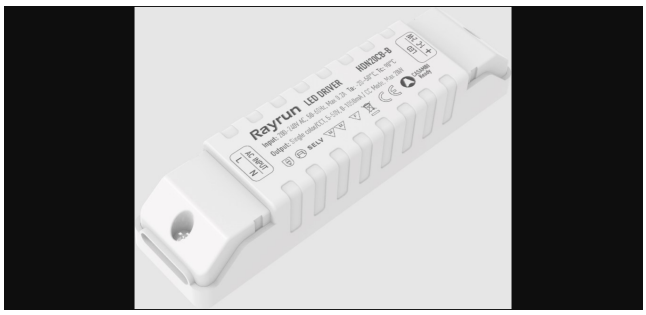

# Rayrun CASAMBI Programmable Constant Current LED Driver Instruction Manual



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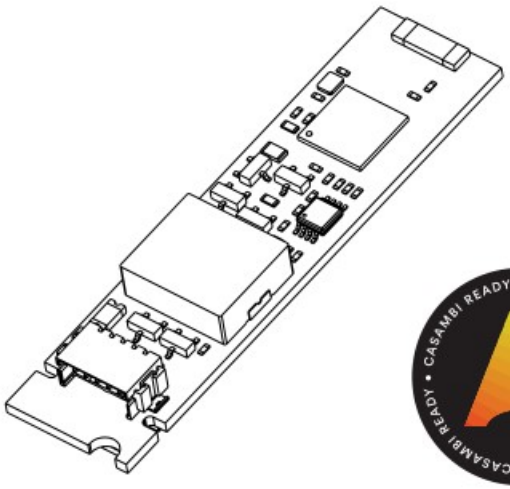
CASAMBI

Rayrun

## Programmable Constant Current LED Driver

TDC25CB(-B/-E)



Contents



## Feature

- Output current set from App
- 100% non-flicker DC dimming
- Premium low brightness performance
- Current trim fine tuning
- Fading time adjustable
- Dimming curve adjustable
- Single color / CCT in one model
- Cool / Warm swappable

## Introduction

This product is a 24V/48V DC powered 25W programmable constant current LED driver. Model TDC25CB-E is for single color and TDC25CB-B can be used for CCT or single color. It is Casambi ready and all features are programmable.

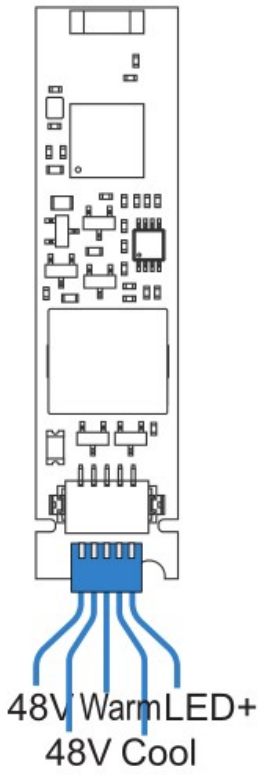
The output channel, rated current, fading time and trim level features are all adjustable from the Casambi app. These features allow customer to apply in various application with multiple options.

With full DC dimming scheme, it’s 100% physically flicker free in whole dimming range. It also has very good low brightness performance, to build elegant low brightness environment and on/off dimming experience.

## Setting output current and channel

The rated output current of TDC25CB is from 100mA to 700mA, it can be set from the Casambi app. To set the current and output mode, please make sure the driver is unpaired and powered on. On the Casambi app, click on the driver icon and select ‘Change profile’ option on the pop up manual (Fig.1). The rated current and working mode can be selected in the list (Fig.2).

The TDC25CB-B model can be configured as CCT or single color model, once be configured as single color model, user can connect lighting fixture to both warm white and cool white channel.




Connector Wiring

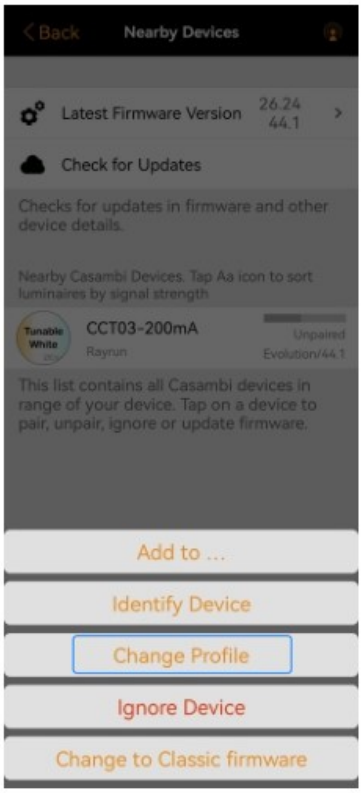



Fig.1

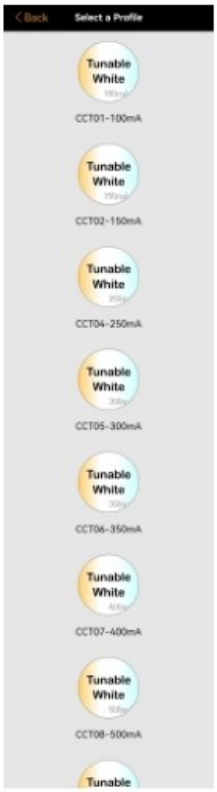



Fig.2

The max output voltage varies with the rated output current. The following table lists the max output voltage and power with different current setting.

| Rated current | 100mA | 200mA | 250mA | 300mA | 350mA | 400mA | 500mA | 600mA | 700mA |
|---|---|---|---|---|---|---|---|---|---|
| Vout-max @24V | 22V | 22V | 22V | 22V | 22V | 22V | 22V | 22V | 22V |
| Max power @24V | 2.2W | 4.4W | 5.5W | 6.6W | 7.7W | 8.8W | 11W | 13.2W | 15.4W |
| Vout-max @48V | 46V | 46V | 46V | 46V | 46V | 46V | 46V | 41.7V | 35.7V |
| Max power @48V | 4.6W | 9.2W | 11.5W | 13.8W | 16.1W | 18.4W | 23W | 25W | 25W |

**Automatic LED adaption**

This driver verifies the load character on each power on. It will run a load adaption process once the change of load is detected. During the adaption process, the lighting fixture will dim up and down for about 10 seconds. After this process, the driver will match the LED feature and achieve 0-100% full range physical nonflickering DC dimming. Normally this adaption process happens on the power on moment once the lighting fixture is changed with the brightness over 30%.

For TDC25CB-B, the warm white and cool white must have same voltage and current feature for proper adaption and working. If two channels' voltage and current does not match, the CCT adaption will fail and the driver will only work in single color mode with limited function.

CAUTION: The factory default current is set to 200mA. Please do not set the LED current higher than luminare's rated value, otherwise the luminare can be damaged permanently.

## Advanced feature – Current trimming

To fine tune the LED driving current, please pair the driver first and double click on the driver icon to open the setting page. On the setting page please click on the ‘Current trim’ item in the PARAMETERS section (Fig.3). The output current can be trimmed from 100% to 50% of the rated current at 5% step (Fig.4).

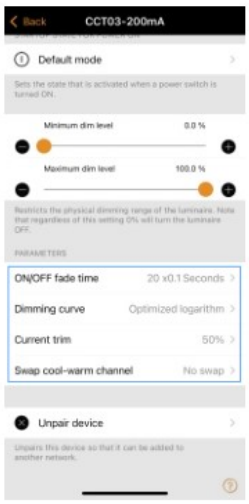



Fig.3


Fig.4

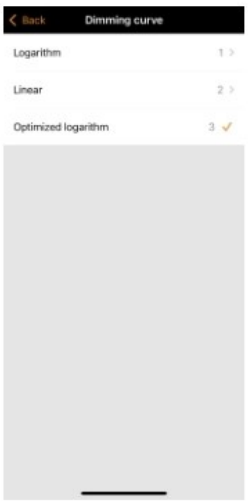



Fig.5

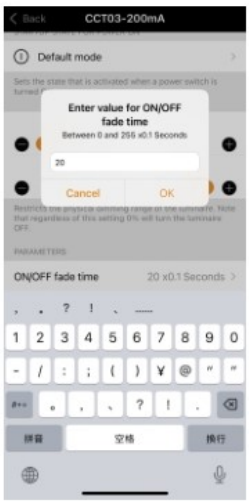



Fig.6

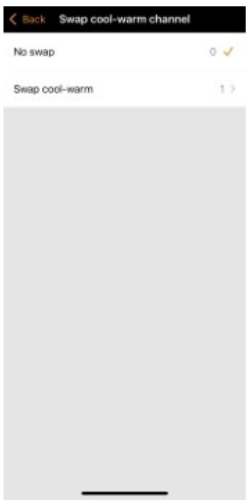



Fig.7

## Advanced feature – Change dimming curve

The dimming curve defines the trend of light output strength versus brightness level (0-100%) showing on the app. Please pair the driver first and open the setting page on the app, from the PARAMETERS section, the Dimming curve can be changed from Logarithm, Linear and Optimized logarithm (Fig.5).

The Linear curve will result in even light output power versus the brightness level set on app, but for human eye sensing, the light output change is relatively small at high brightness level.

The Logarithm curve will result in strong brightness change at high brightness level and this will make the brightness adjustment more visible and logical for human eye.

The Optimized logarithm curve is between linear and logarithm, results in an balanced brightness adjustment effect.

## Advanced feature – ON/OFF fade time adjust

The on/off fade time can be adjusted on the setting page. Please pair the driver first and open the setting page on the app, from the PARAMETERS section, the ON/OFF fade time can be adjusted from 0-25.5 seconds. User can adjust it by entering value between 0-255 with the step of 0.1 seconds (Fig.6).

## Advanced feature – Swap cool-warm channel

For tunable white application, it’s possible to switch cool / warm white channel from the app after luminaire installation in case of wrong wiring. User can swap the channel from the PARAMETERS section and change the setting between `No swap’ and `Swap cool-warm’ (Fig.7).

## Specification

| Model | TDC25CB-B | TDC25CB-E |
|---|---|---|
| Function | 2-in-1 (CCT/Single Color) | Single Color |
| Rated max power | 25W | |
| Input power | DC 24/48V | |
| Efficiency | >85% at full load | |
| Output voltage | 0-22V @ 24V, 0-46V @ 48V | |
| Rated output current | 100, 150, 200, 250, 300, 350, 400, 500, 600, 700 | |
| Fade time | 0-25.5 seconds adjustable | |
| Output current trim | 100% to 50% with 5% step | |
| Dimming method | Full DC dimming | |
| Standby power consumption | <0.5W | |
| Working temperature | -20~50°C | |
| Case temperature | Max 90°C | |
| Dimension (WHL) | 13.5 x 7 x 54.4mm | |

## Documents / Resources

| | |
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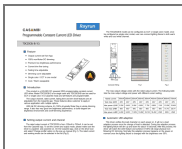
|  | Rayrun CASAMBI Programmable Constant Current LED Driver [pdf] Instruction Manual<br>TDC25CB-B, TDC25CB-E, CASAMBI Programmable Constant Current LED Driver, CASAMBI, Programmable Constant Current LED Driver, Constant Current LED Driver, Current LED Driver, LED Driver |

## References

- User Manual