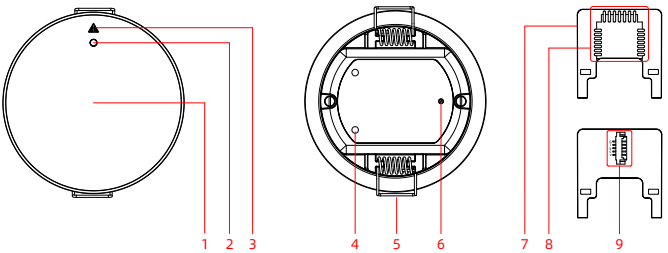


R5-60G-UART

The CTL-SEN-R5/6281 is a flagship human presence sensor powered by advanced 60GHz 4D mmWave radar technology and a robust 4T4R antenna array, delivering ultra-high resolution to support complex functions including real-time trajectory tracking, people counting, fall detection, and precise bed occupancy monitoring. By capturing minute physiological signals such as breathing, it ensures reliable performance within a Ø6.0-meter coverage area for premium smart home and healthcare applications; additionally, 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 (V: DC 3.3 V input; S: Reserved I/O; R: Serial data reception input; T: Serial data transmission output; G: DC Input GND)

Features

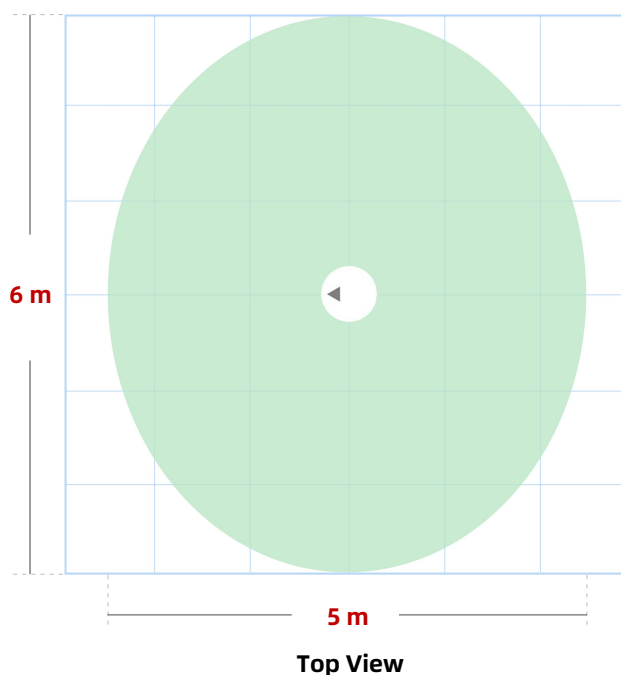
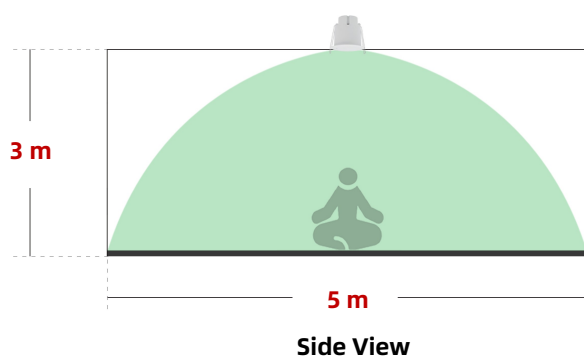
- Presence: Detects stationary presence via breathing micro-motions within 5.0 × 6.0m.
- Fall Detection: Real-time fall identification via point cloud and posture analysis.
- Bed Monitor: Tracks "in-bed" vs. "out-of-bed" status in defined zones.
- Zone Alert: Monitors boundaries (e.g., doorways) for entry/exit alerts.
- Counting: Real-time counting and location tracking for space management.
- Sensitivity and detection distance can be adjusted

- independently.
- 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.
- Integrated high-precision sensor for accurate indoor illuminance monitoring.
- Adjustable lighting threshold.
- Supports parameter configuration and status readout via IR remote control.
- Indicator LED brightness automatically adjusts to ambient light levels.

Specifications

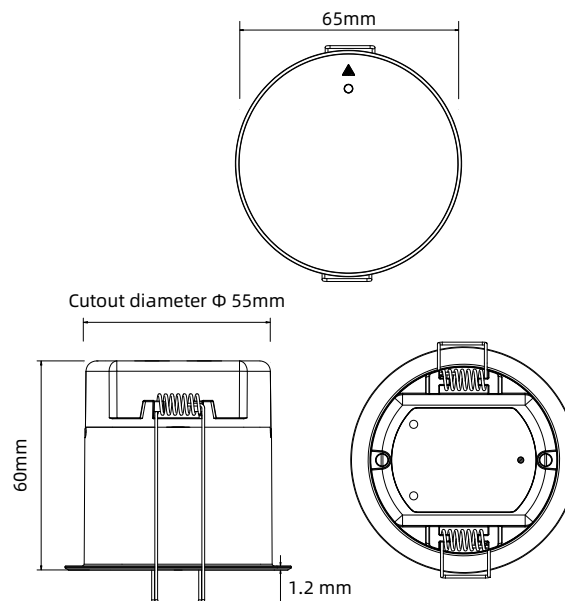
Communication Type	UART
Input Voltage	AC 100 to 240 V
Serial Port Settings	Baud Rate: 1200 to 115200
	Data Bits: 8
	Parity: None, Even, Odd
	Stop Bits: 1 to 2 Default: 115200, 8, None, 1
Address Range	01 to 99 (Decimal)
Power Consumption	0.5 W (Max)
Indicator Light	RGB LED
Detection Mode	60GHz FMCW Radar
Antenna Array	4T4R
Operating Frequency	60 to 64 GHz
Transmit Power	≤ 10 dBm
Installation Method	Recessed Ceiling Mount
Mounting Height	2.0 to 3.2 m
Detection Angle	360°
Detection Coverage	5.0 × 6.0 m
Detection Range	1.0 to 6.0 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	Ø65 mm × 60 mm
Cutout Size	Ø55 mm
Product Weight	85.5 g
Cable Specification	UL1015 18AWG
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



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.

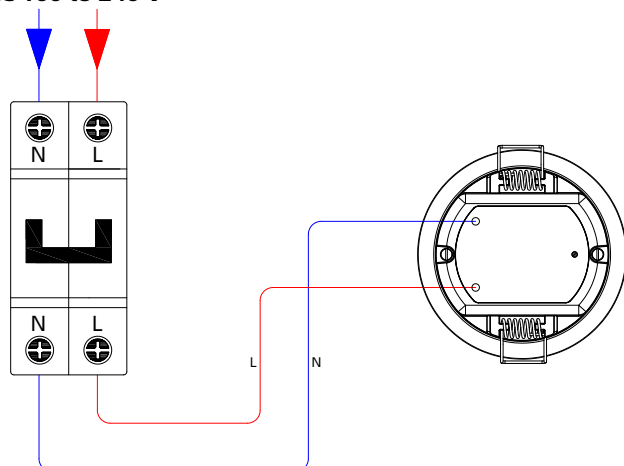
Wiring Safety: Disconnect power before wiring. Use certified cables and ensure the circuit includes appropriate short-circuit and overload protection.

Disclaimer: Specifications are subject to change without notice. This product is an auxiliary device, not a medical instrument. The manufacturer is not liable for issues caused by improper installation or misuse.

Available Accessories

Wiring Diagram

AC 100 to 240 V



Remote Control (60.99.00C1)

Ordering Information

P/N	Short Name	Model	Remarks
60.50.6281	R5-60G-UART	CTL-SEN-R5/6281	Main Unit
60.99.00C1	RC1	RC1	Accessory