

# RGB LED Controller

## User's Manual

- Full Protection
- Waterproof Option
- 43 Dynamic Modes
- RF Remote Controller
- 30 Static Colors
- Easy Remote Pairing
- Demo Dynamic Mode
- Direct Color Select

## Functions

### 1. Turn On/ Standby

Press 'I' key to turn on unit or press 'O' key to turn off. At power up moment, unit will automatically turn on and restore to previous status .

### 2. Switch Dynamic Mode

Switch between dynamic modes or switch to dynamic mode from static color.

### 3. Play / Pause

At dynamic mode, press this key to toggle run or pause mode. At static color mode, press this key will switch to dynamic mode.

### 4. Dynamic Speed Adjust

Adjust dynamic playing speed. Press SPEED+ to increase speed and press SPEED- to decrease. Unit will switch to dynamic mode If press this key at static color mode.

### 5. Demo Mode

Press this key will switch to Demo mode. At demo mode, it runs 27 dynamic modes in loop, each mode repeat for 3 times.

### 6. Switch Static Color

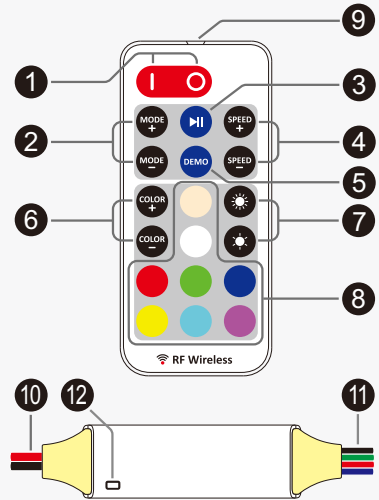
Switch between static colors in loop. When press this key at dynamic mode, it will switch to static color mode.

### 7. Brightness Adjust

Adjust static color brightness. Press BRIGHT+ to increase brightness and press BRIGHT- to decrease. Unit will switch to static color mode If press this key at dynamic mode.

## Introduction

Thank you for purchasing our product. This RGB LED controller is designed to drive constant voltage LED products with common anode connection in voltage range of DC5V-24V. It contains a main control unit and a remote controller. User can setup dozens of dynamic program and static color via the remote.



### 8. Direct Color Select

Shortcut keys to static color. When press the specific color key, LED will play the same static color. The direct colors are included in 'COLOR+' and 'COLOR-' key operation.

### 9. Remote Controller Indicator

This blue indicator will blink when remote controller works. Hints: The remote controller works at radio frequency, the signal can pass through barrier, so it's not necessary to aim at the controller when operate the remote.

## Installing

### 10. Power Supply

The controller unit can work from DC 5V to 24V. The red power cable should be connected to power positive and black to negative. Please make sure the power supply voltage is same as the LED load and the power is capable for the load wattage.

### 11. LED Output

The controller unit supports constant voltage driving LED products with common anode connection. The black cable on the output side is the common node, it connects to the power supply positive inside the controller. The green, red and blue cable runs the driving signal of relevant LED color, please connect the color cables to the cathode of relevant color LED loads and the black cable to the common node.

The controller unit has output overload protection function, please check whether the output is short circuit or over loaded if the controller stop working.

# Operation

## 12. Status Indicator

This is a full color status indicator. It displays all working status of the controller. It indicates different events as following:

**Blue:** normal working.

**Short single white flash:** new command.

**Long single white flash:** reach mode or color cycle edge.

**Long single yellow flash:** reach speed or brightness limit.

**Blue flash:** dynamic mode paused.

**Red flash:** overload protected.

**Yellow flash:** overheat protected.

## 13. Using Remote

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

## 14. Pairing New Remote

The remote and main unit is 1 to 1 paired as default. Further more, one main unit can be paired to 3 remote controllers and every remote can be paired to any main unit.

Please do following steps to pair new remote:

1). Plug off the power of main unit and plug in again after 5 seconds.

2). Press remote 'MODE-' and 'SPEED-' key together in 5 seconds after main unit power on.

After this operation, the indicator will flash white for 3 times to display the command is accepted, the main unit now will recognize the new remote. Only the latest paired 3 remote controllers can be recognized.

The standard models work at 1KHz switching frequency which is already non-flicker at most application. For more strict requirements, the advanced model works at 8KHz frequency and is fully flicker free even at fast moving application or slow motion video. Please check with your dealer if you're using the fully flicker free model.

The controller can absorb most unwanted switching interference, for better performance please avoid to drive strong inductive effect loads. Especially for fully flicker free model, please avoid to wire the output in multi turn coil shape or drive inductive load.

## 18. Protection

This controller has full protection function for output short circuit, overload, and overheat. The indicator will flash red at overload or short circuit protection and flash yellow at over heat. The controller will automatically recover from protection when working status is good.

Please ensure the LED loads are in rated range, not shorted and the controller unit is in a good heat dissipation environment to avoid protection.

## 15. Free Remote Pairing Mode

In some specific cases, the controller unit may need to be controlled with any remote. Please do following steps for this free remote pairing mode:

1). Plug off the power of main unit and plug in again after 5 seconds.

2). Press 'ON' and 'PAUSE' key together in 5 seconds after main unit power on.

After this operation, the indicator will flash yellow for 3 times to display the command is accepted, the main unit now will recognize any remote. To pair the main unit back to specific remote, please repeat the 'Pairing New Remote' operation.

# Advanced Features

## 16. Waterproof

There's waterproof option for this LED controller, please check with your dealer if your controller is waterproofed. The waterproofed controller can be used under water within depth of 30 meters.

Note: The remote receiving sensitivity will decrease when controller installed under water, please setup the controller before installing under water.

## 17. Flicker Free

Base on the PWM working mode, This series controllers switch LED on and off at high speed to achieve displaying different color and brightness. At some moving application or video at slow motion, the on-off flicker might be visible.

# Dynamic Modes

Dynamic Mode	Mode Pattern
Multi color fade	
Single color fade	
Dual color fade	
Multi color blink	
Single color blink	
Single color strobe	

# Specification

Model	Basic	Basic / Waterproof	Flick free / Waterproof
Dynamic mode		43 modes	
Static Color		30 colors	
PWM Grade		256 levels	
Brightness Grade		5 levels	
Speed Grade		10 levels	
Overload protection		Yes	
Overheat protection		Yes	
Working Voltage		DC 5-24V	
Remote frequency		433.92MHz	
Remote distance		>15 meters at open area	
Working Temperature		-30°C to +80°C	
Rated Output Current		3 x 3.5A	3 x 5A
PWM Frequency		1KHz	8KHz
IP Grade	IP-63		IP-68