

Project: _____

Reference type: _____

Item code: _____

Date: _____

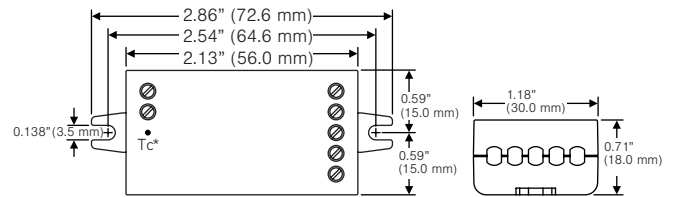
Notes: _____

CBU-ASR

Bluetooth controllable 2ch 0-10V controller

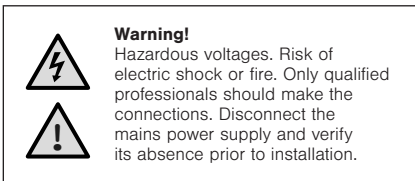


Dimensions



*Tc point is on bottom side

Dominant dimensions given in mm.



Description

CBU-ASR is a Bluetooth controllable, Casambi enabled two channel 0-10V controller for dimmable LED loads and luminaires. It is powered by an external 12-24 VDC Class 2 power supply.

CBU-ASR can control two channels making it an ideal partner for tunable white (TW) applications. The two channels can be configured also to operate individually. The device also has a control port for an external relay and a sensor input.

CBU-ASR is an ideal partner for power packs with line voltage relays. It is protected against overvoltage, overcurrent and short circuit situations.

CBU-ASR together with other Casambi enabled products can be used from a simple one luminaire direct control to a complete and full featured light control system where up to 250 units form automatically an intelligent mesh network. Casambi supports nearly unlimited number of mesh networks in an installation site.

Casambi system can be controlled with Casambi app which can be downloaded free of charge from Apple App Store and Google Play Store. Other controlling methods are, for example, timers, Casambi enable sensors, such as PIR/occupancy and lux sensors, as well as Casambi Xpress and EnOcean switches.

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Technical data

Input

Voltage range: 12-24 VDC, Class 2

No-load input current: 30 mA

0-10V output (both channels)

Output voltage: 0-10 VDC, adjustable

Max. output current per channel: 5 mA, sinking and sourcing

Relay control output

Output voltage: 12-24 VDC, same as input

Max. output current: 100 mA

Sensor input

Input voltage: Max. 24 VDC

Input resistance: >80 kΩ

Radio transceiver

Operating frequencies: 2401-2483 MHz

Maximum output power: typ. +0 dBm, +/-3dBm

Operating conditions

Ambient temperature, ta: 13...+113°F (-25...+45°C)

Max. case temperature, tc: +167°F (+75°C)

Storage temperature: -13...+167°F (-25...+75°C)

Max. relative humidity: 0...80%, non-cond.

Connectors

Wire range, solid & stranded: 14 - 22 AWG

0.5 - 1.5 mm²

Wire strip length: .25" (6 - 7 mm)

Tightening force: 0.4 Nm / 2.6 Lb-in

Mechanical data

Dimensions: 2.2 x 1.2 x 0.7 inch

72.6 x 30.0 x 18.0 mm

Weight: 0.8 oz (23 g)

FCC ID: 2ALA3-CBUASR

IC: 22496-CBUASR

UL: UL Listed

UL Plenum Rated (UL 2043)

Range

The range between two CBU-ASR units or between a CBU-ASR and a smart phone can vary a lot depending on obstacles and surrounding material. In open-air the range between two CBU-ASRs is 200 ft, but surroundings may affect the range, so testing is highly recommended.

Casambi uses mesh network technology so each CBU-ASR acts also as a repeater. When testing the network, it is important to test that each unit can be controlled from any point of the network covered area.

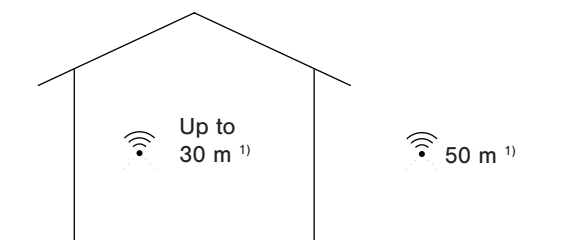
Compatible devices:

iPhone 4S or later

iPad 3 or later

iPod Touch 5th gen or later

Android 4.4 or later devices produced after 2013 with full BT 4.0 support



Casambi uses mesh network technology so each CBU-ASR acts also as a repeater. Longer ranges can be achieved by using multiple Casambi units.

1) Range is highly dependant on the surrounding and obstacles, such as walls and building materials.

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Installation

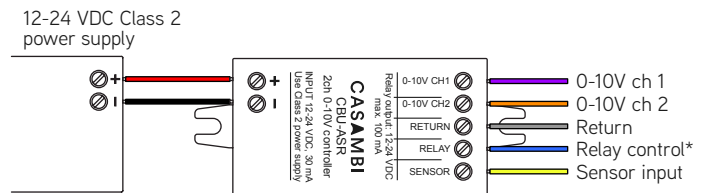
CBU-ASR is a UL Listed Open-Type device which means that it will have to be used together with a Class 2 power supply with maximum output power of 100 VA. The product can be installed outside of a junction box. Make sure to comply with National Electric Code in installation and when selecting installation wires.

The products has one return line which is shared between the two 0-10V outputs, relay control output and sensor input.

The two 0-10V outputs can be configured for differet functions, such as 2 channel tunable white, or 1-2 jointly and individually dimmable channels. The standard configuration when delivered is 2 channel dimming, but the configuration can be changed by the end user from Casambi App.

Do not connect a typical PCB relay to the Relay output. The connected relay must have a flyback diode in place to protect the CBU-ASR against over-voltage spikes.

Wiring diagram

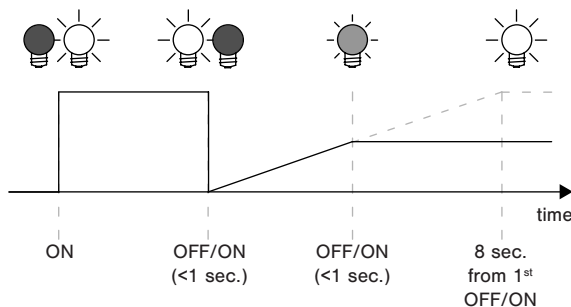


* The relay must be protected against inductive over voltage spikes, i.e. it must have a flyback diode. Do not connect a typical PCB relay without the diode.

Warning

Changes or modifications not expressly approved by Casambi Technologies Oy could void the user's authority to operate the equipment.

Dimming without app



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

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Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Radiation Exposure Statement for FCC

This device complies with FCC radiation exposure limits for an uncontrolled environment. This device shall be installed and operated with a minimum distance of 0.8" (2cm) between users or bystanders and the device.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement for Canada

This device complies with Industry Canada's licence-exempt RSSs.

Operation is subject to the following two conditions:

- (1) This device may not cause interference
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment is exempt from the routine RF exposure evaluation requirements of RSS-102. This equipment should be installed and operated with a minimum distance of 20 cm between the antenna and the user or bystanders.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Ce matériel n'est pas sujet à l'évaluation habituelle d'exposition RF selon RSS102. Ce matériel devrait être installé et exploité en gardant une distance minimale de 20 cm entre l'antenne et l'utilisateur ou les spectateurs.

NOTES