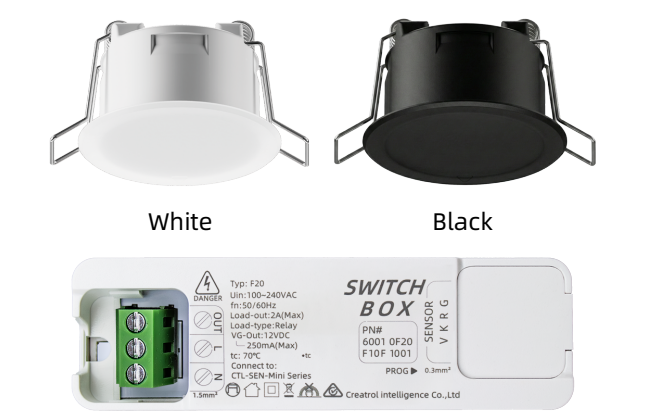
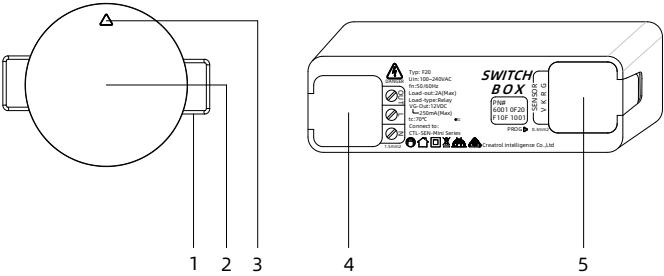


Mini-24G-TYZ/S1

The CTL-SEN-Mini/2216.F20 is a compact, high-precision presence sensor powered by advanced 24GHz FMCW mmWave technology. Designed for discreet, premium applications, it features a miniature form factor (Φ35 mm cutout) while offering a detection diameter of up to 8.0 m. It integrates a high-precision lux sensor (0-32,000 Lux) for advanced lighting automation.



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)

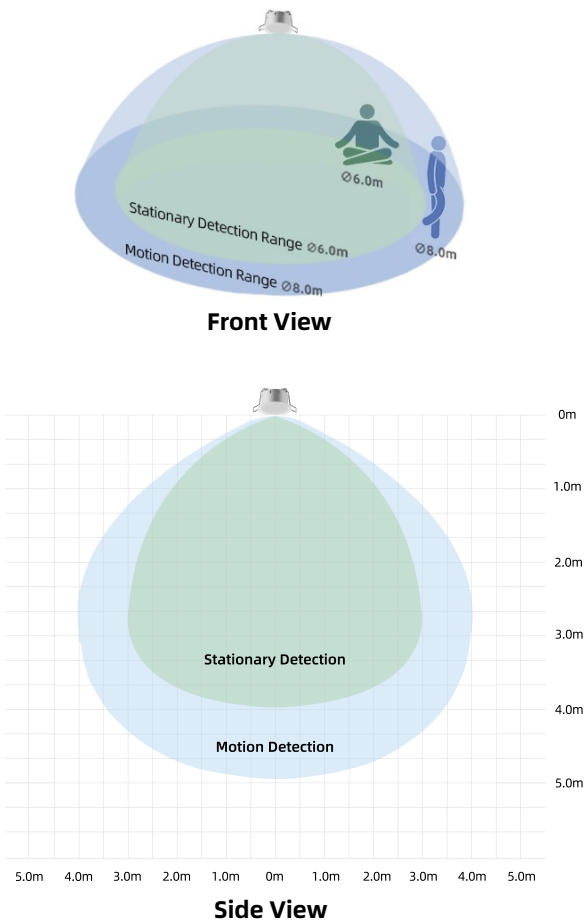
Features

- Accurately identifies motion, micro-motion, and Presence.
- Sensitivity and detection distance can be adjusted independently.
- 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.
- Powered by a proprietary module with advanced signal processing algorithms.

Specifications

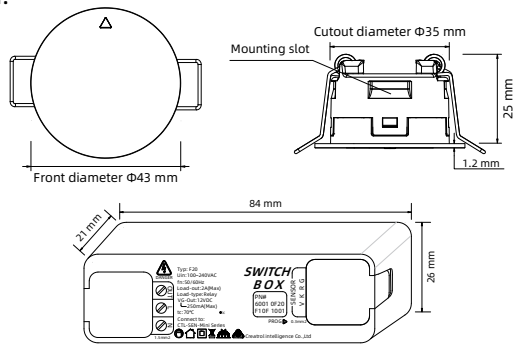
|                        |                                                                                                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication Type     | TY-ZigBee                                                                                                                                             |
| 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)                                                                                                                                           |
| Relay Output           | Normally Open Mode<br>Normally Closed Mode                                                                                                            |
| Relay Load             | AC 100 to 240 V, ≤ 2 A                                                                                                                                |
| 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:<br>① Motion & Micro-motion: Detection diameter at least 8.0m<br>② Stationary Presence: Detection diameter at least 6.0m |
| 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           | Φ43 mm × 25 mm                                                                                                                                        |
| Cutout Size            | Φ35 mm                                                                                                                                                |
| Product Weight         | 17.5 g                                                                                                                                                |
| BOX Size               | 84 mm × 26 mm × 21 mm                                                                                                                                 |
| BOX Weight             | 43 g                                                                                                                                                  |
| Cable Assembly         | UL2468 22AWG<br>Cable Length: 200 mm                                                                                                                  |
| Operating Environment  | Indoor -20 to 45°C<br>Humidity < 95% RH<br>(Non-condensing)                                                                                           |
| Storage Temperature    | -40 to 85°C                                                                                                                                           |
| Protection Level       | IP20                                                                                                                                                  |
| Housing Material       | PC                                                                                                                                                    |

Detection Range



Dimensions

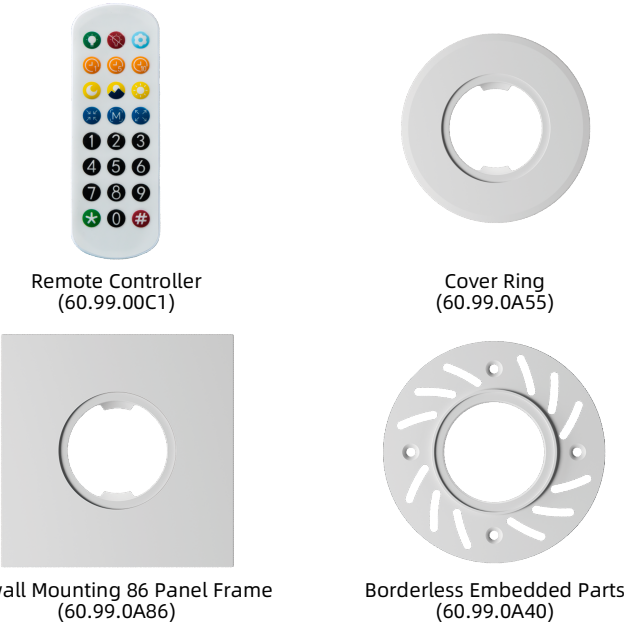
Measuring 43 mm wide and 25 mm deep, this recessed unit fits a 35 mm cutout and requires a minimum ceiling depth of 10 cm.



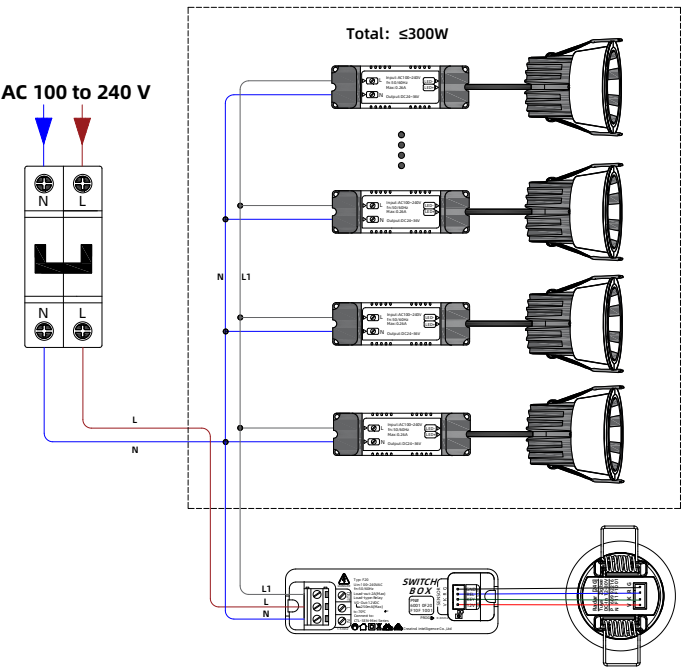
Installation Notes

- Interference Avoidance:** Keep away from moving objects (e.g., curtains, plants) and large metal/reflective surfaces.
- Device Spacing:** Maintain at least 4m between sensors.
- Mounting:** Install on a stable, vibration-free surface. Ensure no moving objects are behind the wall (signals penetrate non-metals).
- Wiring Safety:** Turn off power before wiring. Use certified cables and proper circuit protection.
- Disclaimer:** Follow wiring diagrams strictly. Manufacturer is not liable for improper installation. Specifications subject to change.

Available Accessories



Wiring Diagram



Ordering Information

| P/N            | Short Name        | Model                  | Remarks         |
|----------------|-------------------|------------------------|-----------------|
| 60.99.2216.F20 | Mini-24G-TYZ/S1   | CTL-SEN-Mini/2216.F20  | White (Default) |
| 60.9B.2216.F20 | Mini-24G-TYZ/S1/B | CTL-SEN-Mini/2216B.F20 | 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       |