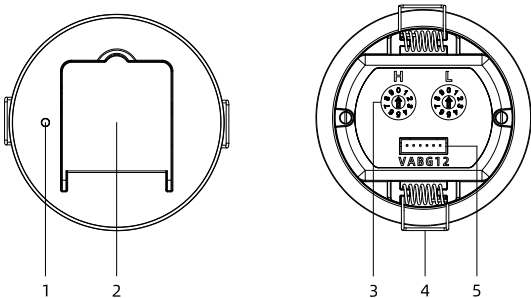


R5-Rang-REL

The CTL-SEN-R5/2301 is a high-precision 24GHz millimeter-wave radar sensor designed for advanced occupancy detection. It features an adjustable range of 1.5 to 7m with centimeter-level accuracy and a flexible 0° to 60° tilt design for versatile installation. Beyond detecting movement, its "micro-motion" technology can identify static presence (like breathing), while customizable sensing zones and an integrated ambient light sensor enable intelligent automation for smart homes, offices, and healthcare, ensuring efficient energy management based on real-time human displacement.



Interface



1. Multifunction Window (LED / Illuminance Sensor / IR)
2. Radar Sensing Surface (0 to 60° adjustable)
3. Decimal Rotary Switch (Address)
4. Spring Clip
5. Wiring Terminal (PH2.0 mm × 6 P)

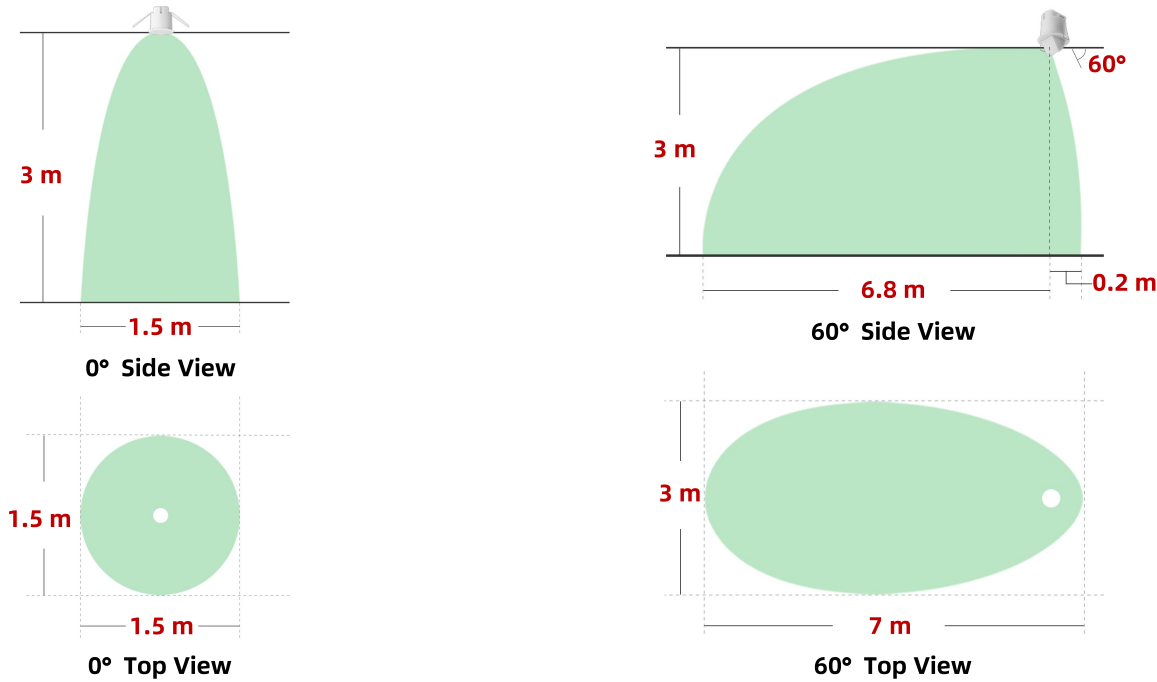
Features

- Supports motion, micro-motion, and stationary presence detection.
- Features customizable multi-zone sensing (Segments A/B/C) and configurable proximity/recession distance thresholds.
- Integrated high-precision sensor for accurate indoor illuminance monitoring.
- 4 output modes (normally open, normally closed, normally open pulse, normally closed pulse).
- Sensitivity and detection range can be configured independently.
- Features a 0 to 60° adjustable detection angle for precise zone targeting.
- Supports parameter configuration and query via IR remote control.
- Indicator LED brightness automatically adjusts to ambient light levels.

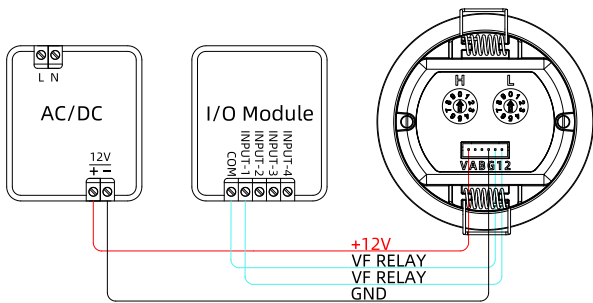
Specifications

Communication Type	Dry Contact
Input Voltage	DC 12 to 30 V
Power Consumption	0.5 W (Max)
Dry Contact Output	Normally Open Mode, Normally Closed Mode, Normally Open Pulse, Normally Closed Pulse
Dry Contact Load	AC or DC ≤ 30 V, ≤ 200 mA
Indicator Light	LED
Detection Mode	24GHz FMCW Radar
Operating Frequency	24.00 to 24.25 GHz
Transmit Power	≤ 10 dBm
Installation Method	Recessed Ceiling Mount
Mounting Height	2.0 to 4.0 m
Detection Angle	360°
Detection Coverage	Mounting Height: 3 m At 0°: Φ 1.5 m detection range At 60°: 3.0 × 7.0 m detection range
Detection Range	1.5 to 7.0 m (sensor to target)
Illuminance Monitoring	0 to 32,000 Lux (Accuracy ±4%)
Delay Time	1 to 3,600 seconds
Product Size	Φ65 mm × 60 mm
Cutout Size	Φ55 mm
Product Weight	62 g
Cable Assembly	UL1007 20AWG Cable Length: 150 mm
Operating Temperature	Indoor -20 to 45°C
Operating Humidity	< 95% RH (Non-condensing)
Storage Temperature	-40 to 85°C
Protection Level	IP20
Housing Material	PC

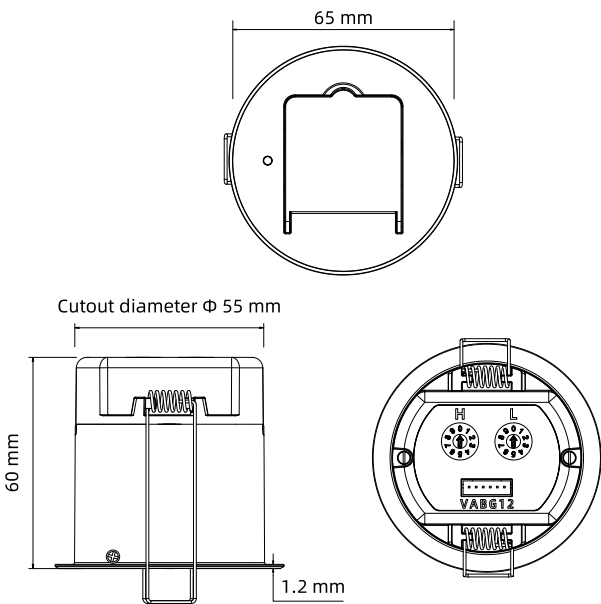
Detection Range



Wiring Diagram



Dimensions



Installation Notes

Interference Avoidance: Avoid installing near constantly moving objects (e.g., curtains, plants) or large reflective surfaces (e.g., metal ducts, mirrors) to prevent false triggering.

Device Spacing: Maintain a minimum distance of 4 meters between multiple sensors to prevent mutual interference.

Mounting: Ensure the installation surface is vibration-free. Note that radar signals can penetrate surfaces; avoid moving objects directly behind the installation wall/ceiling.

Wiring Safety: Disconnect power before wiring. Use certified cables and ensure the circuit includes appropriate short-circuit and overload protection.

Disclaimer: Specifications are subject to change without notice. Please follow all wiring diagrams strictly. The manufacturer is not liable for issues caused by improper installation.

Available Accessories



Remote Control (60.99.00C1)

Ordering Information

P/N	Short Name	Model	Remarks
60.50.2301	R5-Rang-REL	CTL-SEN-R5/2301	Main Unit
60.99.00C1	RC1	RC1	Accessory