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Casambi Knowledge Base

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Specification Library

Project: \_\_\_\_\_

Reference Type: \_\_\_\_\_

Item Code: \_\_\_\_\_

Date: \_\_\_\_\_

Notes: \_\_\_\_\_

# Scene10cas

## USA & Canada

### Casambi Scene Controller/Selector

DMX Engineering LLC  
http://dmx.engineering



0-10VDC Casambi Scene Selector  
with Casambi CBM003 Long Range Radio

#### Product Description

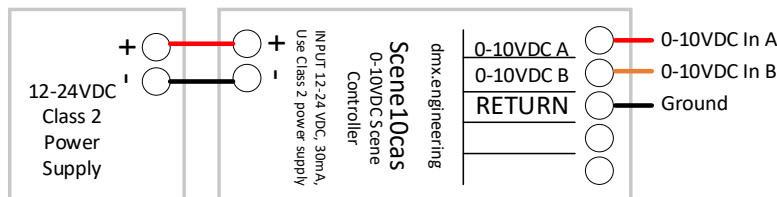
Scene10cas is a Casambi "Gateway" device designed to utilize a connection to a standard 0-10VDC analog dimming master controller to provide remote selection of pre-defined Casambi Scenes and Scene Intensity. Scene10cas is connected between a 12-24 VDC Class 2 power supply and a two-channel 0-10VDC master.

Scene10cas decodes both 0-10VDC channels, and provides Scene selections by mapping the first 0-10V channel into voltage segments, which are then selected depending on the voltage level. The second 0-10VDC channel provides 0-100% intensity selection for the selected Casambi Scene.

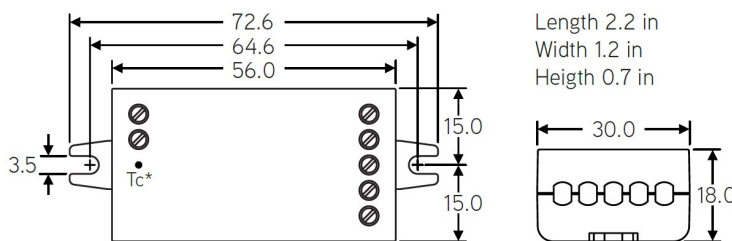
Voltage trim and hysteresis values are also provided to implement installations where the 0-10VDC levels may not be full range, or are noisy due to installation factors.

Scene10cas can be configured with the Casambi app which can be downloaded free of charge from Apple App Store and Google Play Store. Different Casambi enabled products can be used from a simple single luminaire direct control to a complete and full featured light control system where many units automatically form an intelligent mesh network.

#### Typical Connection Diagram



#### Mechanical Data



Dimensions are in mm.

\* Tc point is on bottom side

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)

#### Certifications

FCC ID: 2ALA3-CBM002A  
IC: 22496-CBM002A



Conforms to UL STD 916  
Certified to CSA STD C22.2#205

DMX Engineering LLC  
9221 E. Baseline Road, Suite 109-492  
Mesa, AZ 85209



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

#### Technical Data

##### Input

Voltage range: 12-24 VDC, Class 2  
No-load input current: 30 mA

##### 0-10VDC Input (A and B) Configuration

2-wire analog 0-10VDC, two channels  
1mA source current, input must sink for control  
Top and bottom "trim" and hysteresis user programmable Casambi Vendor Parameters

##### Scene Control/Selection

Number of Scenes—determines the voltage window range for each Scene. For example, if 4 Scenes are desired, this sets the voltage window to 2.5V (10V/4 = 2.5V) per Scene  
Channel 1—Scene selection  
Channel 2—Intensity level

##### Radio transceiver

Casambi CBM003B Radio Module  
Operating frequencies: 2.401-2.483 Ghz  
Maximum output power: typ. +8 dBm  
-103 dBm RX sensitivity in long-range mode

##### 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: 0.5 - 1.5 mm²  
14 - 22 AWG

**\*\*RATED FOR INDOOR USE ONLY\*\***

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### Installation

Connect a Class 2 power supply with 12-24 VDC output voltage to the input connector of Scene10cas. Make sure not to use a constant current LED driver and make sure that the cable polarity is correct. The product has two 0-10VDC analog positive input connections, plus one common (RETURN) ground. Connect the 0-10VDC load wires to a 0-10VDC master of your choice to give you 0-10VDC control of your Casambi Scene lighting network. Add Scenes to the Casambi network, the Scene10cas will allow up to 10 Scenes to be selected.

Using the Casambi app, go to Gateways, and press on the Scene10cas device, and add it to your Casambi network. Now press on the Scene10cas icon, and scroll to the bottom of that screen. Note at the bottom of this screen there are 16 user programmable parameters—Number of Scenes, High and Low Trim, and Hysteresis for each channel, plus 10 Scene selectors. First choose how many Scenes you are wanting to control, and not that this now divides the 10V span into “voltage segments” which now depending on the input voltage to channel A, will now select Scenes. The Trim fine tune the bottom and top analog voltage input, and hysteresis allows for managing inputs that may be noisy. Then select up to 10 Scenes from your pre-defined Scenes in your Casambi network.

Scene10cas should not be placed in a metal enclosure, such as metal junction boxes. Metal will attenuate radio signals which are crucial to the operation of the product. If the product will have to be installed into a junction box, make sure to use a plastic junction box. Scene10cas is an ETL 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 100VA. The product can be installed outside of junction box. Make sure to comply with National Electric Code in installation and when selecting installation wires.

### Range

The range between two Scene10cas's or between a Scene10cas and a smart phone can vary depending on obstacles and surrounding material. In open air the range between two Scene10cas can be in excess of 200 ft, but if the unit is encapsulated into a metal structure, the range can be only few feet. Therefore, thorough testing is highly suggested. Casambi uses mesh network technology so each Scene10cas 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.

### 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.

### Warning

Changes or modifications not expressly approved by DMX Engineering and Design LLC could void the user's authority to operate the equipment.

### 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.

Information in this document is subject to change.  
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Scene10cas User Guide v2.02 USA and Canada



**WARNING:**  
Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

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