

casPower

USA & Canada

DMX Engineering LLC

<http://dmx.engineering>



Casambi 2-Wire DC Power Controller with Programmable Dry Contact I/Os

Product Description

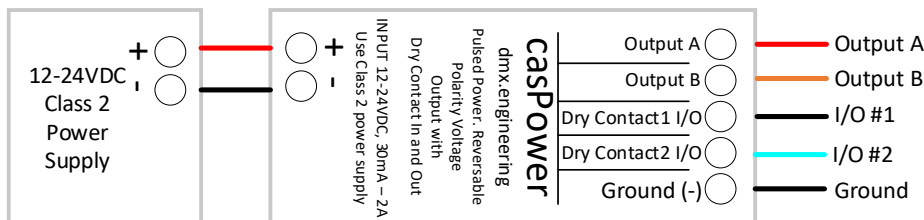
casPower is a Casambi Bluetooth controllable H-bridge power controller for 12-24 VDC Class 2 systems. It drives a two-wire DC load from Output A and Output B and can provide forward, reverse, maintained, momentary, or PWM operation without a separate power driver.

Two universal dry-contact I/O terminals are provided. Each terminal can operate as a dry input to Ground (-) or as a low-side electronic output, according to the selected Casambi profile. Never apply external voltage to either I/O terminal. Output mode is limited to 25 mA and is intended only for a compatible contact-sense input.

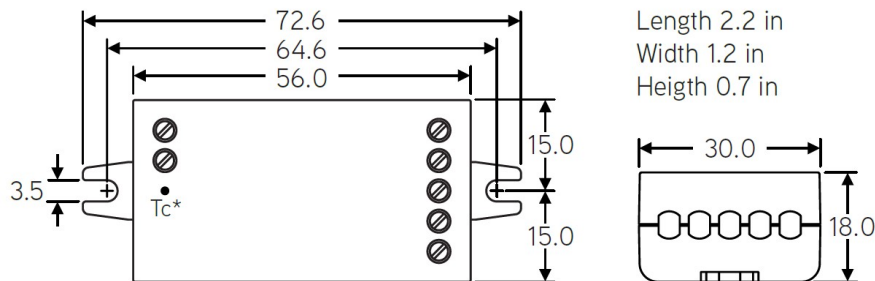
casPower connects directly to relays, solenoids, small DC motors, and reversible actuators within the product ratings. Multiple devices can share a Casambi mesh network for coordinated power and switch control.

Configure casPower with the free Casambi app for iOS or Android. Profile availability determines which H-bridge and dry-I/O elements appear in the app.

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: X8WBT40F

TELECC: 201-210217/01

Conforms to UL STD 916

Certified to CSA STD C22.2#205



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



Technical Data

DC Voltage Input

Voltage range: 12-24 VDC, Class 2

No-load input current: 30 mA typical

Application current: 2 A maximum, load dependent

H-Bridge Power Output

Output A and Output B are the two-wire load connection; do not connect either output to Ground. Reversible polarity, maintained, momentary, and PWM modes are firmware configurable. Output voltage is approximately the applied DC supply, subject to driver loss and PWM setting.

Universal Dry Contact I/O 1 and I/O 2

Both terminals are dry/contact-sense interfaces only. Never apply an external voltage. Input role: connect a dry switch, relay contact, or open-drain collector between the selected I/O and Ground (-). Input Action supports Normal, Inverted, and Gang 1-10. Input Mode supports On/Off, Toggle, Hold Dim, and Double-Tap Dim choices. Output role: connect only to a compatible contact-sense input referenced to Ground (-). Maximum interface current is 25 mA. Output Polarity can be Normal or Inverted. I/O 1 reports source channel 0; I/O 2 reports source channel 1. The Casambi profile determines which roles and channels are exposed.

Radio transceiver

Fanstel BT840 radio module

Operating frequencies: 2.401-2.483 GHz

Maximum output power: typ. +3.4 dBm

-103 dBm RX sensitivity in long-range mode

Operating conditions

Ambient: -13...+113 F (-25...+45 C)

Maximum case: +167 F (+75 C)

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

Relative humidity: 0...80%, non-condensing

Connectors

Wire range, solid/stranded: 0.5-1.5 mm²

14-22 AWG; strip .25 in (6-7 mm); torque 0.4 N-m

Tightening torque: 0.4 N-m / 2.6 lb-in

Installation

Use a polarity-correct 12-24 VDC Class 2 supply, up to 2 A. Do not use a constant-current LED driver. With power off, connect the load only between Output A and Output B, then test direction with the load mechanically safe.

Dry Contact 1 I/O and Dry Contact 2 I/O are universal. A Casambi profile assigns each as an input or output. Firmware 1.00 supports both; the current casPower - 1Out profile (ID 49484, CB01) exposes one dry output. Input and simultaneous two-I/O profiles are pending.

Input role: connect only a dry contact between the selected I/O and Ground (-); never apply voltage. Map its PushButton in the app. Input Action is Normal, Inverted, or Gang 1-10. Input Mode is On/Off, Toggle, Hold Dim, or Double-Tap Dim. I/O 1 is channel 0; I/O 2 is channel 1.

Output role: connect only a compatible contact-sense input to the selected I/O and Ground (-), 25 mA maximum. Normal closes when ON; Inverted opens when ON. Never switch line voltage or a powered load.

Select the approved profile, add and name casPower, map every exposed element, then test and record each H-bridge and I/O function.

Range

The range between two casPower's or between a casPower and a smart phone can vary depending on obstacles and surrounding material. In open air the range between two casPower 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 high suggested. Casambi uses mesh network technology so each casPower 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.

casPower 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. casPower 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.

Compliance Statement

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

This device may not cause harmful interference, and

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 subject to change.

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casPower User Guide v1.05 USA/Canada



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