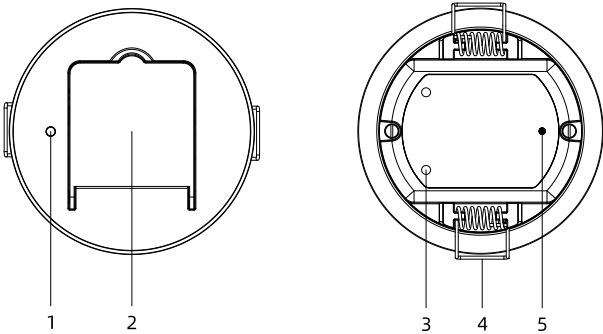


R5-24G-UART (ADJ)

The CTL-SEN-R5/2181 is a high-precision human presence sensor powered by advanced 24GHz FMCW millimeter-wave radar technology and a versatile 0 to 60° adjustable detection angle for flexible positioning and minimized blind spots. By detecting micro-motions (such as breathing), the sensor accurately identifies both moving and stationary occupants within a range of up to 8.0 meters, complemented by an integrated high-precision illuminance sensor (0 to 32,000 Lux). To further enhance its versatility, it features a dedicated internal slot and interface for a User-defined Module Board, allowing customers to integrate bespoke communication or functional modules for tailored applications in smart homes, commercial offices, and healthcare facilities.



Interface



1. Multifunction Window (LED / Illuminance Sensor / IR)
2. Radar Sensing Surface (0 to 60° adjustable)
3. Power Input (AC 100 to 240 V)
4. Spring Clip
5. Pairing Button

Features

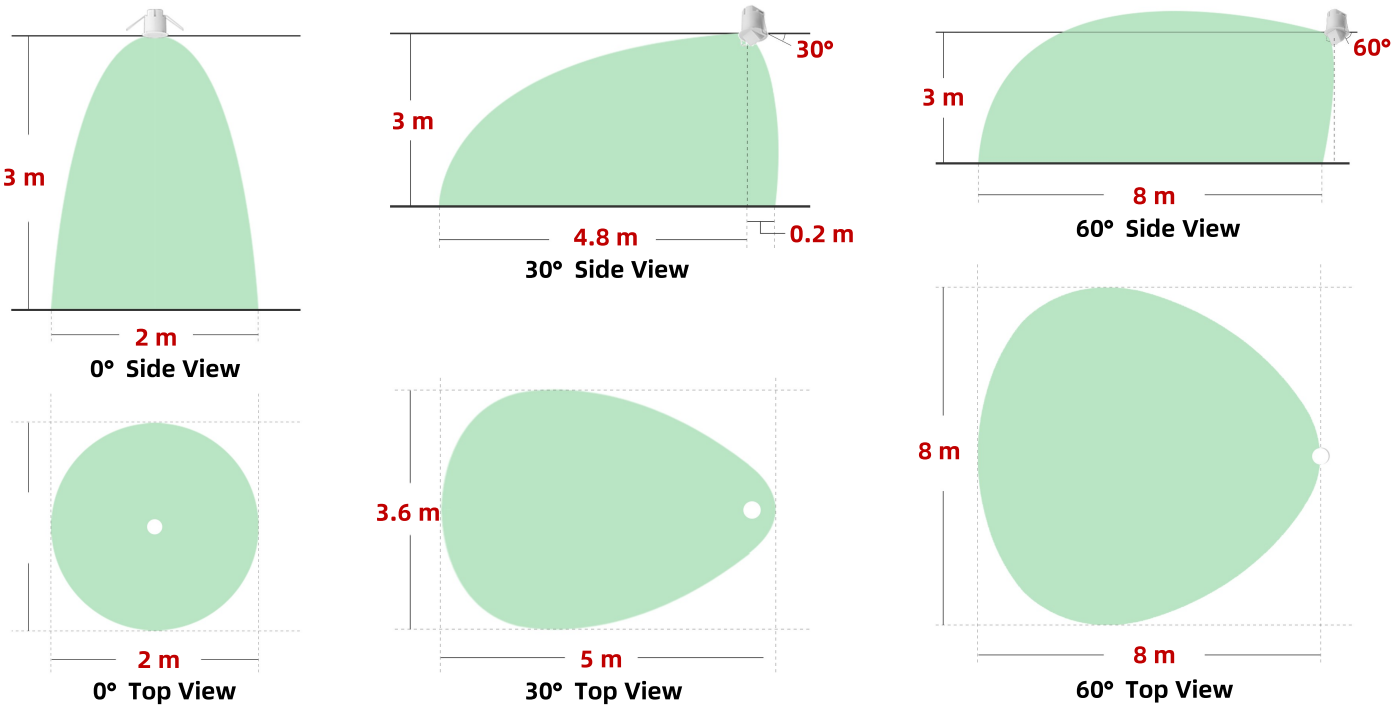
- Supports motion, micro-motion, and stationary presence detection.
- Sensitivity and detection distance can be adjusted independently.
- Integrated high-precision sensor for accurate indoor illuminance monitoring.
- Features a 0 to 60° adjustable detection angle for precise zone targeting.
- Supports parameter configuration and status readout via IR remote control.

- Features a dedicated internal slot and interface for a User-defined Module Board, allowing customers to integrate bespoke communication or functional modules for tailored applications.
- Indicator LED brightness automatically adjusts to ambient light levels.

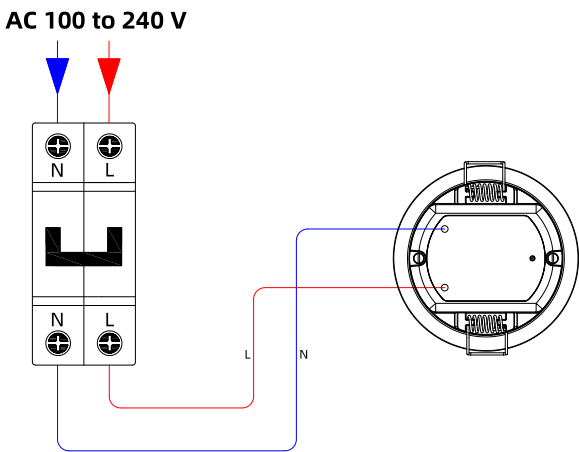
Specifications

Communication Type	Tuya-ZigBee
Input Voltage	AC 100 to 240 V
Serial Port Settings	Baud Rate: 1200 to 115200 Data Bits: 8 Parity: None, Even, Odd Stop Bits: 1 to 2 Default: 115200, 8, None, 1
Address Range	01 to 99 (Decimal)
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	Mounting Height: 3 m At 0°: Φ 2.0 m detection range At 30°: 5.0 × 3.6 m detection range At 60°: 8.0 × 8.0 m detection range
Detection Range	1.5 to 8.0 m (sensor to target)
Sensitivity	0% to 100%
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	74.5 g
Cable Specification	UL1015 18AWG
Operating Environment	Indoor -20 to 45°C, Humidity < 95% RH (Non-condensing)
Storage Temperature	-40 to 85°C
Protection Level	IP20
Housing Material	PC

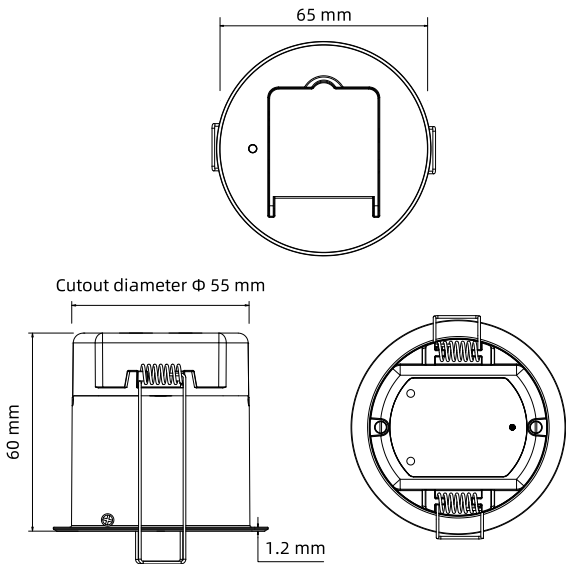
Detection Range



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
60.50.2181	R5-24G-UART (ADJ)	CTL-SEN-R5/2181	Main Unit
60.99.00C1	RC1	RC1	Accessory