

Wireless Synchronizing

4-CH LED Controller

RQ211 / RQ212

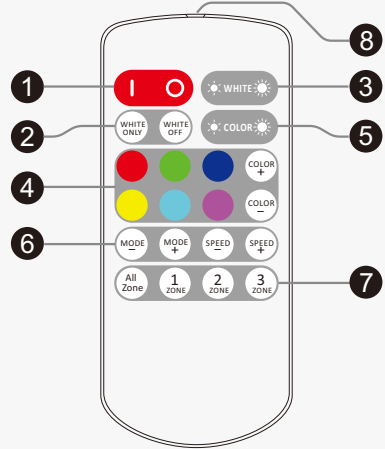
User's Manual

- Full Protection
- Waterproof Option
- RGBW 4-ch Output
- RF Remote Controller
- Wireless Synchronizing
- Ultra Slim Design
- Multi-Zone Control
- Easy Group Setting

Rayrun

Introduction

Thank you for purchasing our products. RQ211 and RQ212 4-ch RGBW LED controller is designed to drive constant voltage LED products with common anode connection in voltage range of DC6-24V. RQ211 is master unit controlled by a RF remote, RQ212 is slave unit synchronized with RQ211 wirelessly. User can program them to multi-zone group by the remote, and setup white or color lighting or synchronized dynamic modes in different zones.



Functions

1. Turn On/ Standby

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

2. White Mode

These two keys control white LED working mode. Press 'WHITE ONLY' key, all RGB color will be shutdown and only white LED lights up. Press 'WHITE OFF' key, the white LED will turn off and RGB LED remain it's previous status.

3. White Brightness

Adjust white LED brightness. Press the right side key to increase white LED brightness and the left side key to decrease.

4. Static RGB Color Selection

These keys control the RGB static color.

- Press color printed keys will set the RGB LEDs to correspond color light as the key. There are 6 shortcut color keys to make direct color selection.
- Press 'COLOR+' and 'COLOR-' to scroll over all preset static colors, including the 6 shortcut key colors.

5. Color Brightness

Adjust RGB color brightness. Press the right side key to increase RGB LED brightness and the left side key to decrease.

6. RGB Dynamic Modes Control

These keys control the RGB dynamic modes.

- Press 'MODE+' and 'MODE-' key to select preset dynamic modes.
- Press 'SPEED+' and 'SPEED-' to control the dynamic mode running speed.

7. Zone Control

Select the target zone controlled by remote. The RQ211 master unit is always zone 1 and the RQ212 slave unit can be programmed to any zones. The remote will control the corresponding zone(s) after the specific zone key is pressed once. For every power up for RQ211, the zone is restored to 'All Zone'.

8. Remote Controller Indicator

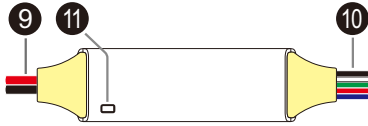
This blue indicator will blink when remote controller works. The remote controller works at radio frequency, the signal can pass through barrier, so it's not necessary to aim at the controller when operate the remote.

Installing

RQ211 and RQ212 can be programmed to a group and operate in different zones. RQ211 is a master controller which receives remote control signal and sends out wireless commands to RQ212. RQ212 is slave controller and can only be programmed to RQ211 master controller for group working. For proper wireless working, RQ212 should be in a good wireless receiving range from RQ211.

9. Power Supply

The red power cable should be connected to power positive and black to negative. The controller unit can work from DC 6V to 24V, Please make sure the power supply voltage is same as the LED load and the power is capable for the load wattage.



10. LED Output

RQ211/RQ212 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 white, 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.

11. 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 executed.

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

Long single yellow flash: reach speed or brightness limit.

Red flash: overload protected.

Yellow flash: overheat protected.

3). Press remote 'ON' and 'White Bright +' key together in 5 seconds after RQ212 power on, and then press '1 ZONE', '2 ZONE' or '3 ZONE' key in another 5 seconds.

After this operation, the RQ212 indicator will also flash white for 3 times to display the programming is accepted, the slave is now programmed to the relevant zone.

Advanced Features

15. Waterproof

RQ211/212 is a standard version which can be used in dry environments. RQ211/212-S is fully waterproof with IP68 standard, and can be used under water within depth of 30 meters.

Note: The remote receiving and master to slave communication sensitivity will decrease when controller installed in wet environment.

16. Protection

RQ211/212 series controllers have full protection function for output short circuit, overload, and overheat. The controller will automatically recover from protection when working status is good.

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

Operation

12. Using Remote

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.

13. Pairing New Remote

The remote and RQ211 is 1 to 1 paired as default. Further more, one master unit can be paired to 5 remote controllers and every remote can be paired to any master unit.

Please do following steps to pair new remote to RQ211:

1). Plug off the power of RQ211 and plug in again after 5 seconds.

2). Press remote 'ON' and 'White Bright +' key together in 5 seconds after RQ211 power on, and then press 'RED' key in another 5 seconds.

After this operation, the RQ211 indicator will flash white for 3 times to display the command is accepted, the master unit now recognizes the new remote. Only 5 latest paired remote controllers can be recognized by RQ211.

14. Program Slave to Zone

The RQ212 slave controllers can be programmed to zone1, 2 or 3. There's no quantity limit in each zone group.

Do the following steps to program slave controller to master:

1). Keep the RQ211 controller power on and the remote already paired to it.

2). Plug off the power of RQ212 slave controller and plug in again after 5 seconds.

Specification

Model	RQ211	RQ211-S	RQ212	RQ212-S
Dynamic mode	34 modes			
Static Color	30 colors			
PWM Grade	256 steps			
White Brightness Grade	10 levels			
Color Brightness Grade	5 levels			
Speed Grade	10 levels			
Direct Color Select	6 direct keys		None	
Overload protection	Yes			
Overheat protection	Yes			
Working Voltage	DC 6-24V			
Remote frequency	433.92MHz		None	
Synchronization frequency	2.4GHz ISM band			
Remote control distance	>15m at open area		None	
Master/Slave sync.	>15m at open area			
Zone Control	3 zones, infinite RQ212 in each zone.			
Rated Output Current	3x2.5A + 4A			
IP Grade	IP-63	IP-68	IP-63	IP-68

Caution:

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference;

(2) This device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.