

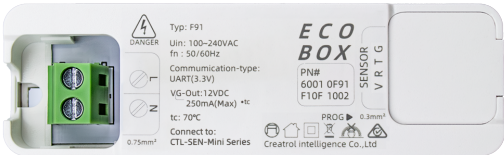
ECO-24G-WL

The ECO-24G-WL is a professional-grade 24GHz mmWave presence sensor specifically engineered for high-precision occupancy management in smart hotel environments. Utilizing advanced FMCW (Frequency Modulated Continuous Wave) radar technology, the device detects subtle human presence—including micro-motions and breathing—eliminating the limitations of traditional PIR sensors. As a core component of the hotel "3+1" energy-saving solution, it facilitates stable, long-range communication via LoRa technology to provide real-time occupancy data, optimizing both guest comfort and operational efficiency.

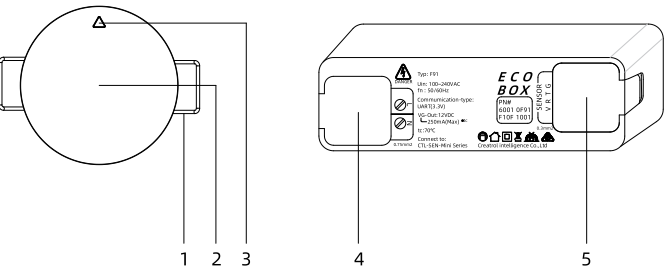


White

Black



Interface



1. Spring Clip
2. Radar Sensing Surface
3. Orientation Marker
4. Power Connection Port (AC 100 to 240 V)
5. Sensor Wiring Terminal (PH 2.0 mm 4-Pin)

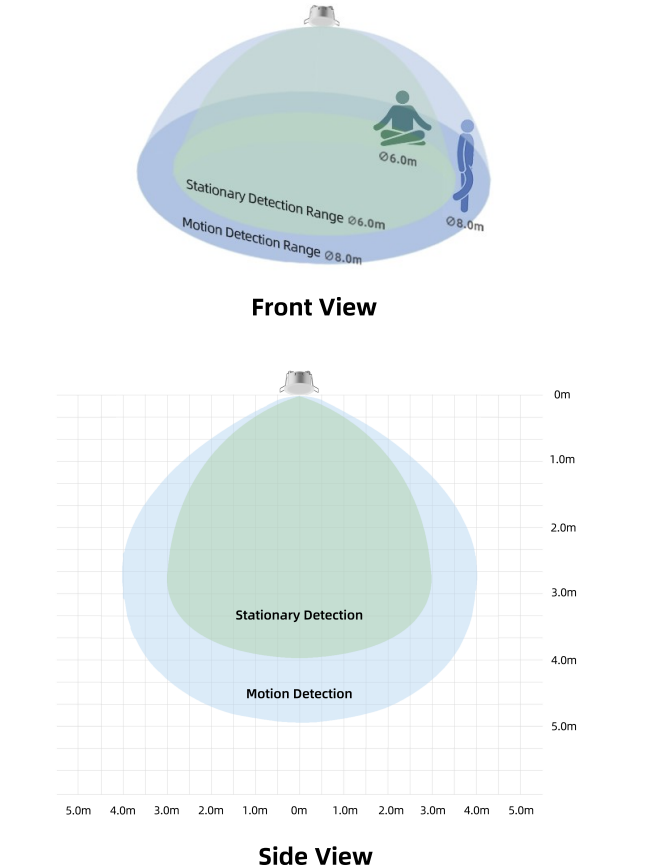
Features

- Accurately identifies motion, micro-motion, and Presence.
- Sensitivity and detection distance can be adjusted independently.
- Utilizes license-free ISM LoRa bands (470~928MHz) to ensure robust, long-range wireless connectivity and superior wall penetration in dense hotel infrastructures.
- Enables remote monitoring and adjustment of sensor parameters (sensitivity, range, delays) via the gateway interface.
- Supports parameter configuration and status readout via IR remote control.

Specifications

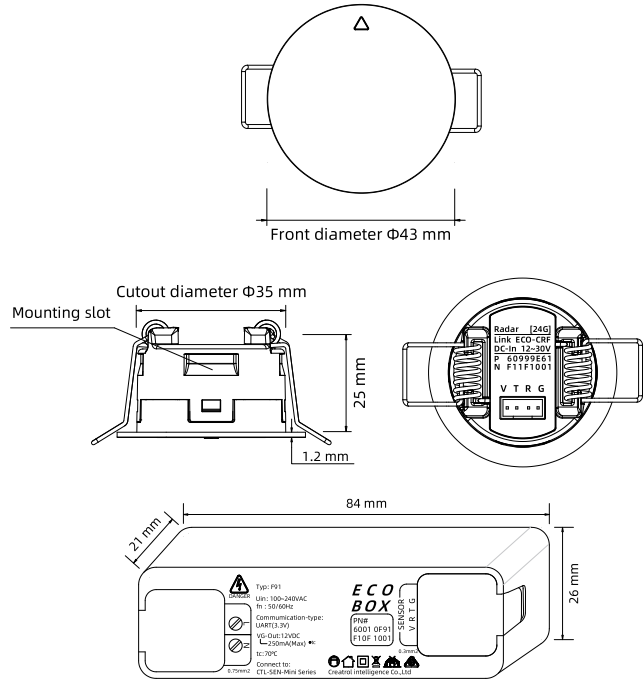
Communication Type	Wireless (LoRa Technology)
Cloud Ecosystem	Tuya-WiFi (Supports remote parameter configuration via Gateway)
BOX Input Voltage	AC 100 to 240 V
BOX Output Voltage	DC 12 V (< 500 mA)
Sensor Input Voltage	DC 12 V
Power Consumption	0.5 W (Max)
Indicator Light	LED
Detection Mode	24GHz FMCW 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	Installation at 3.0 m Height: ① Motion & Micro-motion: Detection diameter at least 8.0m ② Stationary Presence: Detection diameter at least 6.0m
Detection Range	1.5 to 8.0 m (sensor to target)
Sensitivity	0 to 100%
Delay Time	1 to 3,600 seconds
Product Size	Φ43 mm × 25 mm
Cutout Size	Φ35 mm
Product Weight	18 g
BOX Size	75 mm × 20 mm × 22 mm
BOX Weight	29 g
Cable Assembly	UL2468 22AWG Cable Length: 200 mm
Operating Environment	Indoor -20 to 45°C Humidity < 95% RH (Non-condensing)
Storage Temperature	-40 to 85°C
Protection Level	IP20
Housing Material	PC

Detection Range

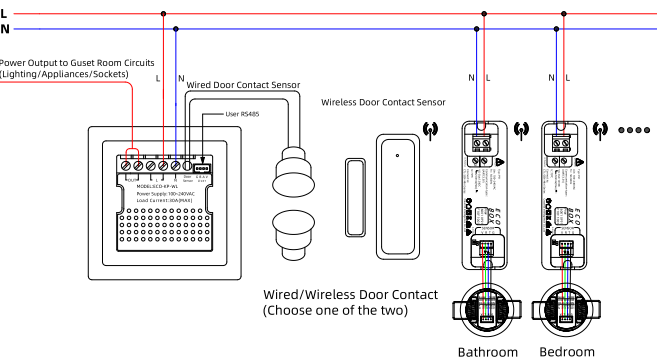


Dimensions

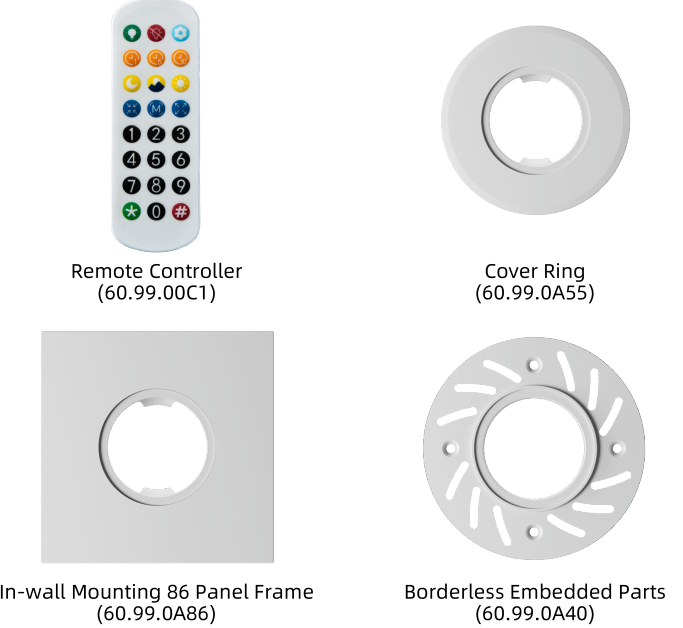
The product features an outer diameter of 43 mm and a depth of 25 mm, requiring a 35 mm cutout. Designed for recessed installation, it requires a minimum ceiling depth of 10 cm.



Wiring Diagram



Available Accessories



Installation Notes

Interference Avoidance: Keep away from moving objects (e.g., curtains, plants) and large metal/reflective surfaces.
Device Spacing: Maintain a minimum distance of 4 m between multiple sensors to prevent mutual interference.
Mounting: Install on a stable, vibration-free surface. Ensure no moving objects are behind the wall (signals penetrate non-metals).
Wiring Safety: Disconnect power before wiring. Use certified cables and ensure the circuit includes appropriate short-circuit and overload protection.
Disclaimer:Product specifications are subject to change without prior notice for improvement purposes. Please follow all wiring diagrams strictly. The manufacturer is not liable for issues caused by improper installation.

Ordering Information

P/N	Short Name	Model	Remarks
60.99.9E61.F91	ECO-24G-WL	CTL-SEN-Mini/9E61.F91	White (Default)
60.9B.9E61.F91	ECO-24G-WL/B	CTL-SEN-Mini/9E61B.F91	Black
60.99.00C1	RC1	RC1	Accessory
60.99.0A55	Mini-ASSY-55	A55	Accessory
60.99.0A86	Mini-ASSY-86	A86	Accessory
60.99.0A40	Mini-ASSY-BL	A40	Accessory