

## CBU-TED-LR

Bluetooth-controlled trailing edge dimmer.

**Warning!**

Hazardous voltages. Risk of electric shock or fire. Only qualified professionals should make the connections. Disconnect the mains power supply and verify its absence prior to installation.

## PRODUCT DESCRIPTION

CBU-TED-LR is a Bluetooth-controlled, long-range, Casambi-enabled, trailing-edge dimmer for incandescent lamps, dimmable LED lamps and dimmable LED control gear. With Casambi's CBU-TED-LR compatible dimmable load can be easily converted to become a part of a Casambi mesh radio network.

CBU-TED-LR can control up to 100 W at 230 VAC. It features an overcurrent and over temperature protection.

CBU-TED-LR can be controlled with the Casambi App, available for iOS and Android devices, as well as with traditional wall switches. The Casambi App can be downloaded free of charge from the Apple App Store and Google Play Store.

Different Casambi-enabled products can be used from a simple one-luminaire direct control setup to a complete and full-featured lighting control system, in which up to 250 units automatically form an intelligent mesh network.

## TECHNICAL DATA

**Input**

- Voltage: 85–240 VAC
- Frequency: 50 or 60 Hz
- Max. mains current: 0,43 A
- No-load standby power: < 0,3 W

**Output**

- Dimming method: trailing-edge phase control
- Max. output power: 100 W @ 230 VAC
- Max. output current: 0,43 A
- Min. load requirement: 1 W
- Max. load inrush current: 10 A, 100 ms

**Radio transceiver**

- Operating frequencies: 2402...2480 MHz
- Maximum output power: +8 dBm

**Operating conditions**

- Ambient temperature,  $t_a$ : -20 to +45°C
- Max. case temperature,  $t_c$ : +75°C
- Location of  $t_c$  point: bottom side, underneath output connector. The  $t_c$  point is marked on the enclosure.
- Storage temperature: -25...+75°C
- Max. relative humidity: 0...80%, non-condensing

**Connectors**

- Wire range, solid: 0,5–1,5 mm<sup>2</sup>, 16–20 AWG
- Wire strip length: 6–8 mm

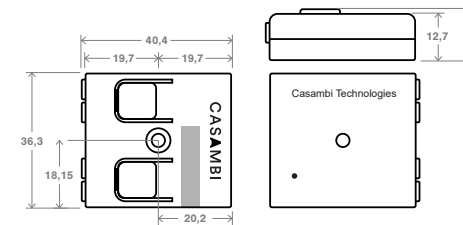
**Mechanical data**

- Dimensions: 40,4 x 36,3 x 14,0 mm
- Weight: 15 g
- Degree of protection: IP20 (indoor use only)

**Certifications**

- CE
- AU/NZ

## DIMENSIONS (IN MM)



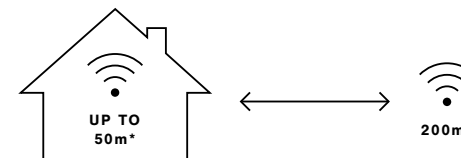
\* $t_c$  point is on bottom side \*

Antenna location

Mounting hole diameter 3,5mm

## RANGE

The communication range in radio technology may ultimately vary depending on the design of the product in which the antenna is housed and on the environment in which it operates. In practice, this means a well-designed product from a radio point of view, with a good line of sight connection between nodes, can achieve radio coverage up to 50 meters indoors, and, in theory, up to 200 meters in the open air. Casambi uses a mesh network technology, whereby each Casambi unit, or Casambi Ready product, also acts as a repeater. Hence, longer ranges can be achieved by using multiple Casambi products within the network.



\*The wireless range of a Casambi unit is dependent on several factors; how it has been integrated into a luminaire, where it has been installed; taking into consideration surrounding obstacles such as walls and other building materials that may block signals.

## CASAMBI MESH-NETWORK COMPATIBILITY

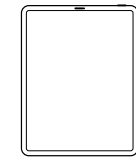
There are different radio modes that can be selected when creating a network in the Casambi App: 'Balanced', 'Better Performance' and now 'Long Range' options. The CBU-TED-LR enables long-range capabilities only when the long-range radio mode has been selected and all the other devices within the network are long-range capable. It will revert to the shorter, standard range when deployed in networks set to 'Balanced' or 'Better Performance' modes.

## COMPATIBLE DEVICES

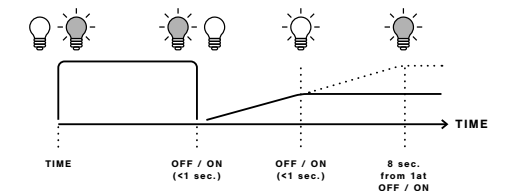


Compatible devices: Android and iOS Operating Systems.

We support the latest OS versions for Android and iOS, and their last two major versions respectively.



## DIMMING WITHOUT APP



1. Turn lights on from a wall switch.
2. Quickly flick the wall switch off (max. 1sec.) and back on. The light level starts to increase gradually.
3. Flick the switch again at the desired dim level. The selected level is saved automatically.
4. If the second flick is not done within 8 seconds, the light intensity reaches its maximum level.
5. Flicking the switch can also be used to switch between predefined scenes.



## TYPE OF LOAD

|                                                                    |                    |
|--------------------------------------------------------------------|--------------------|
| Incandescent and high-voltage halogens                             | 100 W              |
| Dimmable LED bulbs (C) <sup>1)</sup>                               | 100 W              |
| Dimmable CFL bulbs (C) <sup>1)</sup>                               | 100 W              |
| Trailing edge dimmable LED drivers <sup>1)</sup>                   | 100 W              |
| Low voltage halogens with electronic transformers                  | 100 W              |
| High voltage AC LED modules <sup>1)</sup>                          | 100 W              |
| Wire wound transformers, electric motors and other inductive loads | <b>Not allowed</b> |
| Non-dimmable fluorescent lamps, LED and CFL bulbs                  | <b>Not allowed</b> |

## MAX. LOAD



Never connect inductive loads, such as iron core transformers. This could cause permanent damage to the dimmer. Do not mix different types of loads.

<sup>1)</sup> Dimming quality depends solely on the load electronics. Do not mix different types of bulbs or loads. Some luminaires may flicker at low dimming levels.

## WARNING!



- Using CBU-TED-LR with maximum load will make it hot.
- Make sure to place the product in well-ventilated space and away from any flammable material.
- Maximum allowable ambient temperature must be observed.
- Changes or modifications not expressly approved by Casambi Technologies Oy could void the user's authority to operate the equipment.

## INSTALLATION

Make sure that the mains voltage is switched off before making any connections. Use 0,5–1,5 mm<sup>2</sup> solid conductor electrical wires. Strip the wire 6–8 mm from the end. Press the buttons on top of the dimmer case and insert the wires into the corresponding terminals. Make sure to connect the input and output correctly. The input connector is marked with letters L and N, while the output connector is marked with the letter N and a symbol with a wave and an arrow. If you install the dimmer in a heat-sensitive environment (e.g. inside a luminaire or in a ceiling outlet box above a luminaire), make sure that the ambient temperature does not exceed the specified maximum value. Using the dimmer in a heat-sensitive environment may limit the maximum output power.

When the Smart Switching feature is enabled with the Casambi App, the CBU-TED-LR can control the connected luminaire according to the mains switching sequence.



## FIXTURE PROFILES

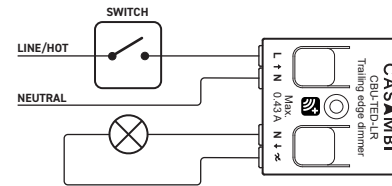
| Profile# | Profile name / in app description | Description                                                                                                                                                          | Wiring |
|----------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 526*     | CBU-TED                           | Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App.                                                       | 1      |
| 11766    | CBU-TED (Linear)                  | Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App.                                                       | 1      |
| 8123     | CBU-TED (Log)                     | Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App.                                                       | 1      |
| 3534     | CBU-TED Presence                  | CBU-TED-LR acting as a presence sensor or Bluetooth enabled switch. The fixture provides presence information to the mesh network when the CBU-TED-LR is powered up. | 2A, 2B |

\* Default profile

## WIRING DIAGRAMS

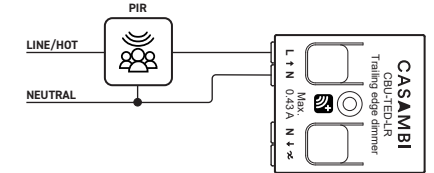
Each CBU product can operate in various roles according to the chosen profile. It is possible to change the profile of an unpaired device using the Casambi App. Above are listed the fixture profile options for the CBU-TED-LR.

1.



Max. load inrush current = 10A, 100ms

2A.



2B.

