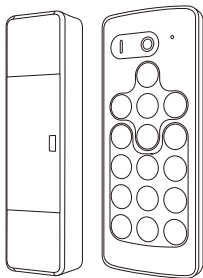


# Smart & Remote Control RGB LED Controller

Model: NT30 (W/Z/B)



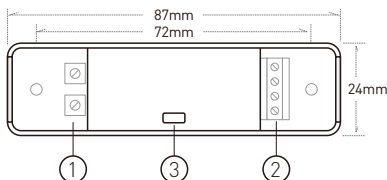
- Tuya Smart
- Wireless Remote
- Full Protection
- High Power
- Compact Size
- 12V/24V voltage



## ■ Introduction

NT30 RGB LED controller is designed to drive constant voltage LED products with common anode connection in voltage range of DC12-24V. It can be controlled by smart phone with Tuya smart app connection or by the stand alone RF remote controller. user can setup RGB LED color, brightness, scene and dynamic effects with the rich function on smart phone Tuya app or the easy operation RF remote controller.

## ■ Dimension



## ■ Wiring & Indicator

### 1. Power supply input

Install positive power cable into the terminal marked with '+' and negative power cable into the terminal 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.

1

## 2. LED output

Connect LED fixtures to this terminal. Install LED common anode cable into the terminal marked with '+' and each channel LED cables into the terminal marked with R, G and B. Please make sure the LED rated voltage is same as the power supply and each channel's maximum load current is below the controller rated current.

The controller will run into protection if the output been overloaded or short circuited. The indicator will flash red color and stop working in this case, Please check the wiring and load current to remove the fault.

## 3. Work status indicator

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

**Steady yellow:** Remote only mode, Tuya disconnected.

**Steady green:** Remote and Tuya smart mode.

**Single green blink:** Command received.

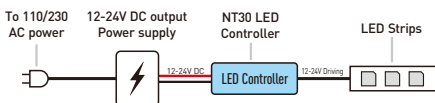
**Long single yellow blink:** Brightness or speed reach limit.

**Red flash:** Overload protection.

**Yellow flash:** Over heat protection.

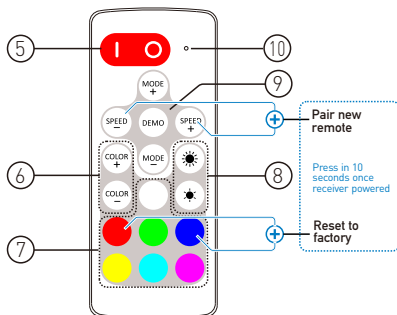
**Green flash 3 times:** Setup command received.

## 4. Wiring diagram



2

## ■ Functions




### 5. Turn ON / OFF



Press 'I' key to turn on unit or press 'O' key to turn off. The power on status can be set to last status or default status from app. At last status mode, the controller will memorize the on/off status and will restore to the previous status on next power on. Please use remote controller or app to turn on if it was switched to off status before power cut.

3





## 6/7. Static RGB color setting


The keys in this area set the RGB static color. Press the colored keys to set the RGB LEDs to correspond color as shortcut. Press  and  key to select color from the preset library colors.

## 8. Brightness control

Press  key to increase RGB LED brightness and press  key to decrease.

## 9. RGB dynamic effect

These keys control the RGB dynamic effects. Press  and  to select dynamic effects and press  and  key to set the running speed of the dynamic effects.

Press the  key to activate the dynamic demo mode, the controller will play dynamic effects in loop with repeating for 3 times for each effect.

## 10. Remote indicator



This indicator blinks when remote controller is working. If the indicator flash slowly when pressing keys, it means the remote battery is nearly empty and please change the remote battery (CR2032 type).

## Operation

### 11. 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.

4

2). Press  and  key simultaneously for about 3 seconds, within 10 seconds after the receiver powered on.

After this operation, the indicator will flash yellow color for 3 times and the controller will be reset to factory default, the Tuya connection and remote pairing will all be reset.

## Protection Function

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.

6



## 12. Setup Tuya connection

Please install the Tuya app to setup the smart connection. Before setup, please make sure the controller is at factory default mode and not connected to other gateway or router. The controller indicator should be yellow color at this status.

## 13. 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 indicator will flash 3 times to acknowledge that remote pairing is accomplished.

## 14. 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.

5

## Specification

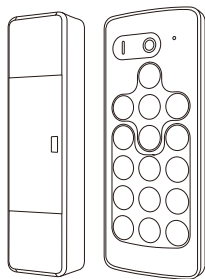
Model	NT30(W/Z/B)
Output Mode	PWM constant voltage
Working voltage	DC 12-24V
Rated output current	3x4A
Tuya connection	W: Wifi; Z: Zigbee; B: Bluetooth
Remote frequency	433.92MHz
Remote control distance	>15m at open area
PWM grade	4000 steps
Overload protection	Yes
Overheat protection	Yes
Controller dimension	87x24x15mm
Remote dimension	86.5x36x8mm

6

涂鸦智能无线

## RGB LED控制器

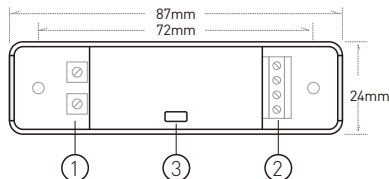
型号: NT30 (W/Z/B)



## 简介

NT30 RGB LED控制器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或者卡片式射频遥控器来调节LED灯具。用户可以通过涂鸦智能app的功能调节LED灯具的亮度、场景和动态模式，也可以通过操作遥控器来调节LED灯具的亮度、颜色和动态模式。

## 尺寸



## 接线及指示灯

## 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。

## 2. LED输出

连接到LED灯具。请将LED灯具正极连接到标有“+”端子上，LED灯具对应颜色的电缆分别连接到标有R、G、B的端子上，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。

如果输出出现过载或短路的情况，控制器会自动进入保护功能。此时指示灯会闪烁红色并停止工作，请及时检查接线和负载电流以排除故障。

## 3. 工作状态指示灯

该指示灯显示控制器的工作状态，指示灯与控制器工作状态和对应关系如下：

黄色常亮：遥控模式，涂鸦智能未连接。

绿色常亮：遥控和智能模式。

绿色单闪：收到命令。

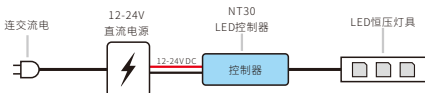
黄色慢闪：达到亮度或速度极限。

红色闪烁：过载保护。

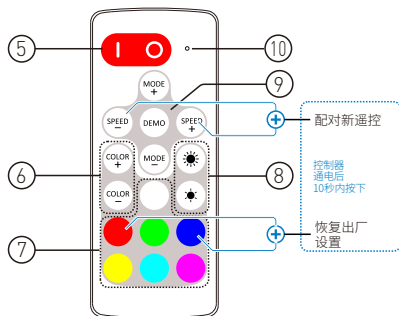
黄色闪烁：过热保护。

绿色闪烁3次：收到设置命令。

## 4. 接线图解



## 功能



## 5. 开关

按“1”键开启灯光，按“0”键关闭。控制器会记忆断电前的开关状态，如果在断电前为关机状态，下次通电后请使用遥控器或者涂鸦智能app开灯。

## 6/7. 静态RGB颜色调节

这个区域的按键可以调节RGB静态颜色。按下颜色快捷键可以将LED灯具调节为相应的颜色。按 $\odot$ 和 $\ominus$ 可以从预设的颜色库中调节颜色。

## 8. 亮度调节

调节LED灯具亮度。按 $\odot$ 增加亮度，按 $\ominus$ 降低亮度。

## 9. RGB动态效果

按 $\odot$ 和 $\ominus$ 可以选择动态模式，按 $\odot$ 键和 $\ominus$ 键可以调节动态模式的运行速度。

按 $\odot$ 键激活动态演示模式，控制器将按每个动态模式重复3次的方式循环演示动态效果。

## 10. 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

### 11. 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。

### 12. 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。

4

## 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。

6

## 13. 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 $\odot$ 和 $\ominus$ 键约3秒钟。

配对成功后，控制器指示灯将闪烁3次并提示配对成功。

## 14. 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 $\odot$ 和 $\ominus$ 键约3秒钟。

操作完成后，控制器指示灯将闪烁3次黄色表示已恢复出厂状态，需要重新配置智能连接以及重新配对遥控器。

5

## 规格

型号	NT30(W/Z/B)
输出方式	PWM恒压
工作电压	DC 12-24V
额定输出电流	3x4A
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
过载保护	有
过热保护	有
控制器尺寸	87x24x15mm
遥控器尺寸	86.5x36x8mm

6