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› LLS Casambi CBU-TED-LR | Bluetooth-controlled trailing edge dimmer, white

LLS CBU-TED-LR

LLS Casambi CBU-TED-LR User Manual

Bluetooth-controlled trailing edge dimmer

1. PRODUCT OVERVIEW

The LLS Casambi CBU-TED-LR is a compact, Bluetooth-controlled trailing edge dimmer designed for a variety of dimmable lighting loads, including incandescent lamps, dimmable LED lamps, and dimmable LED control gear. It seamlessly integrates into a Casambi mesh radio network, allowing for advanced control via the Casambi App on iOS and Android devices, as well as traditional wall switches. This dimmer supports up to 100 W at 230 VAC and includes built-in overcurrent and over-temperature protection for safe operation.



This image shows the compact white casing of the CBU-TED-LR dimmer, with connection terminals clearly labeled for Line (L), Neutral (N), and output (dimmed L). The Casambi logo and model name are visible on the top surface.

2. IMPORTANT SAFETY INFORMATION

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.

To ensure safe and proper operation of the CBU-TED-LR dimmer, please observe the following:

- Always disconnect the mains power supply before attempting any installation, wiring, or maintenance. Verify the absence of voltage before proceeding.
- Installation and wiring should only be performed by a qualified electrician or professional.
- Never connect inductive loads, such as iron core transformers, to the dimmer. This could cause permanent damage to the unit.
- Do not mix different types of loads on the same dimmer circuit.
- Some luminaires may flicker at low dimming levels; this is often dependent on the load electronics.

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 mm², 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

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TYPE OF LOAD

MAX. LOAD

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



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

¹⁾ 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 mm² 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.

wattage (100W for most compatible types). Crucially, it warns against connecting inductive loads like iron core transformers and mixing different types of loads, as this can cause permanent damage or flickering.

3. SETUP AND INSTALLATION

Before beginning installation, ensure the mains voltage is switched off. 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 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.

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. Below are listed the fixture profile options for the CBU-TED-LR and their corresponding wiring diagrams.

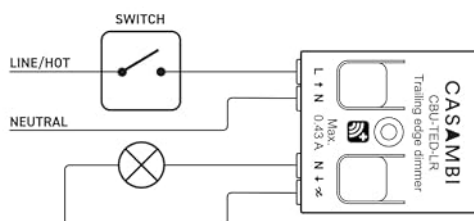
FIXTURE PROFILES

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

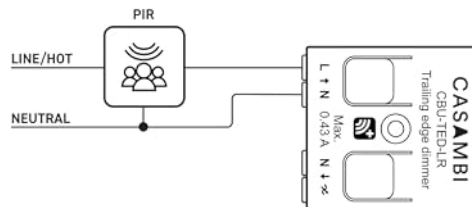
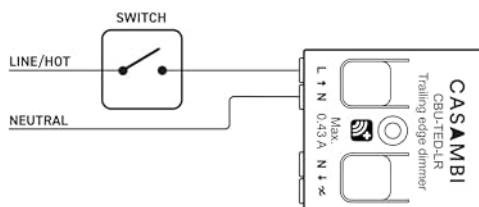
* Default profile

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.**www.casambi.comInformation in this document is subject to change.
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This image provides a table of fixture profiles, outlining how the CBU-TED-LR can be configured within the Casambi App for different dimming behaviors or even as a presence sensor. Below the table, detailed wiring diagrams illustrate connections for a standard switch (Diagram 1) and for a PIR sensor or Bluetooth-enabled switch (Diagrams 2A and 2B), showing connections for Line/Hot, Neutral, and the

Fixture Profiles

Profile #	Profile name / in app 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 (Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App.) (Linear)	1
8123	CBU-TED (Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App.) (Log)	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

4. OPERATING INSTRUCTIONS

Dimming Without App

The CBU-TED-LR can be controlled using a traditional wall switch, even without the Casambi App. Follow these steps for dimming:

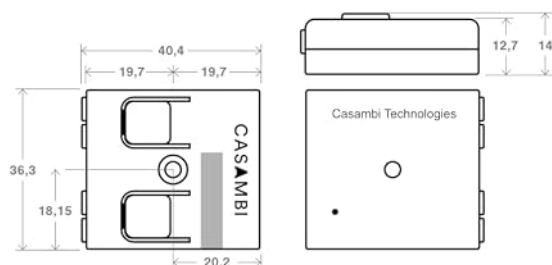
1. Turn lights on from a wall switch.
2. Quickly flick the wall switch off (maximum 1 second) and back on. The light level will start to increase gradually.
3. Flick the switch again at the desired dim level. The selected level is saved automatically.
4. If the second flick is not done within 8 seconds,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

Casambi App Control and Mesh Network

The CBU-TED-LR is fully compatible with the Casambi App, available for iOS and Android devices. We support the latest OS versions for Android and iOS, and their last two major versions respectively. The Casambi App allows for comprehensive control and configuration of the dimmer.

The CBU-TED-LR operates within a Casambi mesh radio network. Different radio modes can be selected when creating a network in the Casambi App: 'Balanced', 'Better Performance', and 'Long Range'. The 'Long Range' option enables extended range capabilities, provided all other devices within the network are also long-range capable. Casambi's mesh network technology means each Casambi unit acts as a repeater, extending the overall communication range.

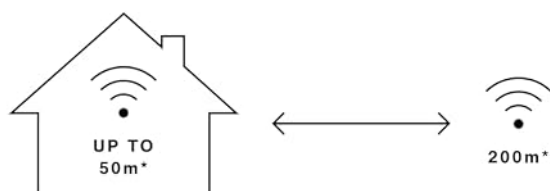
The communication range may vary depending on the product's antenna design and the operating environment. In practice, a well-designed product with good line of sight can achieve radio coverage up to 50 meters indoors and up to 200 meters in open air.

DIMENSIONS (IN MM)*t_c point is on bottom side *

Mounting hole diameter 3,5mm

 Antenna location**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.

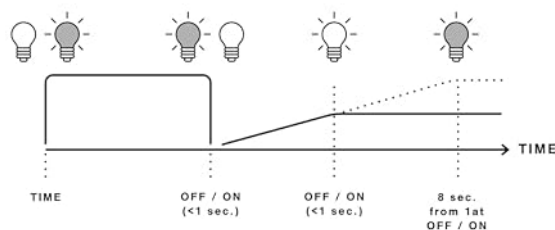
We support the latest OS versions for Android and iOS, and their last two major versions respectively.



Tablets



Smartphone

**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.

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This image provides a dimensional drawing of the CBU-TED-LR, information on Casambi mesh network modes including 'Long Range', details on compatible Android and iOS devices, and an explanation of the wireless communication range. It also illustrates the five-step process for dimming lights using a traditional wall switch without the Casambi app.

5. TECHNICAL SPECIFICATIONS

Category	Specification
Input	
Voltage	95-240 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	-20 to +45°C
Max. case temperature	+75°C
Storage temperature	-25...+75°C
Max. relative humidity	0...80%, non-condensing
Connectors	
Wire range, solid	0.5-1.5 mm ²
Wire range, stranded	16-20 AWG
Wire strip length	6-8 mm
Mechanical Data	
Product Dimensions (L x W x H)	1.59 x 1.42 x 0.55 inches (40.4 x 36.3 x 14.0 mm)
Weight	15 g
Degree of protection	IP20 (indoor use only)
Certifications	CE, AU/NZ

Category	Specification
Compatible Devices	Android and iOS Operating Systems
Item Model Number	CBU-TED-LR
Manufacturer	CASAMBI
Country of Origin	USA

6. TROUBLESHOOTING

If you encounter issues with your CBU-TED-LR dimmer, consider the following common points:

- **No light or flickering:** Ensure the mains power supply is connected correctly and the load type is compatible. Refer to the 'Type of Load / Max. Load' table in Section 2. Inductive loads (e.g., iron core transformers) are not allowed and can damage the dimmer.
- **Dimming issues:** Dimming quality can depend on the load electronics. Avoid mixing different types of bulbs or loads on the same dimmer circuit. Some luminaires may flicker at low dimming levels.
- **Connectivity problems:** Ensure your Casambi App is updated to the latest version. Check the communication range; physical obstructions can affect signal strength. Remember that Casambi units act as repeaters, so adding more units can extend the network range.
- **Dimmer not responding:** Verify that the dimmer is powered. If using wall switch control, ensure the flicking sequence is performed within the specified timeframes (e.g., 1 second for the first flick, 8 seconds for the second).

For persistent issues, consult the Casambi App for diagnostic tools or visit the official Casambi website for further support.

7. MAINTENANCE

The LLS Casambi CBU-TED-LR dimmer is designed for long-term, maintenance-free operation. To ensure optimal performance and longevity:

- Keep the device clean and free from dust. Use a soft, dry cloth for cleaning. Do not use liquid cleaners or aerosols.
- Ensure the operating environment adheres to the specified temperature and humidity ranges to prevent damage.
- There are no user-serviceable parts inside the dimmer. Do not attempt to open or repair the unit, as this will void the warranty and poses a risk of electric shock.

8. SUPPORT INFORMATION

For additional support, technical documentation, or to download the Casambi App, please visit the official Casambi website:

www.casambi.com

For product-specific inquiries related to your LLS Casambi CBU-TED-LR dimmer, please contact your retailer or the manufacturer, LLS.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question