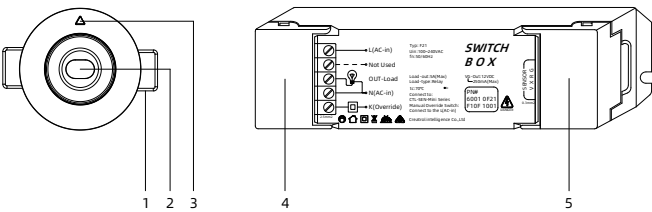


Mini-ToF-S1+

The CTL-SEN-Mini/7111.F21 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. Spring Clip
2. ToF Sensing Surface
3. Orientation Marker
4. Power Connection Port (AC 100 to 240 V)
5. Sensor Wiring Terminal (PH 2.0 mm 4-Pin)

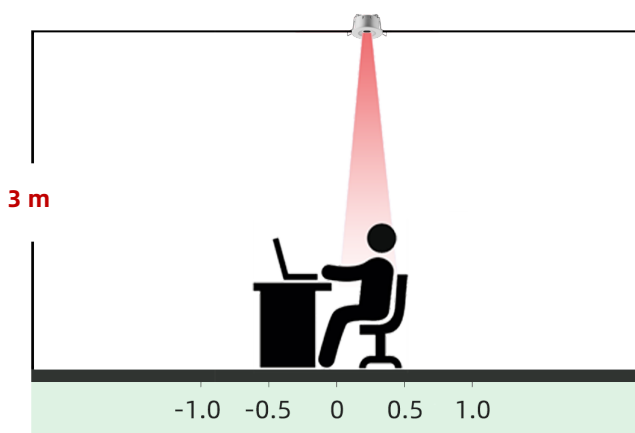
Features

- Accurately detects presence, occupancy, approach, and departure.
- Integrated high-precision sensor for accurate indoor illuminance monitoring.
- Features 1 relay output
- 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.

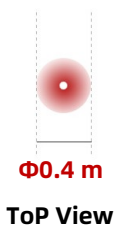
Specifications

Output Type	Mains Output
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 Normally Closed Mode
Relay Load	AC 100 to 240 V, ≤ 5 A
Indicator Light	LED
Detection Mode	ToF Time of Flight Sensor
Light Source	940 nm
Laser Safety	Class 1 (IEC 60825-1:2014)
Update Rate	15 Hz / 30 Hz
Installation Method	Recessed Ceiling Mount
Mounting Height	2.0 to 4.0 m
Detection Angle	11°
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
BOX Size	121 mm × 35 mm × 26 mm
BOX Weight	88 g
Cable Assembly	UL2468 22AWG Cable Length: 200 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

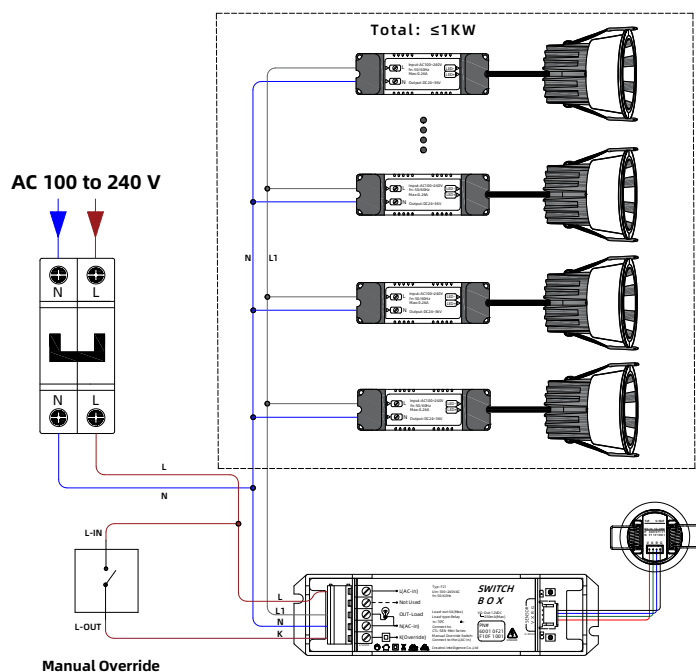


Front View



Top View

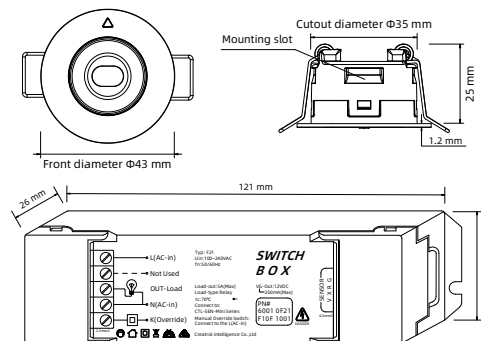
Wiring Diagram



Manual Override: Connects to an external switch to force lights ON, bypassing sensor detection. Ideal for maintenance or constant illumination.

Dimensions

Measuring 43 mm wide and 25 mm deep, this recessed unit fits a 35 mm cutout and requires a minimum ceiling depth of 13 cm.



Installation Notes

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

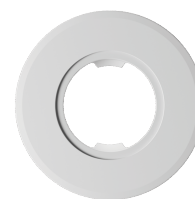
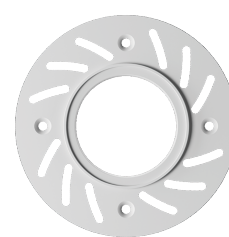
Unpacking: Unpack carefully and inspect contents immediately. Dispose of packaging per local regulations.

Electrical Safety: Disconnect power. Use certified cables with circuit protection. Do not touch internal 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. No liability assumed 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)

Ordering Information

P/N	Short Name	Model	Remarks
60.99.7111.F21	Mini-ToF-S1+	CTL-SEN-Mini/7111.F21	White (Default)
60.9B.7111.F21	Mini-ToF-S1+/B	CTL-SEN-Mini/7111B.F21	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