Rayrun

CASAMBI
LED Controller

Model: XB50

5-in-1 Multi-function Model
Advanced Parameters
Full Protection
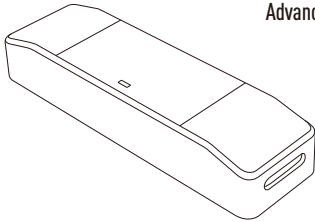
|		
Smart + Remote	User Parameters	Full Protection
Push Terminal	8-50 Volt	Multi-Function

■ Introduction

This LED controller is designed to drive single color to RGB+CCT constant voltage LED products in voltage range of DC 8-50V . With powerful functions of Casambi platform, it also has advanced user parameters to fine tune the application. It has full protection function to ensure the safety, and with push cable connectors, the installation will be simple and reliable.

■ Function & Size

134mm
112mm
39mm
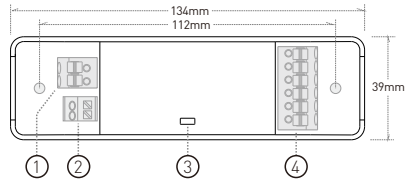
1. Power supply input

Connect to power supply. The controller can accept supply voltage from DC 8V to 50V, the maximum cable gauge is AWG12 or 2.5mm^2. The controller's output voltage is at same level as the power input voltage, please make sure the power supply voltage is correct and the power is capable for the load wattage. The power input '+' unit is directly connected to the output terminal '+' unit inside the controller.

2. Press key input

Connect to a normally open type press key switch if local operation is needed. Three operation method is available for the press key:

Single press: Turn on/off.
Double click: Change color or color temperature.
Hold press: Dimming.

3. Working status indicator

This indicator shows all working status of the controller. It displays different events as following:
Steady green: Normal working.
Short green blink: Command received.
Green blink for 3 times: Confirmation or identification.
Single yellow flash : Edge of the adjustment.
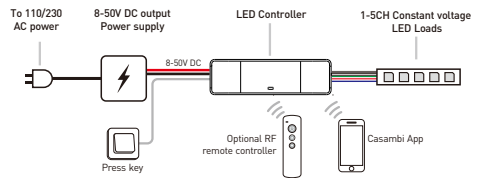**Red flash**: Overload protection.
Yellow flash: Overheat protection.
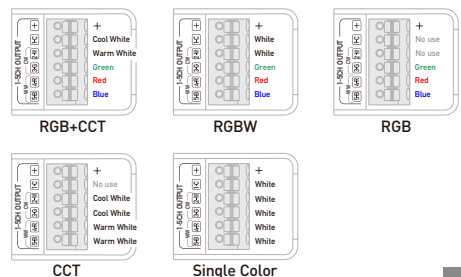
4. LED output

Connect to LED loads. The LED loads must be constant voltage driving type and with common anode connection for multi-channel models. Please make sure the LED rated voltage is same as the power supply and each channel's maximum load current is in range of the controller's rated current.

■ Wiring

Please connect the controller output to LED loads and power supply to the controller power input. The power supply voltage must be same as the LED load's rated voltage. Check all cables to be well connected and insulated before power on.

To 110/230 AC power   8-50V DC output Power supply   LED Controller   1-5CH Constant voltage LED Loads

8-50V DC

Press key   Optional RF remote controller   Casambi App

This model supports 1-5 channel application from single color to RGB+CCT, please refer to following diagram for multiple application output wiring.

RGB+CCT

+	
	Cool White
	Warm White
	Green
	Red
	Blue

RGBW

+	
	White
	White
	Green
	Red
	Blue

RGB

+	
	No use
	No use
	Green
	Red
	Blue

CCT

+	
	No use
	Cool White
	Cool White
	Warm White
	Warm White

Single Color

+	
	White
	White
	White
	White
	White

■ Operation

5. Control by smartphone

Please install CASAMBI app on your smart phone first. It requires iOS10.0, Android 4.4 or macOS11.0 or later system to support the app. All functions of the controller is integrated with the CASAMBI app, please find the guidance on the app for operation.

6. Pair the optional RF remtoe

Besides smart phone and press key control, user can also use the RM05 RF remote controller to turn on/off and change color or brightness. The remote controller needs to be paired to controller before using. Please refer to remote controller's manual for detailed operation.

■ Advanced features

7. Change model function

The working mode can be changed from 1 channel (single color) to 5 channels (RGB+CCT) from the Casambi app.

To change the model, Please make sure the controller is not paired and then select the '**Change profile**' function on the app to select desired model.

8. Change user parameters

The press key, RF remote, gradient time and PWM frequency is adjustable from the user parameter setting. Please go to the setting menu on Casambi app to set up the parameters.

CAUTION!

The PWM frequency option is for solving flicker or audible noise issues for some application. To ensure more stable working, please do not set to high frequency if no noise or flicker issues occurred.

The controller's efficiency will drop versus increased frequency and the output current need to be derated maximum 50% with frequency higher than 4KHz.

9. Protection feature

The controller has full protection function against wrong wiring, load short circuit, overload and overheat. The controller will stop working and the indicator will flash with red / yellow color to indicate the malfunction. The controller will try to recover from protection status in a short time when the working condition is good.

For protection issues, please check the situation with different indicator information:

Red flash: Check the output cables and load, make sure no short circuit and the load current is in rated range. Also the load must be constant voltage type.
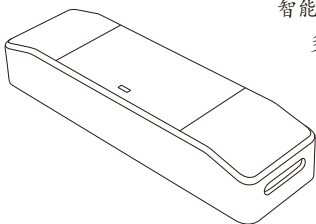
Yellow flash: Check the installation environment, make sure in a rated temperature range and with good ventilation or heat dissipation condition.

■ Specification

Function	Single color, CCT, RGB, RGBW, RGB+CCT
Working voltage	DC 8-50V
Rated output current at 1KHz PWM freq.	Max 8A for each channel, total max 24A * output current need to be derated up to 50% when PWM frequency is higher than 4Khz.
Smartphone connection	Bluetooth mesh
Press key function	Yes
RF remote fucntion	Yes
RF remote frequency	433.92MHz
Output mode	PWM constant voltage
User parameter	Press key, Remote enable, Gradient, PWM frequency
PWM frequency	498Hz - 15.7KHz optional
Overload protection	Yes
Overheat protection	Yes
Working temperature (Ta)	-20°C~+55°C
Dimension	134x39x24mm

CASAMBI
LED控制器

型号: XB50

5合1多功能型号
智能手机+遥控器
多参数可调节
全功能保护

多参数可调   遥控+手机   全功能保护

按压式端子   50V工作电压   5合1功能

■ 简介

该 LED 控制器用于驱动电压范围为 从直流 8V到50V 的恒压 LED 产品。用户可以通过先进的Casambi App和可选的无线遥控器进行控制。本机支持从单色到RGBCCT的各种应用，并且具有强大的参数调整功能。结合全功能保护特性和按压式接线端子，本产品可以满足各类高要求、高可靠性的恒压LED应用需求。

■ 功能与尺寸

134mm
112mm
39mm
① ② ③ ④

1. 电源输入

连接到电源。控制器可接受直流8V至50V的供电电压，端子可安装的 最大电缆规格为2.5mm²。控制器的输出电平与电源输入电压相同，安装前请确保电源电压正确且功率储备满足控制器和负载的需求。请注意电源输入的"+"极与输出端子的"+"极在控制器内部直接相连。

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2. 按键控制输入

连接到常开型按键开关，用于开关和调光操作。
按键开关有三种操作方式：
单按：切换开关状态
快速双按：调节颜色或色温
长按：调节亮度

3. 工作状态指示灯

该指示灯显示控制器的工作状态，指示灯的闪烁方式与工作状态的对应关系如下：
绿色常亮：正常工作
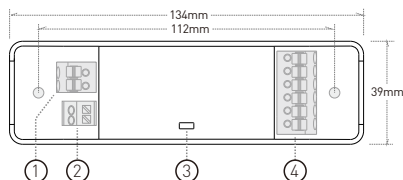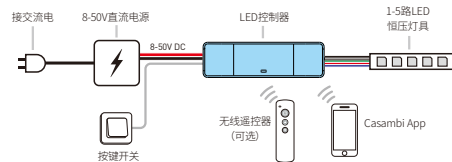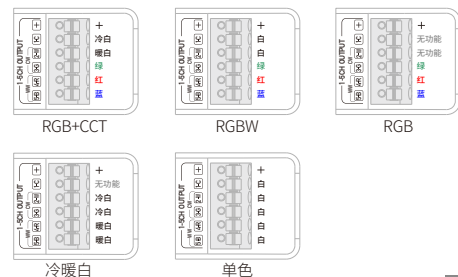绿色单闪：收到命令
绿灯慢闪3次：变更设置
黄色单闪：已调至最高或最低
红色闪烁：过载保护
黄色闪烁：过热保护

4. LED输出

连接到LED灯具。LED灯具必须为恒压型且适用于PWM驱动。对于多通道应用，各通道需为共阳极连接方式。请确保 LED 的额定电压与电源相同，并且每个通道的最大负载电流在控制器的额定电流范围内。

■ 接线图

请将控制器输出连接到合适的恒压LED灯具，并将电源连接到控制器电源输入端子。电源电压必须与LED负载的额定电压相同。在通电前请检查所有电缆是否连接良好并已可靠绝缘。

接交流电   8-50V直流电源   LED控制器   1-5路LED恒压灯具
8-50V DC
按键开关   无线遥控器（可选）   Casambi App

本机支持从单色到RGB+CCT的应用，在不同应用下输出端子的功能定义如下：

+ 冷白 暖白 绿 红 蓝	+ 白 白 绿 红 蓝	+ 无功能 无功能 绿 红 蓝
RGB+CCT	RGBW	RGB

+ 无功能 冷白 冷白 暖白 暖白	+ 白 白 白 白 白
冷暖白	单色

■ 操作方法

5. 用智能手机操作

请使用运行iOS10.0或安卓4.4以上版本的智能手机,在安装Casambi App后通过App连接并控制本产品。本产品的所有功能均可在App上进行操作,具体的操作方法请参考Casambi App上的使用说明。

6. 配对并使用无线遥控器

本产品除了可以用智能手机以及有线按钮开关控制外,还可以使用RM05射频无线遥控器控制,并在遥控器上实现开关机、调节亮度以及改变颜色的功能。遥控器在使用之前需要先与控制器进行配对操作,具体的配对方法请参考遥控器的使用说明。

■ 高级功能

7. 改变通道配置

本产品兼容从单色到RGB+CCT的5种应用模式。若需改变产品功能,请先确保控制器已经取消配对并通电,这时在Casambi App上找到该设备后,在弹出菜单中点击"更改配置文件"并选择需要变更的新机型。

8. 改变用户参数

本产品的按键功能、无线遥控功能、开关机渐变速度以及PWM输出的频率可以在App的产品设置界面中进行调整,具体调整项请参考App设置界面。

关于PWM频率,请注意:

通过用户参数中的PWM频率调整功能,可以解决某些特定使用条件下LED灯具出现的噪音或频闪问题。通常来说PWM频率越高,越不容易出现噪音或频闪问题。但是随着PWM频率升高,控制器的工作效率会有所下降,并且对于某些特定灯具可能出现工作不稳定的情况。因此在灯具没有出现噪音或频闪问题时,请尽量设置到较低的PWM频率,以保证系统工作更加稳定。

在PWM频率升高时,控制器的发热量会有所增加,为保证控制器的可靠工作,在PWM频率高于4KHz时,根据具体的灯具特性和施工条件,控制器的输出电流需要最多降额约50%以避免其过热进而触发保护状态。

9. 保护功能

本产品具有完善的保护功能,可以最大程度的防止因接线错误、负载短路、过载或过热而引起的产品损坏。当发生以上异常状态时控制器将停止工作,同时指示灯会闪烁红色或黄色。当工作状态良好时,控制器会尝试恢复正常工作。

当控制器停止工作时,请检查指示灯的状态,在不同的闪烁状态下应检查相应的故障:

红色闪烁:请检查输出电缆是否短路、负载电流是否过高,并且请确保所驱动灯具为恒压驱动类型。

黄色闪烁:请检查控制器的安装环境以及负载功率,并确保控制器散热条件良好且负载功率在额定范围之内。

■ 规格

型号	XB50
功能	单色、冷暖白、RGB、RGBW、RGB+CCT
工作电压	DC 8-50V
额定输出电流 (1KHz PWM下)	每通道最大8A, 总和最大24A *当PWM频率高于4Khz时, 输出电流需要降额最多50%。
手机通信方式	蓝牙
按键控制功能	有
无线遥控功能	有
无线遥控频率	433.92MHz
输出模式	PWM恒压
用户可调参数	按键,无线遥控,渐变速度,PWM频率
PWM频率	498Hz - 15.7KHz可调
过载保护	有
过热保护	有
工作环境温度(Ta)	-20°C~+55°C
尺寸	134x39x24mm