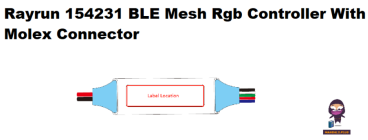

Rayrun 154231 BLE Mesh Rgb Controller With Molex Connector User Manual

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Rayrun 154231 BLE Mesh Rgb Controller With Molex Connector

Specifications

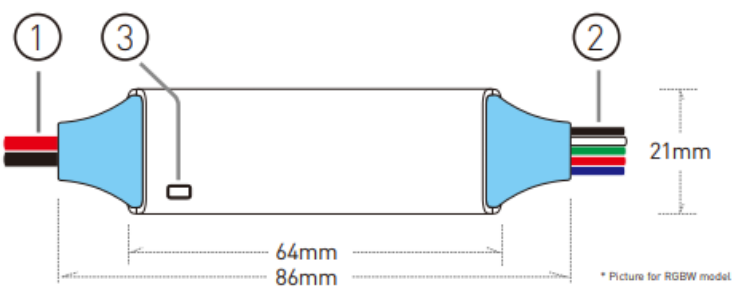
- Model: 154231
- Features: Single color / Tunable white / RGB / RGBW
- BLE Mesh technology

- Remote and Phone Full Protection
- Group / Scene functionality
- Ultra Compact design
- Waterproof (IP68)
- LED Output: Supports various LED types
- Work Status Indicator for monitoring
- Voltage Range: DC 6-24V

Introduction

This series LED controller is designed to drive constant voltage LED products in the voltage range of DC6-24V. It could be controlled by smartphone via Bluetooth connection with the ‘Light Mesh’ app. With advanced BLE mesh technology, several controllers could work synchronized and be operated by smartphones with group features. IP68 waterproof feature is available on the -S version and the scene program feature is supported on the -T version with a built-in real-time clock timer.

Dimension



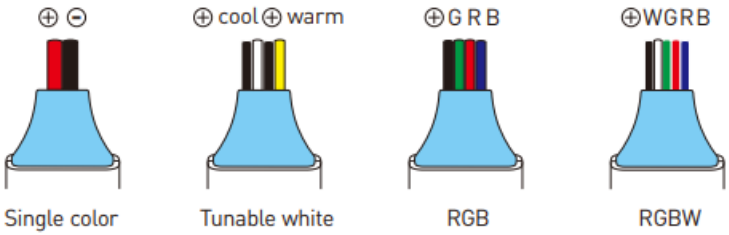
Wiring & Indicator

Power supply input

The controller supply voltage range is from DC 6V to 24V. The red power cable should be connected to power positive and black to negative. The output voltage is at the same level as the power voltage, please make sure the power supply voltage is correct and the power is capable for the load power range. The positive power cable is directly connected to the output cable inside the controller.

LED output

Connect LED loads to these cables. Please make sure the LED-rated voltage is the same as the power supply and each channel's maximum load current is below the controller-rated current.
Please refer to the following output wiring diagram for different models:
Single color: red cable to LED and black to. Tunable white: black cable to LED, white to cool white LED, and yellow to warm white. The two black cables are connected inside the controller.
RGB and RGBW: black cable to LED, R, G, B, and W cable to the same color LED.



Work status indicator

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

- Steady blue: Normal working.
- Short white blink: Command received.
- White blink for 3 times: Identification or confirmation. Red flash: Overload protection.
- Yellow flash: Overheat protection.
- Green blink: Running scene program.
- Green slow flash: Clock lost in scene program.

Operation

Connecting to smartphone

Smartphone generation: The controller connects to smartphone via bluetooth with V4.0 and up protocol. Phones later than iPhone 4S or with Android 4.3 and higher version support this connection.
Using the app: Please keep the smartphone's Bluetooth switch on when connecting to the controller. User need to install the 'Light Mesh' app to connect to the controller. Please search the app in Apple's app store or Google's Play market for Android. User do not need to connect to the controller from smart phone's setting page, the app will manage the bluetooth connection.
Mesh feature: With the mesh connection technology, one smart phone can connect to multiple controllers simultaneously. The controllers will expand the connection automatically. Please make sure each controller could reach at least one of any other controllers in the same group.
Controller name and password: The controllers are managed by smart phone with name and password. Each controller group need to have a unique name. Please restore the configured controller to factory default before

renaming.

Restore to factory default

For the controllers already set by user with a name and password, it could only be connected with correct name and password. User could restore the controller to factory default setting from the app setting page. (Please refer to app operation guide.)
In some cases, user might forget the controller's name and password. It's possible to restore the controller to factory default setting by connect and disconnect the power to controller with following sequence:

1. Keep the controller be powered up for more than 30 seconds and then disconnect the power.
2. Connect the power to controller steadily and disconnect within 3 seconds after power connected.
3. Repeat step 2 for 2 times. (total 3 times of step2)
4. Connect the power to controller steadily for about 10 seconds (8-12 seconds), then disconnect the power.
5. Repeat step 4 for once. (total 2 times of step4) On the next power on after this operation, the controller indicator will flash white after several seconds, and the controller will be reset to factory default.

Advanced features

Scene program (-T, -TS version)

The scene program is available on -T and -TS version controller. With this feature, user could set multiple timer and schedule on the app, the controller would play specified color or dynamic mode on specified time (for detailed operation, please refer to app operation guide).

- **Real time clock:** A real time clock with backup battery is equiped in -T version controller, the clock could keep running for up to 24 hours after power cut.
- **Indicator and clock setting:** The indicator will blink green when scene program is running, the scene program will keep running until user switch off this function from app or the controller's clock is ruined. The clock might be ruined for more than 24 hour power cut. Once the clock is ruined, the controller indicator will flash green until receiving next smart phone command, the scene program will also stop. Please resume scene program from the app, the app will calibrate controller's clock when setting the scene program.

Waterproof (-S, -TS version)

The -S and -TS version controller is designed with IP-68 waterproof feature with glue injection finish. For overall waterproof effect, the cables must be connected with waterproof treatment separately.
Wireless connection at wet environment: The wireless communication ability could be weaken when using at wet environment, in this case please reduce distance between smart phone and controllers to guarantee the signal strength, or finalize the setting before installation.

Protection

The controller has full protection function for wrong wiring, output short circuit, overload and overheat. The indicator will flash red at overload or short circuit protection, and will flash yellow at over heat protection. The controller will try to recover from protection every 10 seconds after protection occurred, and will automatically recover working when condition is good.
To avoid the protection, please make sure the output cables are not short circuit and ensure the LED loads are capable for constant voltage driving and in there rated voltage. Also the controller need to be installed at a good ventilation or heat dissipation place.

Specification

Model	M10	M20	154231	M40
Function	Single color	Tunable white	RGB	RGB+W
Working voltage	DC 6-24V			
Rated output current	15A	2x7A	3x5A	3x3A+5A
Standby current	<20mA			
Wireless connection	Bluetooth V4.0 and up, with mesh feature			
Communication distance	>15 meters at open area			
Output mode	PWM constant voltage			
Output adjust range	0-100% with gamma correction			
Physical PWM level	4000 steps			
Dynamic mode	9 modes	NA	42 modes	42 modes
Overload protection	Yes			
Overheat protection	Yes			
Power off memorizing	Yes, including on/off status			
Scene program	Available on -T and -TS version			
Waterproof	IP63 for standard and -T version, IP68 for -S and -TS version			
Dimension	86x21x8.5mm			
Net Weight	22g	25g	22g	25g

LED Output Wiring

Connect LED loads to the provided cables. Ensure the LED voltage matches the power supply and each channel's load current is within the controller's rated current.

Output Wiring Diagram

- Single color: Red cable to LED, black to –
- Tunable white: Black cable to LED, white to cool white LED, yellow to warm white LED (two black cables connected inside the controller)
- RGB and RGBW: Black cable to LED, R, G, B, and W cable to the corresponding color LED

Work Status Indicator

The indicator displays various events:

- Steady blue: Normal working
- Short white blink: Command received
- White blink for 3 times: Identification or confirmation
- Red flash: Overload protection
- Yellow flash: Overheat protection
- Green blink: Running scene program
- Green slow flash: Clock lost in scene program

Power Supply Input

The controller operates on a voltage range of DC 6V to 24V. Connect the red power cable to positive and the black to negative. Ensure the power supply voltage matches the controller's requirements.

Connecting to Smart Phone

1. **Smartphone Generation:** Connect via Bluetooth with V4.0 and higher protocol. Compatible with iPhone 4S or Android 4.3 and later versions.
2. **Using the App:** Download and install the 'Light Mesh' app from the respective app store. Keep Bluetooth on during connection. No manual connection setup is needed, the app handles it.
3. **Mesh Feature:** Supports multiple controllers simultaneously with automatic expansion of connections. Ensure each controller can reach at least one other in the same group.
4. **Controller Name and Password:** Each controller group requires a unique name and password. Reset to factory settings before renaming.

FCC

Product Usage InFCC Compliance Statement: This device complies with Part 15 of the FCC rules. Operation is subjected to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment. This equipment complies with FCC radiation xposure limits set forth for an uncontrolled environment. The distance between user and products should be no less than 20cm. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

Frequently Asked Questions

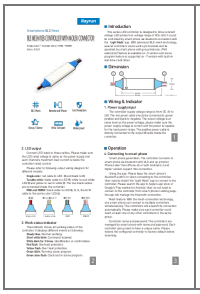
Q: What is the voltage range supported by the controller?

A: The controller operates on a voltage range of DC 6V to 24V.

Q: How can I connect multiple controllers to one smartphone?

A: Use the 'Mesh Feature' which supports multiple controllers simultaneously with automatic expansion of connections.

Documents / Resources

	Rayrun 154231 BLE Mesh Rgb Controller With Molex Connector [pdf] User Manual 154231 BLE Mesh Rgb Controller With Molex Connector, 154231, BLE Mesh Rgb Controller With Molex Connector, Rgb Controller With Molex Connector, Controller With Molex Connector, Molex Connector

References

- User Manual