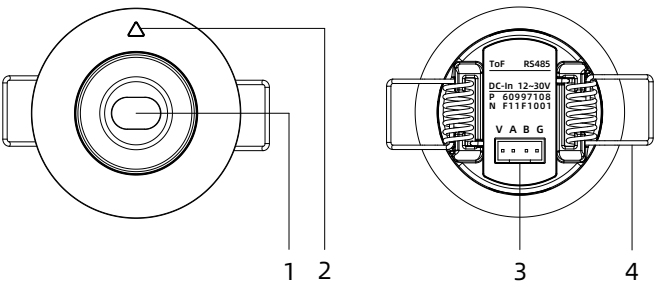


Mini-ToF-485

The CTL-SEN-Mini/7108 is an ultra-compact, high-precision occupancy sensor leveraging advanced Time-of-Flight (ToF) ranging technology. Unlike traditional motion sensors, it measures the precise distance to a target with millimeter-level accuracy, enabling the detection of static presence and precise location within a defined zone. Designed with a miniature form factor (Φ35 mm cutout), this sensor is engineered for sophisticated smart automation requiring granular control.



Interface



1. ToF Sensing Surface
2. Orientation Marker
3. Wiring Terminal (PH 2.0 mm 4-Pin)
4. Spring Clip

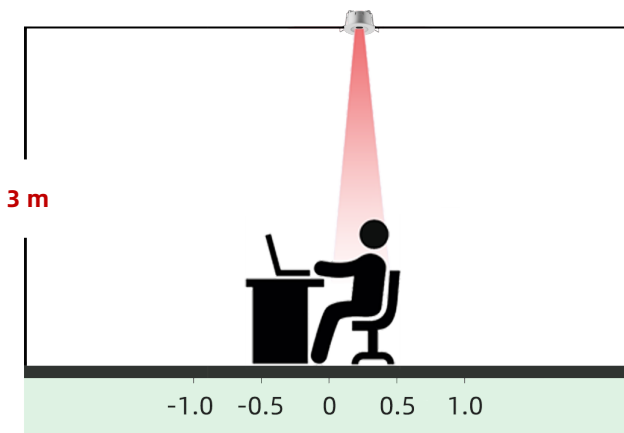
Features

- Accurately detects presence, occupancy, approach, and departure.
- 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.

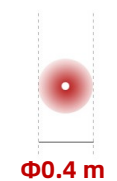
Specifications

|                        |                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------|
| Communication Type     | RS485                                                                                                                |
| Input Voltage          | DC 12 to 30 V                                                                                                        |
| Power Consumption      | 0.5 W (Max)                                                                                                          |
| Serial Port Settings   | Baud Rate: 1200 to 115200<br>Data Bits: 8<br>Parity: None, Even, Odd<br>Stop Bits: 1, 2<br>Default: 9600, 8, None, 1 |
| Address Range          | 01 to 99 (Decimal)                                                                                                   |
| Indicator Light        | LED                                                                                                                  |
| Detection Mode         | ToF Time of Flight Sensor                                                                                            |
| Light Source           | 940 nm                                                                                                               |
| Laser Safety           | Class 1 (IEC 60825-1:2014)                                                                                           |
| Update Rate            | 15Hz / 30 Hz                                                                                                         |
| Installation Method    | Recessed Ceiling Mount                                                                                               |
| Mounting Height        | 2.0 to 4.0 m                                                                                                         |
| Detection Angle        | 20°                                                                                                                  |
| Detection Coverage     | ≤ 0.4 m                                                                                                              |
| Detection Range        | 0.1 to 3.2 m (sensor to target)                                                                                      |
| 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                                                                                                               |
| Cable Assembly         | UL1007 22AWG<br>Cable Length: 150 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

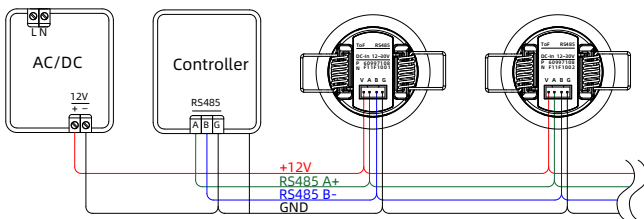


Front View



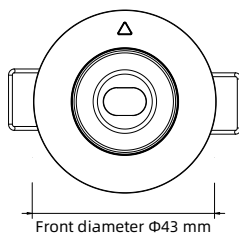
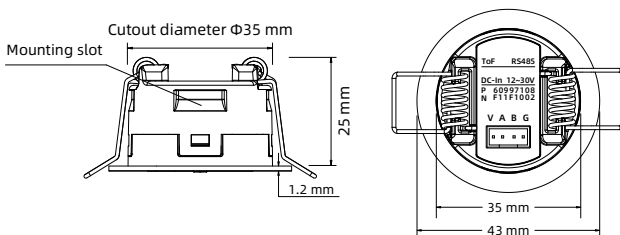
Top View

## Wiring Diagram



## Dimensions

Measuring 43 mm in diameter and 25 mm in depth, this recessed unit fits a 35 mm cutout. Optional kits allow for surface, wall, or universal bracket mounting.

Front diameter  $\Phi 43$  mm

## Installation Notes

**Environmental Requirements:** Avoid moving objects, direct light, or reflections to prevent false triggers. Dark materials may reduce sensitivity. Ensure the lens remains free of heavy soiling or scratches, as this may compromise detection accuracy.

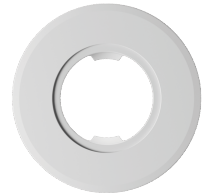
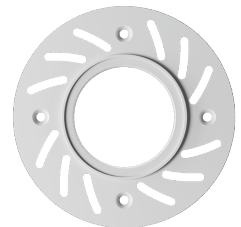
**Unpacking:** Unpack carefully and inspect contents immediately. Dispose of packaging per local regulations.

**Electrical Safety:** Disconnect power before wiring. Follow the wiring diagram using certified cables and ensure the system has short-circuit and overload protection. Avoid direct contact with circuit components.

**Wiring Safety:** Mount at least 30 cm above the floor with 1 meter clearance from walls or obstacles. Ensure an unobstructed view of the detection zone.

**Disclaimer:** Specifications subject to change without notice. Follow wiring diagrams strictly. The manufacturer assumes no liability for improper installation.

## Available Accessories

Remote Controller  
(60.99.00C1)Cover Ring  
(60.99.0A55)In-wall Mounting 86 Panel Frame  
(60.99.0A86)Borderless Embedded Parts  
(60.99.0A40)Surface Mounting Socket  
(60.99.0A50)Surface Mounting Universal Bracket  
(60.99.A360)

## Ordering Information

| P/N        | Short Name     | Model              | Remarks         |
|------------|----------------|--------------------|-----------------|
| 60.99.7108 | Mini-ToF-485   | CTL-SEN-Mini/7108  | White (Default) |
| 60.9B.7108 | Mini-ToF-485/B | CTL-SEN-Mini/7108B | 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       |
| 60.99.0A50 | Mini-ASSY-CYL  | A50                | Accessory       |
| 60.99.A360 | Mini-ASSY-360  | A360               | Accessory       |