

2.4G RGB+W Manual + Automatic Adjustment Control System Product Specification—FUT028000CC0



Chapter 1: Functional Overview

- 1、 This product controls all five-wire, four-circuit (common anode) LED four-color lighting fixtures.
- 2、 It offers 640,000 colors and 9 auto-show modes.
- 3、 Adjust light brightness in various modes.
- 4、 Adjust the change speed of the lighting auto-show mode across different modes.
- 5、 Control countless controllers using automatic forwarding and synchronization features, ensuring excellent synchronization (provided each controller is within 30 meters of others).
- 6、 You can manually adjust the saturation of any light color: R (red), G (green), B (blue), or W (white).



7、 **Power-off Memory Function: Retains the Lighting Status When the Device Is Turned Off.**

8、 **Buy Another "Wi-Fi Controller" to Control the Lights Via Your Smartphone and Remotely.**

Chapter 2: Detailed Functional Description

This system is a high-performance RGBW LED remote controller featuring touch sensitivity and physical buttons, enabling wireless operation via the included remote. By purchasing an additional "Wi-Fi Controller," it can also be controlled via smartphone for full remote management. It employs cutting-edge PWM (Pulse Width Modulation) control technology and supports all five-wire four-circuit (common-anode) LED four-color lighting products. Users can adjust color modes, brightness, and speed, with comprehensive dimming and color customization options including 640,000 colors and nine automatic display modes. **Separate brightness adjustment is available for white light alone.** A single remote controls multiple units with excellent synchronization. **Manual adjustment of R, G, and B color saturation is supported with auto-synchronization and auto-forwarding functions.** The system features power-loss memory functionality, ensuring lights maintain their previous state upon restart after shutdown or power loss. Widely used for lighting control in constant-voltage products such as RGBW LED strips, light bars, and LED modules.

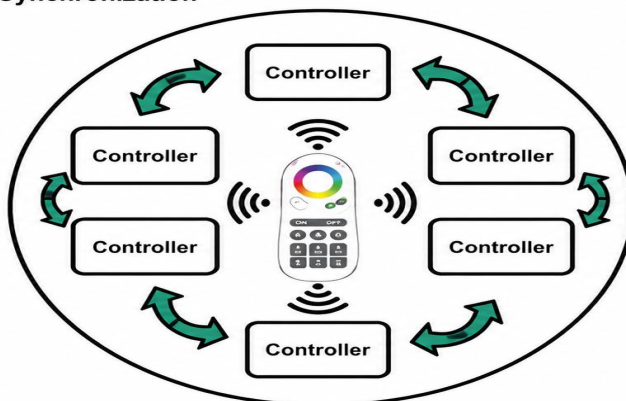
The device features a 2.4 GHz high-frequency wireless remote control system, offering low power consumption, long transmission range, strong interference resistance, and high air communication speed. The remote control boasts a stylish design with user-friendly functionality. It employs a capacitive touch interface supporting advanced dimming and color adjustment capabilities. Its modular design and lift-type terminal block wiring facilitate seamless compatibility with various lighting fixtures.

Receive the following receiver-related parameters:

- Operating Voltage: DC 12–24 V (must match the input voltage of the connected luminaire)
- Maximum load current: 6 A per channel
- Maximum standby power consumption: 0.5 W
- Output wiring method: Common anode (five-wire four-circuit)
- Dimensions: 85 mm × 45 mm × 22 mm
- **Automatic Synchronization Feature:** When two or more controllers are operated with the same remote control and share the same automatic evolution mode (dynamic mode), powering off and restarting any controller at different times will initially cause each light to display different colors under this mode. However, after a few seconds, all lights will automatically resume synchronized color changes.

as shown in the figure :

2. Auto Synchronization



Note:

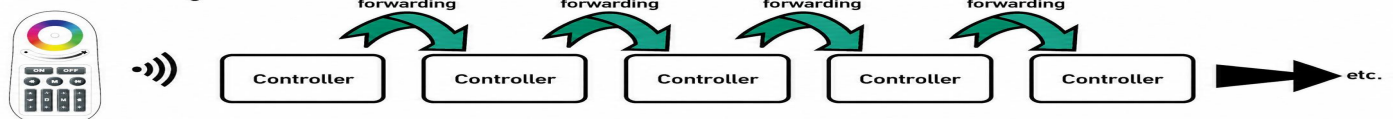
1.  indicates auto synchronization.
2. In a range of 30 meters, if the controllers are in dynamic mode, they will auto synchronize simultaneously.

● **Auto-forwarding feature:** When a remote control needs to operate numerous controllers, it only requires that the controller with the correct code be within a 30-meter range. All other controllers—regardless of whether they match the code—will automatically relay the remote control's command signals as long as they are powered on, enabling synchronous signal reception over extended distances. Each controller functions similarly as a wireless signal amplifier or repeater (provided that all controllers remain within a 30-meter distance from each other).

For example: The remote control is within a 30-meter range of the matched controller A; the unmatched controller B and the matched controller C are not within this range; the matched controller A is within a 30-meter range of the unmatched controller B; and the unmatched controller B is within a 30-meter range of the matched controller C. When a function key on the remote control is pressed, the remote sends a signal that activates the matched controller A. Upon receiving the signal, the matched controller A forwards it to the unmatched controller B, which then relays it to the matched controller C, thereby enabling control of the latter via the remote. According to this forwarding mechanism, the remote can control controllers located at a distance provided that signals are relayed through other controllers—specifically, at least one matched controller must be within the remote's 30-meter range, and all controllers must remain within this distance range relative to each other.

as shown in the figure :

1. Auto forwarding

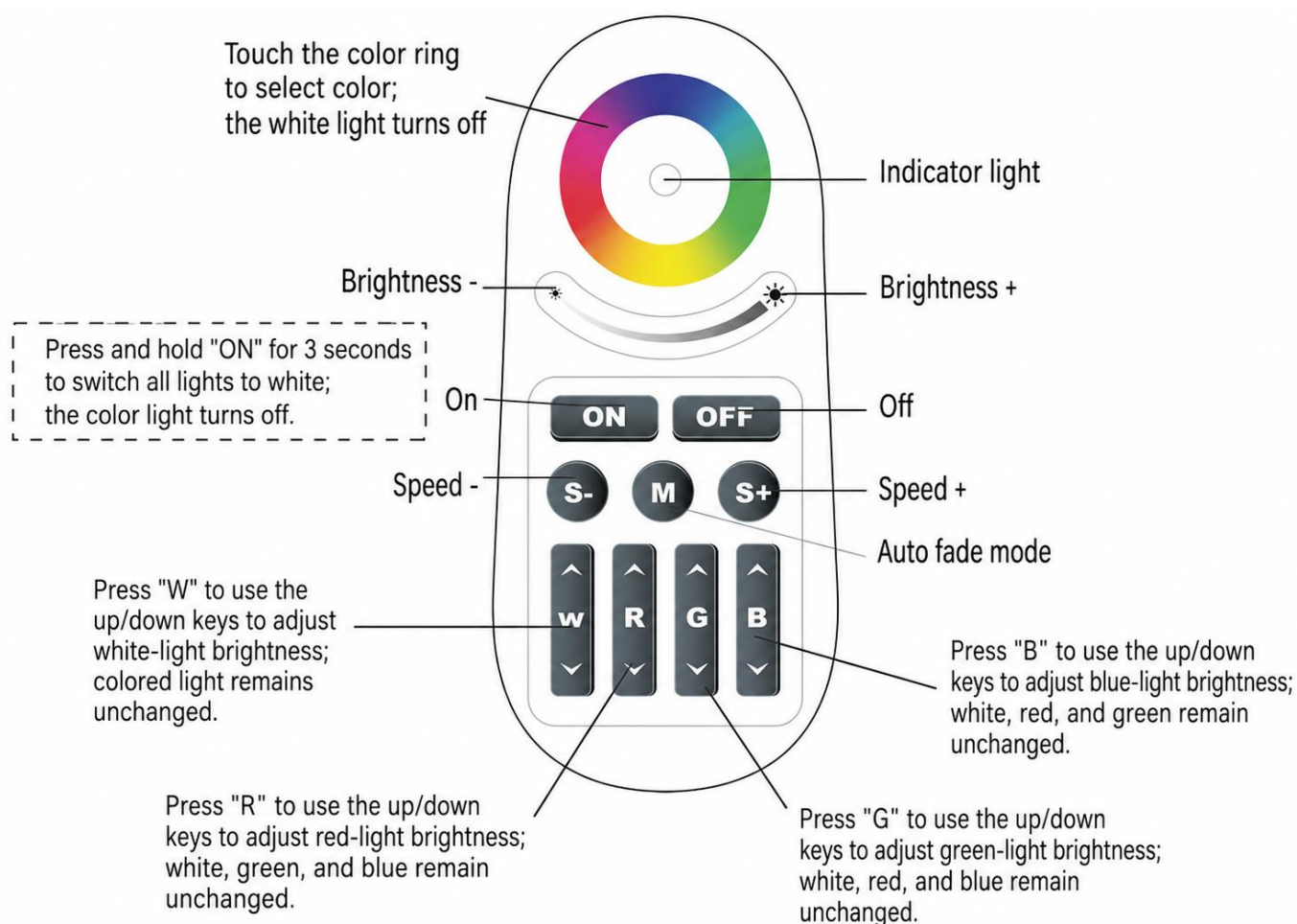




Chapter 2: Remote Controller Specifications, Parameters, and Basic Functions

Project	Parameter	Remarks
Working voltage	3V	2 Grade AAA Battery
Emission frequency	2400-2483.5MHz	
Modulation mode	GFSK	
Transmitting power	6db	
Standby Power Consumption	Less than 20 μ A	
Remote Control Distance	20–30 meters	No control range restrictions after automatic forwarding
External Dimensions	110×52×20mm	

Remote Control Button Function Definitions:





9 List of Automatic Demonstration Modes (Dynamic Modes)

Order number	Pattern	Brightness Level	Speed State
1	White Light Gradient	Non-tunable	Adjustable
2	Automatic Gradient	Adjustable	Adjustable
3	Three-color gradient	Adjustable	Adjustable
4	Three-color jump transition	Adjustable	Adjustable
5	Six-color jump transition	Adjustable	Adjustable
6	Random Jump	Adjustable	Adjustable
7	Red Light Gradient + Jump Change	Adjustable	Adjustable
8	Green Light Gradient + Jump Change	Adjustable	Adjustable
9	Blue Light Gradient + Jump Change	Adjustable	Adjustable

Note: Except for Mode 1 (white light gradient), you can adjust the white light brightness using the "W" key with the other eight modes.

Chapter 3: Clearing and Matching Codes

Code Matching:For a new combination, the remote control must be matched with the controller before use. The steps are as follows:

After confirming that the controller and LED load are properly connected to power, disconnect the power supply and then reconnect it. Within 3 seconds after power-on, press the "ON" button once; the LED on the load will flash slowly three times, indicating successful code matching and enabling normal operation of the control system.

Clear Code:If you need to change the pairing settings, clear the address code associated with the remote control and controller. The updated remote control and controller will then work correctly.

It will be in its initial state. To use it properly, encode it first. Follow these steps:

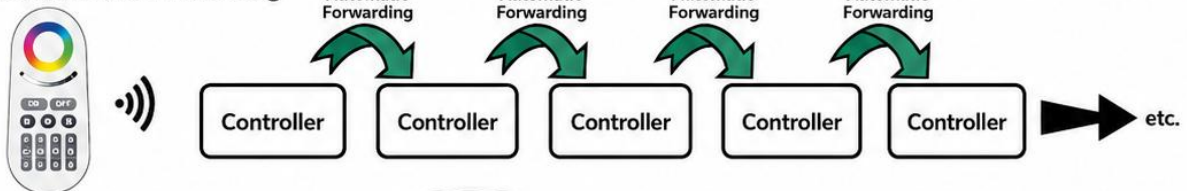
After confirming that the controller, LED load, and power supply are properly connected, disconnect the power supply and then reconnect it. Within 3 seconds after powering on, press and hold the "ON" button; when the LED on the load flashes nine times, the code has been successfully cleared.

pour : 1. Our standard factory-produced kit products come preconfigured as one-to-one combinations, allowing users to freely combine them according to their needs. One remote control can be paired with any number of controllers, but each controller can support up to four remote controls simultaneously.

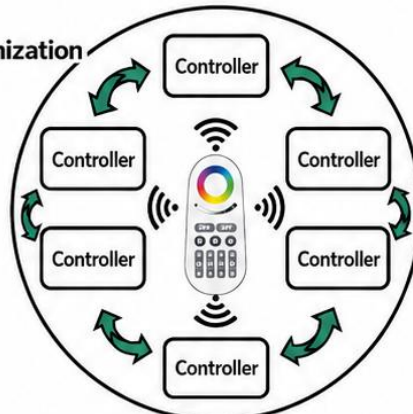
2. When performing the code-matching operation during power outage, ensure the remote control battery is properly installed and that the controller has fully discharged before proceeding.

Product Features:

1. Automatic Forwarding



2. Automatic Synchronization



Notes:

1.  indicates automatic synchronization.
2. Within a 30-meter range, controllers in the same dynamic mode will automatically synchronize even if started at different times.

3. Features of Automatic and Manual Adjustment

Static Mode	1. Auto color selection for RGB lighting. 2. Use the WRGB buttons to adjust the corresponding colors. 3. Press and hold "ON" for white light. 4. The brightness touch bar adjusts only the brightness of colored light.
Dynamic Mode	1. White fade; 2. Auto fade; 3. Three-color fade; 4. Three-color jump; 5. Six-color jump; 6. Random jump; 7. Red fade + jump; 8. Green fade + jump; 9. Blue fade + jump.
	Notes: 1. In dynamic modes, except the white fade mode, press the W button to adjust white light. 2. In any dynamic mode, brightness and speed can be adjusted.

Product Parameters:

Controller

1. Working Voltage: DC 12V or 24V
2. Max Load Current: 6A/channel
3. Max Standby Power: 0.5W

Remote Control

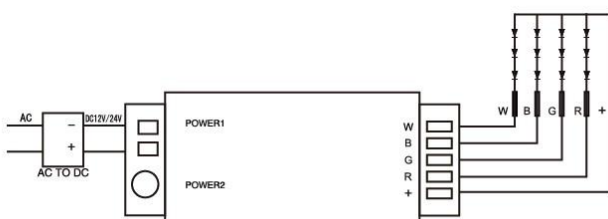
1. Working Voltage: 3V
2. Standby Current: <20uA
3. Transmit Power: 6 dBm

Pairing and Clearing Codes for Bulb Light and Remote

Pairing: Within 3 seconds after power-on, press the "NO" button once. The white light flashes, indicating successful pairing.

Clear Code: Within 3 seconds after power-on, press and hold the "NO" button until the white light flashes, indicating the code has been cleared.

Chapter 4: Typical Applications





Chapter 5: Precautions

1. Check whether the controller's input voltage and switching power supply (which must be a constant-voltage switching power supply) meet product specifications. Ensure proper connection between the power supply's positive/negative terminals and the output terminals; incorrect wiring may damage the controller.
2. Do not connect wires while powered on. After verifying correct wiring and confirming no short circuits, then apply power!
3. When installing the battery, avoid touching or pressing against the touch ring to enhance its sensitivity. Wait 3 seconds after installing the battery before using the remote control. If the touch ring feels less responsive, turn on the battery and reinstall it.
4. Do not use the controller in areas with extensive metal coverage or near regions with strong electromagnetic fields, as this may significantly reduce communication range.
5. When the red indicator light on the remote control remains on continuously, it indicates low battery level. Replace the battery promptly.

Notice to Users:

1. **Welcome to using products from Jingcai Yi Company. Please read this specification before using our products.**
If you have already begun using them, it indicates that you have read and accepted these terms and conditions.
2. **Shenzhen Jingcai Technology Co., Ltd. reserves the right to interpret and modify the documentation accompanying this product at its sole discretion; any changes shall not be notified separately.**