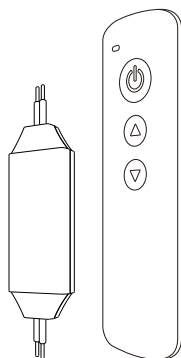
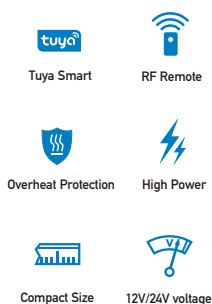


## Smart &amp; Remote Control

## Single Color LED Controller

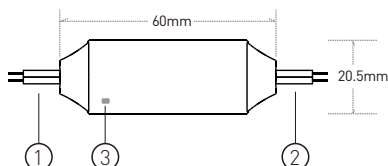
Model: TT12 (W/Z/B)



## ■ Introduction

TT12 LED controller is designed to drive constant voltage single color LED products in voltage range of DC12-24V. It can be controlled by Tuya smart app or by a handheld RF remote controller. User can setup LED brightness with the rich function on the Tuya smart app or from the easy operation remote controller.

## ■ Terminal &amp; Size



## 1. Power supply input

Connect positive power to the cable marked with '+' and negative to the cable marked with '-'. The controller can accept DC power from 12V to 24V, the output is PWM driving signal with same voltage level as the power supply, so please make sure the LED rated voltage is same as the power supply.

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## 2. LED output

Connect LED fixtures positive to the cable marked with '+' and negative to the cable marked with '-'. Please make sure the LED rated voltage is same as the power supply and the maximum load current is below the controller rated current.

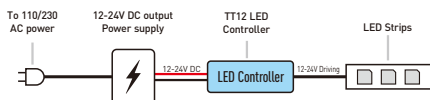
**CAUTION!** The controller will be permanently damaged if output cables short circuited. Please ensure the cables are well insulated to each other.

## 3. Work status indicator (optional)

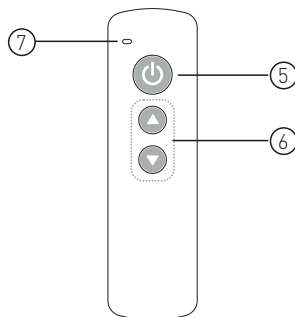
This indicator shows all working status of the controller. It displays different events as following:

- Steady on:** Remote and Tuya smart mode.
- Flash twice:** Tuya not connected.
- Flash 3 times:** Over heat protection.
- Blink:** New command received.
- Long single blink:** Reach brightness limit.

## 4. Wiring diagram



## ■ Functions



## 5. Turn ON / OFF

Press to turn on or off the output. The controller will memorize the on/off status and will restore to the previous status on the next power on. Please use remote controller to turn on the unit if it was switched to off status before power cut.

## 6. Brightness adjust

Press  $\Delta$  and  $\nabla$  key to adjust brightness sequentially. Hold press these two keys will adjust the LED brightness smoothly.

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## 7. Remote indicator

This indicator blinks when remote controller working. Please check the remote battery if the indicator does not light up or flash slowly. The battery type is CR2032.

## ■ Operation

### 8. Using the remote controller

Please pull out the battery insulate tape before using. The RF wireless remote signal can pass through some nonmetal barrier. For proper receiving remote signal, please do not install the controller in closed metal parts.



### 10. Setup Tuya connection

Please install the Tuya app to setup the connection. Before setup, please make sure the controller is at factory default mode and not connected to any gateway or router.

### 11. Pair a new remote controller

The remote controller and receiver is 1 to 1 paired as factory default. It's possible to pair maximum 5 remote controllers to one receiver and each remote controller could be paired to any receivers.



To pair a new remote controller, please follow two steps:

- 1). Plug off the power of receiver and plug in again after more than 5 seconds.
- 2). Press  and  key simultaneously for about 3 seconds, within 10 seconds after the receiver powered on.

After this operation, the LED fixture will flash quickly to acknowledge that remote pairing is accomplished.

## 12. Reset to factory default

To reset the controller's Tuya setting and unpair all remote controllers, please operate with following two steps:

- 1). Plug off the power of controller and plug in again after more than 5 seconds.
- 2). Press  and  key simultaneously for about 3 seconds, within 10 seconds after the receiver powered on.

After this operation, the controller will be reset to factory default, the Tuya configuration and remote pairing will all be reset.

## ■ Overheat Protection

The controller has overheat protection feature and it can protect itself from damage caused by some abnormal usage such as overloading which generates excess heat. At overheat situation, the controller will shutdown the output for a short while and recover when temperature drops to a safe range.

Please check the output current and make sure it's under rated level at this situation.

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## ■ Specification

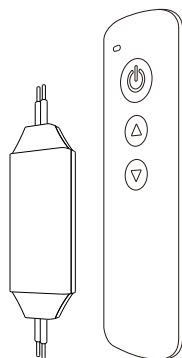
Model	TT12(W/Z/B)
Output Mode	PWM constant voltage
Working voltage	DC 12-24V
Rated output current	6A
Tuya connection	W: Wifi; Z: Zigbee; B: Bluetooth
PWM grade	4000 steps
Brightness grade	100 levels (App) / 10 levels (remote)
Overheat protection	Yes
Remote frequency	433.92MHz
Remote control distance	>15m at open area
Controller dimension	60x20.5x9mm

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涂鸦智能无线

## 单色LED控制器

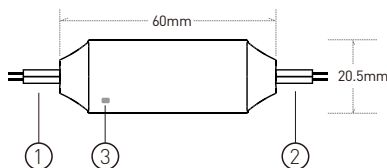
型号: TT12 (W/Z/B)



## ■ 简介

TT12 单色LED控制器是设计用于驱动电压范围为DC 12-24V的恒压LED产品。用户可以通过涂鸦智能app或者手持式射频遥控器来调节LED灯具。用户可以通过涂鸦智能app和遥控器来调节LED灯具的开关和亮度。

## ■ 接线与尺寸



## 1. 电源输入

连接到电源。控制器可接受电压为12V到24V的直流电源供电，请将电源正极连接到标有“+”电缆上，电源负极连接到标有“-”电缆上。请确保LED灯具的额定电压与电源电压相同，且电源的功率满足控制器和灯具的需求。

为保证安全，在通电前请先确保所有电缆均已可靠连接且绝缘良好。

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## 2. 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。请将LED灯具正极连接到标有“+”电缆上，LED灯具负极连接到标有“-”电缆上，请确保LED的额定电压与电源相同，并且最大负载电流在控制器的额定电流范围内。

**请注意!**如果控制器输出电缆被意外短路，可能导致控制器严重损坏，请确保电缆可靠连接并良好绝缘。

## 3. 状态指示灯 (可选)

该指示灯显示控制器的工作状态，指示灯与控制器工作状态和对应关系如下：

常亮：遥控和智能模式

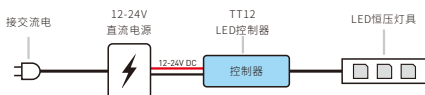
快闪2次：遥控模式，涂鸦智能未连接

快闪3次：过热保护

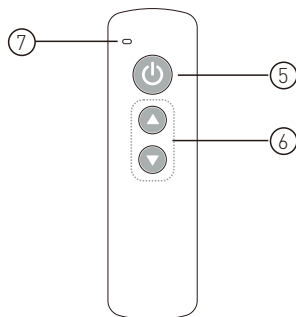
闪烁：收到命令

慢闪：达到亮度极限

## 4. 接线图解



## ■ 功能



## 5. 开/关

此按键可开启或关闭灯光。控制器会记忆断电前的开关状态，如果断电前为关闭状态，下次通电后请使用遥控器开启。

## 6. 亮度调节

按 $\Delta$ 键增加亮度，按 $\nabla$ 键降低亮度。长按亮度调节键时亮度会连续平滑变化。

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## 7. 遥控器指示灯

按下遥控器按键时，该指示灯会快速闪烁。如果指示灯慢闪，则说明遥控器电池电量已耗尽，请更换遥控器电池（CR2032型纽扣电池）。

## ■ 操作方法

### 8. 使用遥控器

使用前请拔出遥控器电池绝缘片。RF无线遥控信号可以穿过一定的非金属屏障，为了保证控制器的接收效果，请勿将控制器安装在有大面积金属遮挡的位置。

### 9. 连接涂鸦智能app

请通过安装并设置涂鸦智能app来进行连接。在设置连接前，请确保控制器是处于出厂默认模式状态，且没有连接任何网关或路由器。

### 10. 与新遥控器配对

遥控器和控制器出厂默认为1对1的配对状态。1个控制器最多可配对5个遥控器，而遥控器可配对到任意的控制器。

如需配对新遥控器，请按以下两个步骤操作：

- 1) 断开控制器电源，并在超过5秒后重新通电。
- 2) 在控制器通电后的10秒内，同时按下新遥控器的

⊕和⊖键约3秒钟

配对成功后，LED灯具将快速闪烁提示配对成功。

## 12. 恢复出厂设置

按以下两个步骤操作，即可将涂鸦智能连接恢复到出厂状态，同时已配对的遥控器也会被清除。

- 1) 断开控制器电源，并在超过5秒后重新通电。
- 2) 在控制器通电后的10秒内，同时按下遥控器的⊕和⊖键约3秒钟。

操作完成后，控制器将恢复成出厂状态，需要重新配置智能连接以及重新配对遥控器。

## ■ 过热保护

本机具有过热保护功能，可防止控制器因负载过重引起异常发热而导致损坏。过热保护时控制器将关断输出，当温度下降到安全范围时，将尝试恢复正常工作。过热保护功能仅能在一定程度上防止控制器损坏，为确保安全，请勿将控制器输出过载或短路。

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## ■ 规格

型号	TT12(W/Z/B)
输出方式	PWM恒压
工作电压	DC 12-24V
额定输出电流	6A
涂鸦连接	W: Wifi; Z: Zigbee; B: Bluetooth
遥控器工作频率	433.92MHz
遥控器工作距离	空旷范围 >15米
PWM分辨率	4000级
亮度可调级数	100级 (App) / 7级 (遥控器)
过热保护	有
控制器尺寸	60x20.5x9mm

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