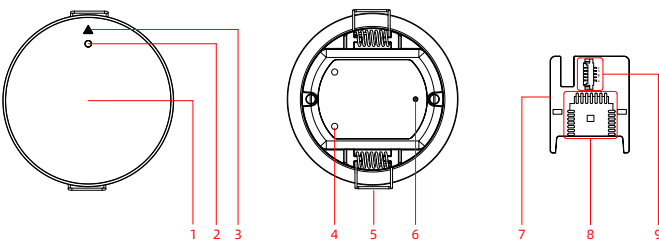


R5-24G-UART

The CTL-SEN-R5/2581 is a high-precision human presence sensor powered by advanced 24GHz mmWave radar technology and proprietary signal processing algorithms, enabling it to detect micro-motion (such as breathing) for stationary presence detection while effectively filtering non-human interference. With a detection range of up to 10 meters and an integrated high-precision illuminance sensor (0 to 32,000 Lux), it is engineered for advanced smart building applications; furthermore, it features a dedicated internal slot and interface for a User-defined Module Board, allowing customers to integrate bespoke communication or functional modules for highly tailored applications.



Interface



- 1. Radar Sensing Surface
- 2. Multifunction Window (LED / Illuminance Sensor / IR)
- 3. Orientation Marker
- 4. Power Input (AC 100 to 240 V)
- 5. Spring Clip
- 6. Pairing Button
- 7. User-defined Module Board
- 8. Module Placement Diagram
- 9. Connector (3: DC 3.3 V input; S: Reserved I/O; R: Serial data reception input; T: Serial data transmission output; G: DC Input GND)

Features

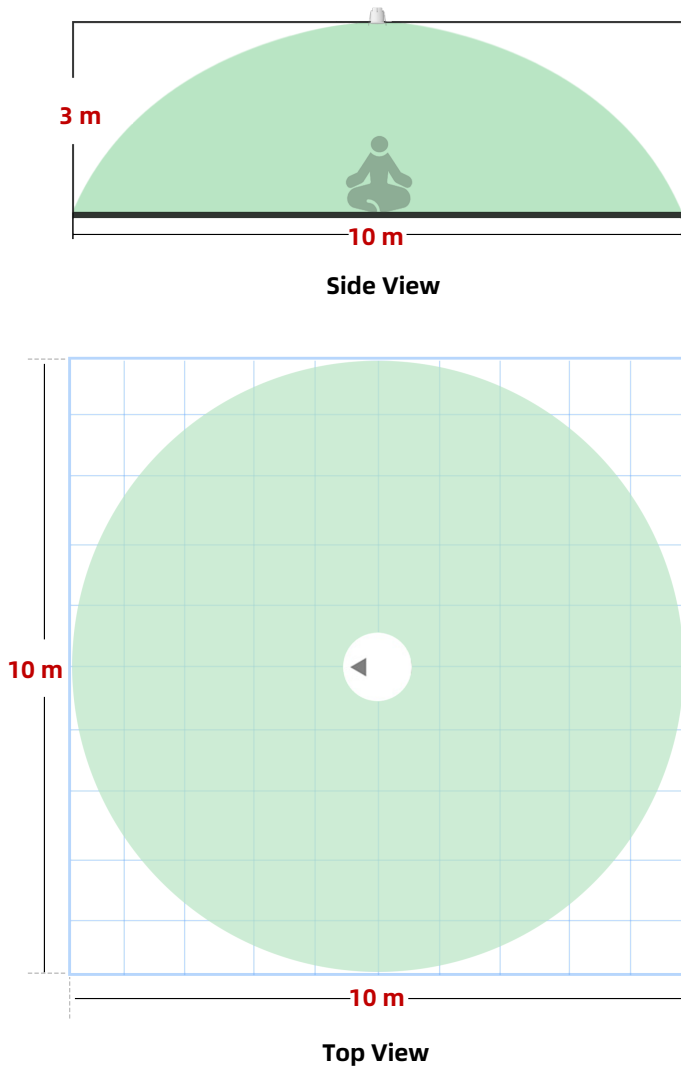
- Supports motion, micro-motion, and stationary presence detection.
- Sensitivity and detection distance can be adjusted independently.
- Integrated high-precision sensor for accurate indoor illuminance monitoring.
- Adjustable lighting threshold.
- Supports parameter configuration and status readout 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.
- Powered by a proprietary module with advanced signal processing algorithms.

Specifications

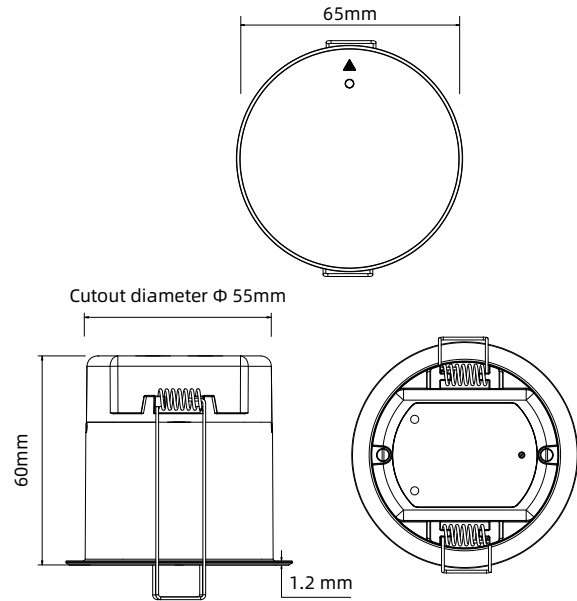
Communication Type	UART
Input Voltage	AC 100 to 240 V
Serial Port Settings	Baud Rate: 1200 to 115200 Data Bits: 8 Parity: None, Even, Odd Stop Bits: 1 to 2 Default: 115200, 8, None, 1
Address Range	01 to 99 (Decimal)
Power Consumption	0.5 W (Max)
Indicator Light	LED
Detection Mode	24GHz FMCW Radar
Operating 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	Max. Floor Coverage Diameter ≥ 10 m (at 3.0 m height)
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	77 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



Dimensions

Recessed mount, product outer diameter 65 mm, product depth 60 mm, cutout diameter 55 mm.



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
60.50.2581	R5-24G-UART	CTL-SEN-R5/2581	Main Unit
60.99.00C1	RC1	RC1	Accessory

Wiring Diagram

AC 100 to 240 V

