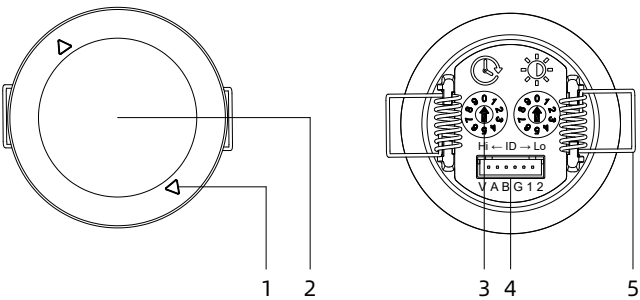


R1-24G-485

The CTL-SEN-R1/2208 is a high-precision human presence sensor powered by advanced 24GHz mmWave radar technology. Featuring precise signal processing algorithms, it captures micro-motions (such as breathing) to reliably detect stationary presence. With a comprehensive detection diameter of up to 8.0 meters and an integrated high-sensitivity illuminance sensor (0 to 32,000 Lux), it is engineered to deliver intelligent, energy-efficient control for diverse smart building applications.



Interface



1. Orientation Marker
2. Radar Sensing Surface
3. Decimal Rotary Switch (Address \ Mode \ Parameters)
4. Wiring Terminal (PH 2.0 mm 6-Pin)
5. Spring Clip

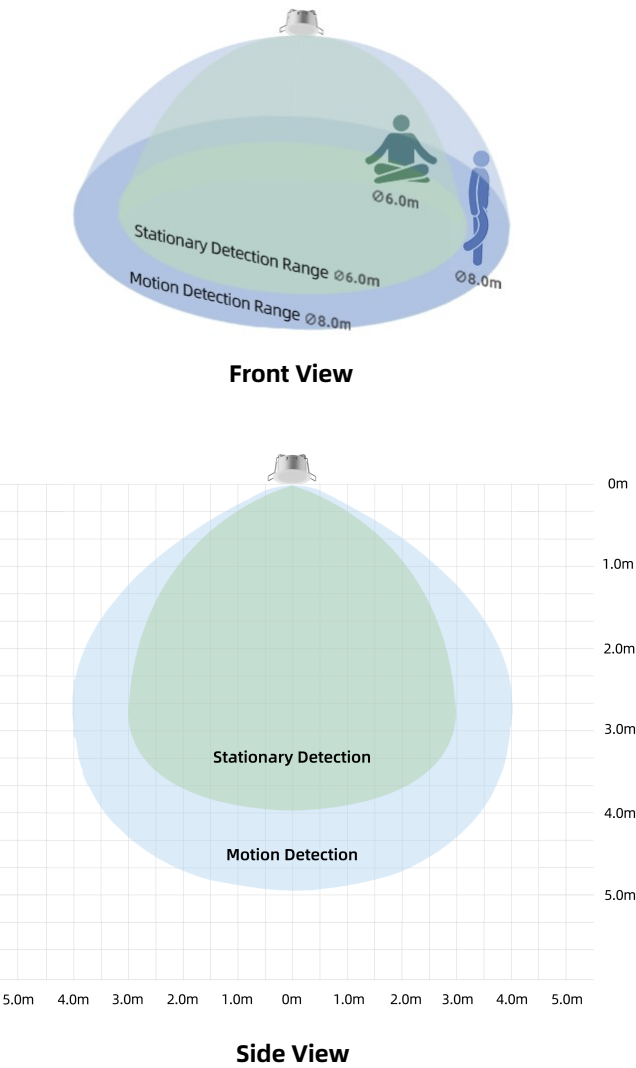
Features

- Accurately identifies motion, micro-motion, and Presence.
- Sensitivity and detection distance can be adjusted independently.
- Integrated high-precision sensor for accurate indoor illuminance monitoring.
- Supports multiple protocols via RS485, including Modbus-RTU and Active Reporting.
- Adjustable lighting threshold.
- Supports parameter configuration and status readout via IR remote control.
- Indicator LED brightness automatically adjusts to ambient light levels.
- Powered by a proprietary module with advanced signal processing algorithms.

Specifications

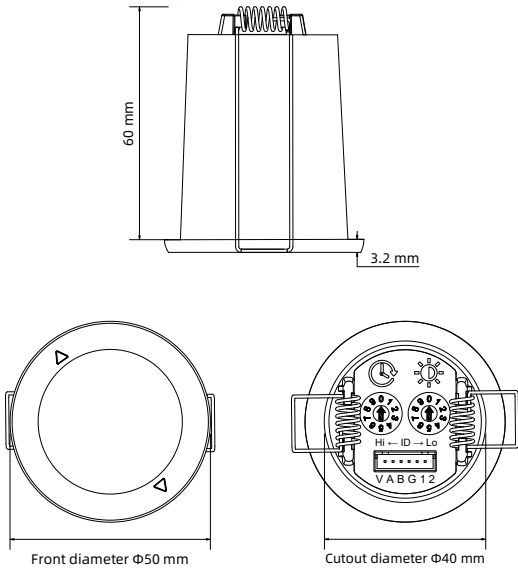
Communication Type	RS485
Input Voltage	DC 12 to 30 V
Power Consumption	0.5 W (Max)
Serial Port Settings	Baud Rate: 1200 to 115200 Data Bits: 8 Parity: None, Even, Odd Stop Bits: 1, 2 Default: 9600, 8, None, 1
Address Range	01 to 69 (Decimal)
Dry Contact Output	Normally Open Mode, Normally Closed Mode, Normally Open Pulse, Normally Closed Pulse
Dry Contact Load	AC or DC ≤ 30 V, ≤ 200mA
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 8.0 m ② Stationary Presence: Detection diameter at least 6.0 m
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	Φ50 mm × 60 mm
Cutout Size	Φ42 mm
Product Weight	39 g
Cable Assembly	UL1007 20AWG Cable Length: 150 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

Recessed mount, product outer diameter 50 mm, product depth 60 mm, cutout diameter 42 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 minimize false alarms or unintended triggering.

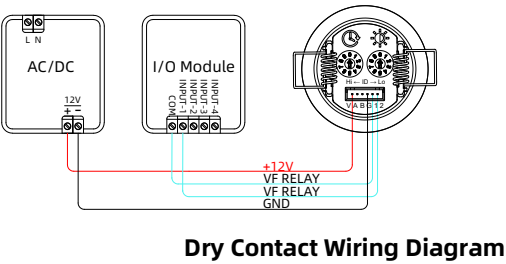
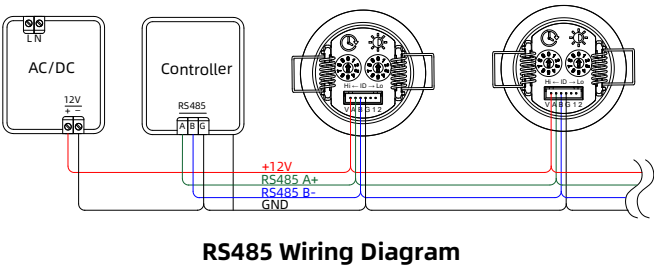
Device Spacing: Maintain a minimum distance of 4 m between multiple sensors to prevent mutual interference.

Mounting: Ensure the installation surface is vibration-free. Note that radar signals can penetrate non-metallic 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: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.

Wiring Diagram



Available Accessories



Remote Control (60.99.00C1)

Ordering Information

P/N	Short Name	Model	Remarks
60.10.2208	R1-24G-485	CTL-SEN-R1/2208	Main Unit
60.99.00C1	RC1	RC1	Accessory