

DMX Engineering LLC  
<http://dmx.engineering>



## Casambi CBM003 Multi-Channel DMX Master with Long Range Radio

### Product Description

casDMX is a Bluetooth controllable, Casambi enabled, 12 channel DMX-512 master dimmer that generates a single DMX Universe. The casDMX connects DMX enabled lighting devices and fixtures to a Casambi network to gain full color control. The casDMX is connected between a 12-24 VDC Class 2 power supply and provides a non-isolated DMX-512 universe.

casDMX can control luminaires using Casambi color widgets, and up to 12 DMX channels utilizing Casambi sliders in Evolution mode. The casDMX is an ideal DMX controller for RGBW and tunable white (TW) applications since a user choice of multiple Casambi Profiles allow for selection of four, eight and 12 slider channels and standard Casambi 4-channel color controls.

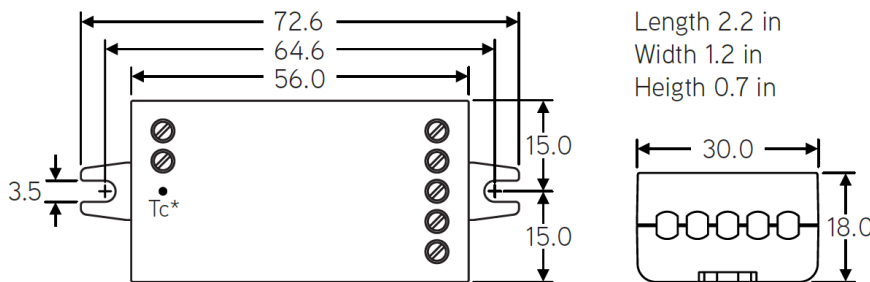
casDMX can be controlled with Casambi app which can be downloaded free of charge from the Apple App Store and Google Play Store.

Different Casambi enabled products can be used from a simple one luminaire direct control to a complete and full featured light control system where up to 250 units form automatically an intelligent Casambi 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)

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### Certifications

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



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

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



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

#### Casambi Channels

4-channel: standard Casambi color functions  
 8-channel: standard Casambi slider function  
 12-channel: sliders available in Evolution mode

#### Input

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

#### DMX-512 Output

3-wire non-isolated DMX-512

#### 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.

#### Screw Terminal Connectors

Wire range, solid & stranded: 0.5 - 1.5 mm²  
 14 - 22 AWG  
 Wire strip length: .25" (6 - 7 mm)  
 Tightening force: 0.4 Nm / 2.6 Lb-in

## Installation

Connect a Class 2 power supply with 12-24 VDC output voltage to the input connector of casDMX. Make sure to **not** use a constant current LED driver and make sure that the cable polarity is correct.

The product has one DMX universe, with a DMX+ and DMX- connections, plus a ground. Connect the DMX load wires accordingly, ground must be used!

casDMX can be configured having different types of Casambi controlled channels, such as 4 channel RGBW (color picker), 4 individual channels, and 8 individual channels and 12 individual channels in Evolution mode. DMX addresses start address 1, and are sequential. These configurations can be made by the end user from Casambi App using Profiles. As default, casDMX is delivered with RGBW configuration.

casDMX 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.

casDMX 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 100 VA. 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 casDMXs or between a casDMX and a smart phone can vary depending on obstacles and surrounding material. In open air the range between two casDMXs 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 casDMX acts also as a node repeater. When testing the network, it is important to test that each unit can be controlled from any point of the network coverage 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.

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



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