

BTF-LIGHTING SP630E+RB4 Kit

BTF-LIGHTING SP630E Bluetooth Controller & RB4 Remote Kit User Manual

Model: SP630E+RB4 Kit

[Introduction](#) [Features](#) [Setup](#) [Operation](#) [Specifications](#) [Troubleshooting](#) [Maintenance](#) [Warranty](#)
[& Support](#)

1. INTRODUCTION

The BTF-LIGHTING SP630E Bluetooth Controller and RB4 2.4GHz RF Remote Kit provides versatile control over various LED light strips. This kit supports both PWM (without IC) and SPI (with addressable IC chip) RGBCCT, RGBWW LED strips, operating on DC5V, DC12V, or DC24V power. It offers advanced features including 4-zone control, app-based customization, music synchronization, and timing functions, enhancing your lighting experience.

2. KEY FEATURES

- **Universal LED Compatibility:** The SP630E controller is compatible with various LED strip types, including PWM 6CH RGBCCT LED Strips (without IC) and SPI RGBCCT LED Strips (with Addressable IC Chip). It can control up to 300 ICs for SPI RGBCCT LED strips.
- **2.4GHz Wireless RF Remote Control:** The RB4 remote offers a wireless control distance of up to 30 meters (98 feet) in open spaces. One remote can control up to 4 groups of lights, with each group managing an LED strip within the 30m range.
- **4-Zone Separate Control:** The RB4 RF remote allows independent control of up to 4 zones. It supports one-to-many control (one remote controlling multiple controllers) and multi-to-one control (each controller binding up to 5 RF remotes).
- **Advanced App Functions:** The BanlanX app provides diverse functionalities including three music collection methods (mobile phone Mic, player streaming, built-in high-sensitivity Mic), customizable on/off animations, power-on state settings, four operating interfaces (static, dynamic, music, DIY effects), and a timing function for up to 5 timers.
- **DIY Customization:** Personalize lighting effects through the BanlanX app to suit various needs. The app also features color calibration to ensure consistency between the app's color display and the actual LED strip color.

3. SETUP AND INSTALLATION

3.1 Wiring the SP630E Controller

The SP630E controller features multiple wiring ports to accommodate different LED strip types. Ensure you select the correct channels for your specific LED strip and secure the wires firmly using a screwdriver to prevent disconnections.

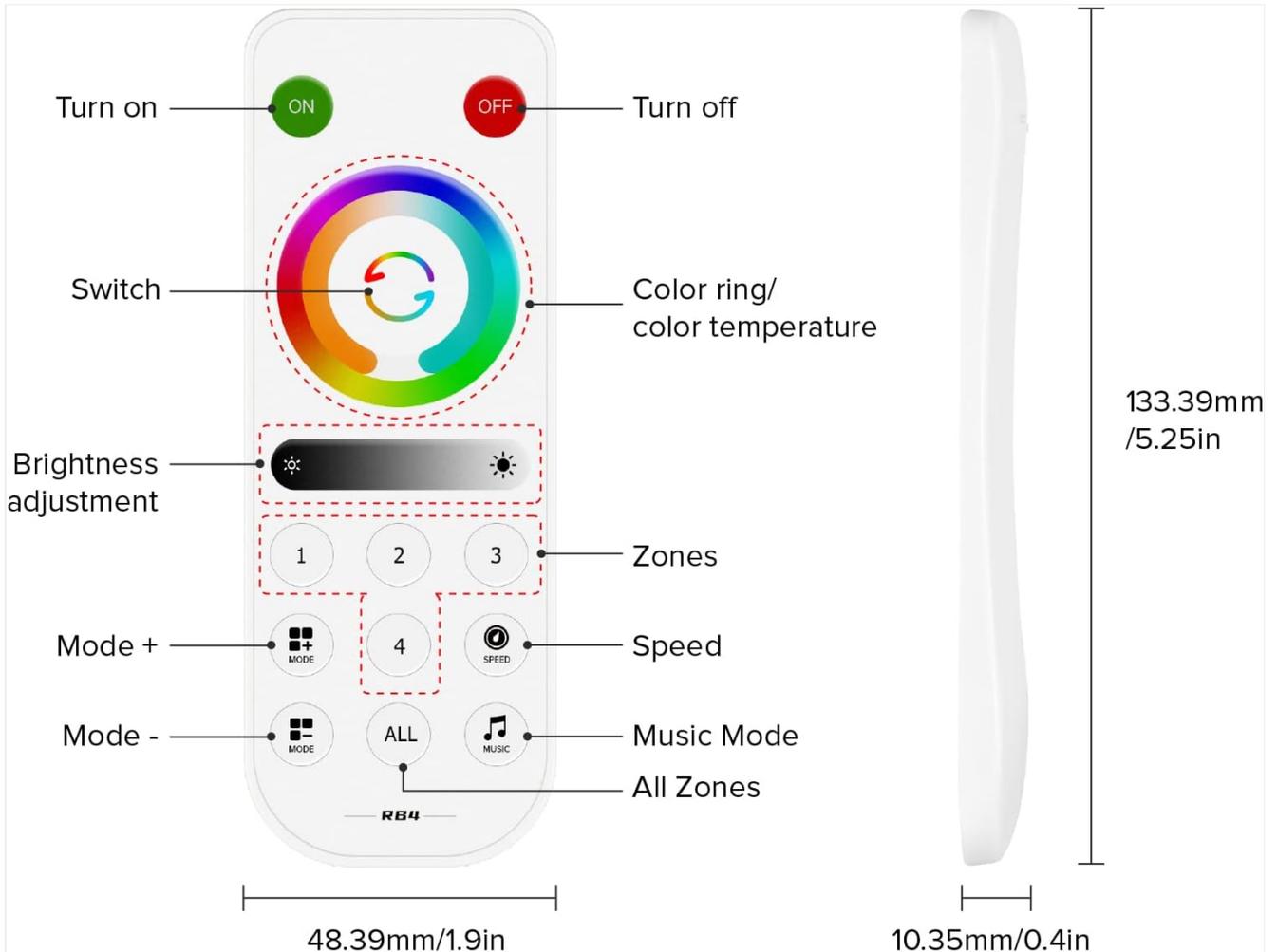


Figure 3.1: SP630E Controller with dimensions and detailed wiring ports. The controller measures 57mm x 57mm x 20mm (2.25in x 2.25in x 0.79in) and features dual power input ports (V- V+ and DC input port 5.5x2.1mm) and output ports for VCC, R, G, B, CW, WW, DAT, and GND.

3.1.1 PWM FCOB RGCCT LED Strip Wiring

For PWM FCOB RGCCT LED strips, connect the corresponding wires from the LED strip to the VCC, R, G, B, CW, and WW terminals on the SP630E controller. Ensure the power supply matches the LED strip's voltage requirements (DC5V-24V).

The SPI RGB+CCT LED Strip

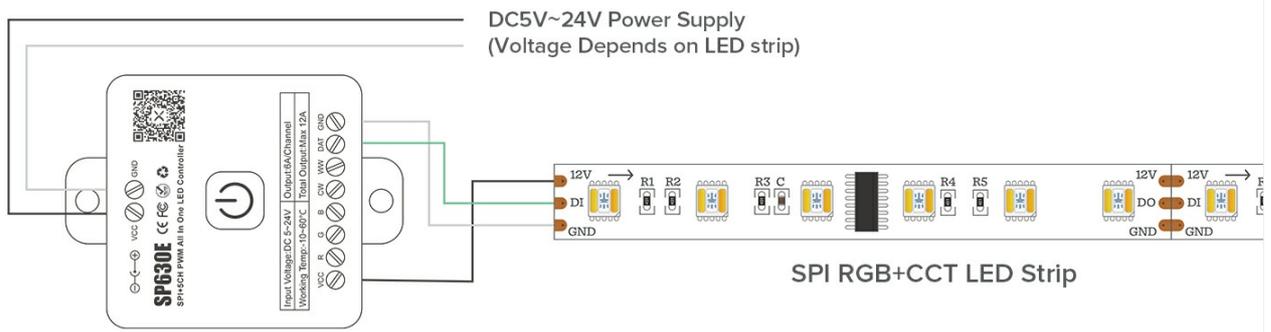


Figure 3.2: Wiring diagram showing connections for a PWM FCOB RGB+CCT LED strip to the SP630E controller. The LED strip requires a DC5V-24V power supply, with connections to VCC, R, G, B, CW, and WW terminals on the controller.

3.1.2 SPI FCOB WS2811 RGB IC LED Strip Wiring

For SPI FCOB WS2811 RGB IC LED strips, connect the VCC, DAT, and GND wires from the LED strip to the corresponding terminals on the SP630E controller. Pay attention to the data direction indicated by arrows on the LED strip. The power supply voltage (DC5V-24V) should match the LED strip's requirements.

Support PWM RGB+CCT LED Strip

(Note: Please select the correct LED type on the App Setting page.)

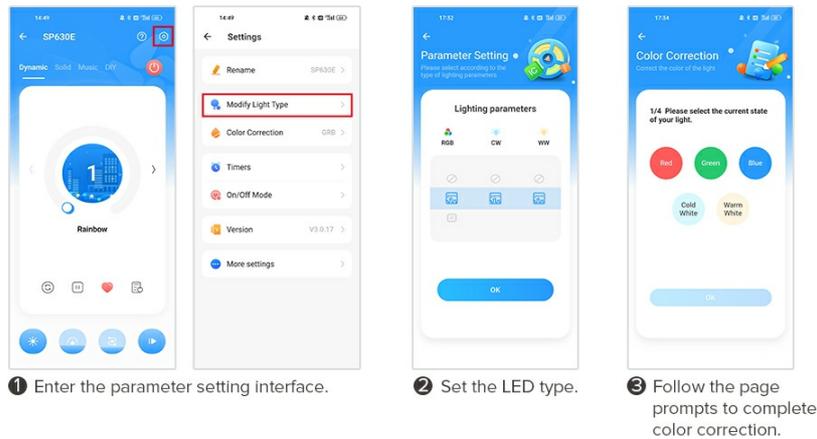


Figure 3.3: Wiring diagram illustrating connections for an SPI FCOB WS2811 RGB IC LED strip to the SP630E controller. Connections are made to VCC, DAT, and GND terminals. Ensure the power supply voltage is appropriate for the LED strip.

3.2 Power Connection

After wiring the LED strip, connect the appropriate DC5V-24V power supply to the SP630E controller. The controller has both screw terminals (V- V+) and a DC input port (5.5x2.1mm) for power input. Ensure the power supply voltage is appropriate for the LED strip.

3.3 LED Type Selection

The SP630E controller supports 12 types of LED strips. It is crucial to select the correct LED type in the BanlanX app settings to ensure proper functionality and control. Refer to the table below for compatible LED types and their corresponding output ports.

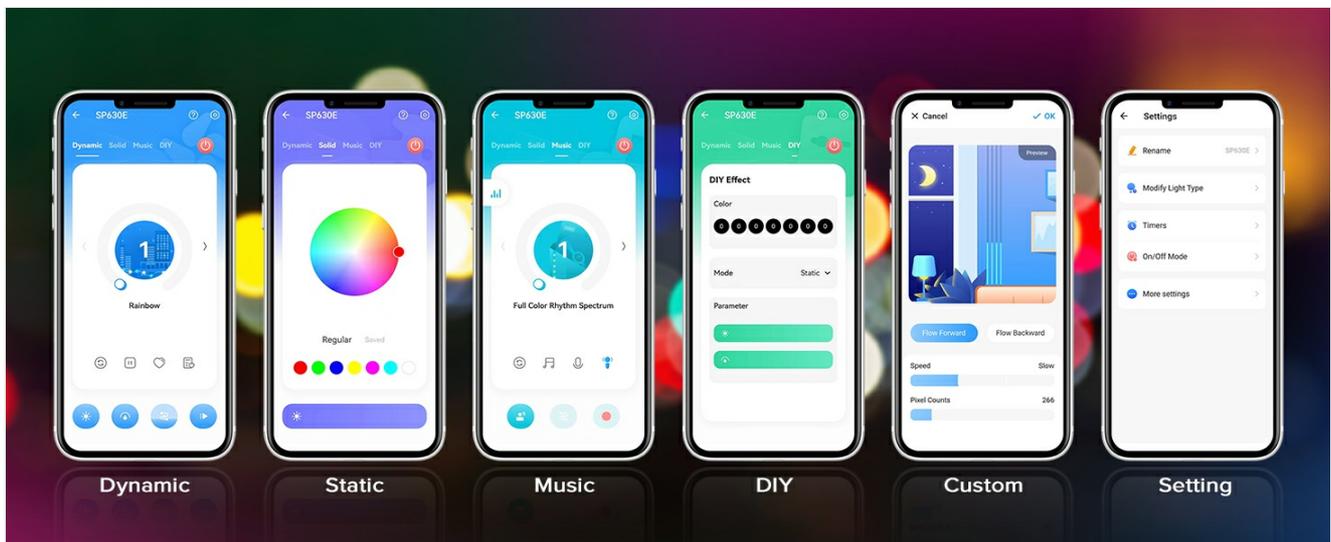


Figure 3.4: Compatibility chart for SP630E controller showing 12 different LED strip types (PWM and SPI) and their required output port connections (VCC, R, G, B, CW, WW, DAT, GND).

3.4 Installation Video

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Video 3.1: This video provides a detailed introduction to the installation process of the SP630E controller, including wiring and power connections for various LED strip types.

4. OPERATION

4.1 BanlanX App Control

The BanlanX app allows comprehensive control over your SP630E controller. Download the app by scanning the QR code on the controller or searching for "BanlanX" in your app store. After installation, open the app and add the SP630E controller via Bluetooth.

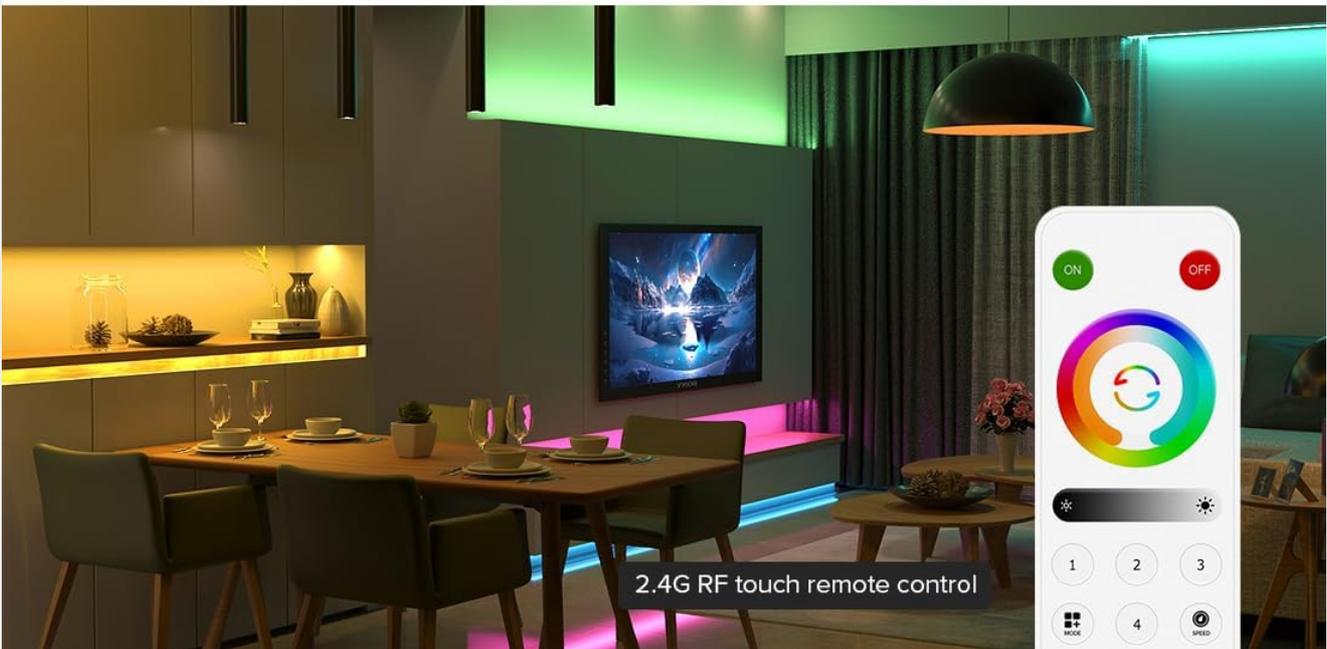
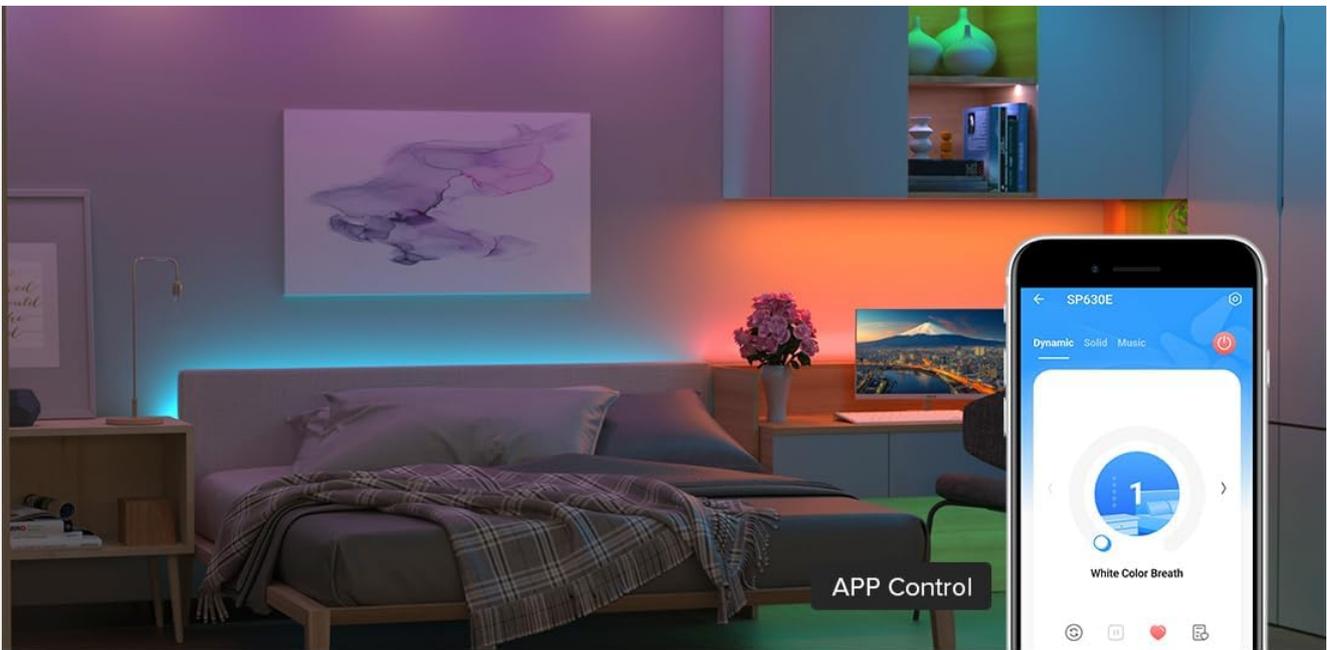


Figure 4.1: The BanlanX app interface on a smartphone, demonstrating various control options for LED strips, including color selection and dynamic effects. The app allows for intuitive adjustment of lighting parameters.

4.1.1 LED Type Configuration & Color Calibration

Once connected, navigate to the app settings to select the correct LED strip type (PWM or SPI) and perform color calibration. This ensures accurate color representation and optimal performance.



Figure 4.2: Screenshots of the BanlanX app demonstrating the process of selecting the LED light type and performing color correction. Users can choose between SPI and PWM types and calibrate colors like red, green, blue, cool white, and warm white.

4.1.2 Dynamic and Static Effects

The app offers a wide range of static colors (16.7 million for RGB LED strips) and dynamic effects (12 for PWM RGB strips, 146 for SPI RGB and Mixed strips). You can bookmark your favorite effects for quick access.

4.1.3 Music Synchronization

The SP630E supports three types of music capture: built-in microphone, mobile microphone, and music player. It features a music mode with 18 effects, adjustable for sensitivity, allowing your lights to dance to the rhythm of your music.

4.1.4 DIY Effects and Timers

Create custom lighting effects using the DIY function. The app also includes a timer function, allowing you to schedule up to 5 on/off times for your LED strips.

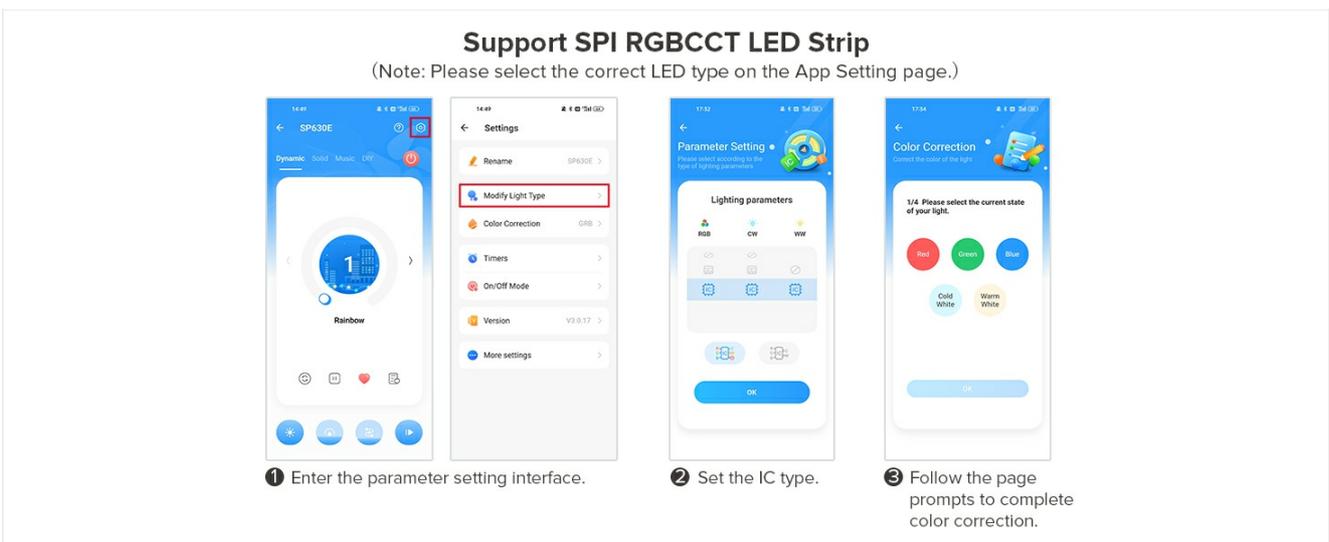


Figure 4.3: Overview of the BanlanX app's main interfaces, including Dynamic, Static, Music, DIY, Custom, and Settings screens, highlighting the range of control and customization options available.

4.2 RB4 RF Remote Control

The RB4 RF remote provides convenient physical control over your LED strips. It supports up to 4 zones, allowing you to control different lighting areas independently or simultaneously.

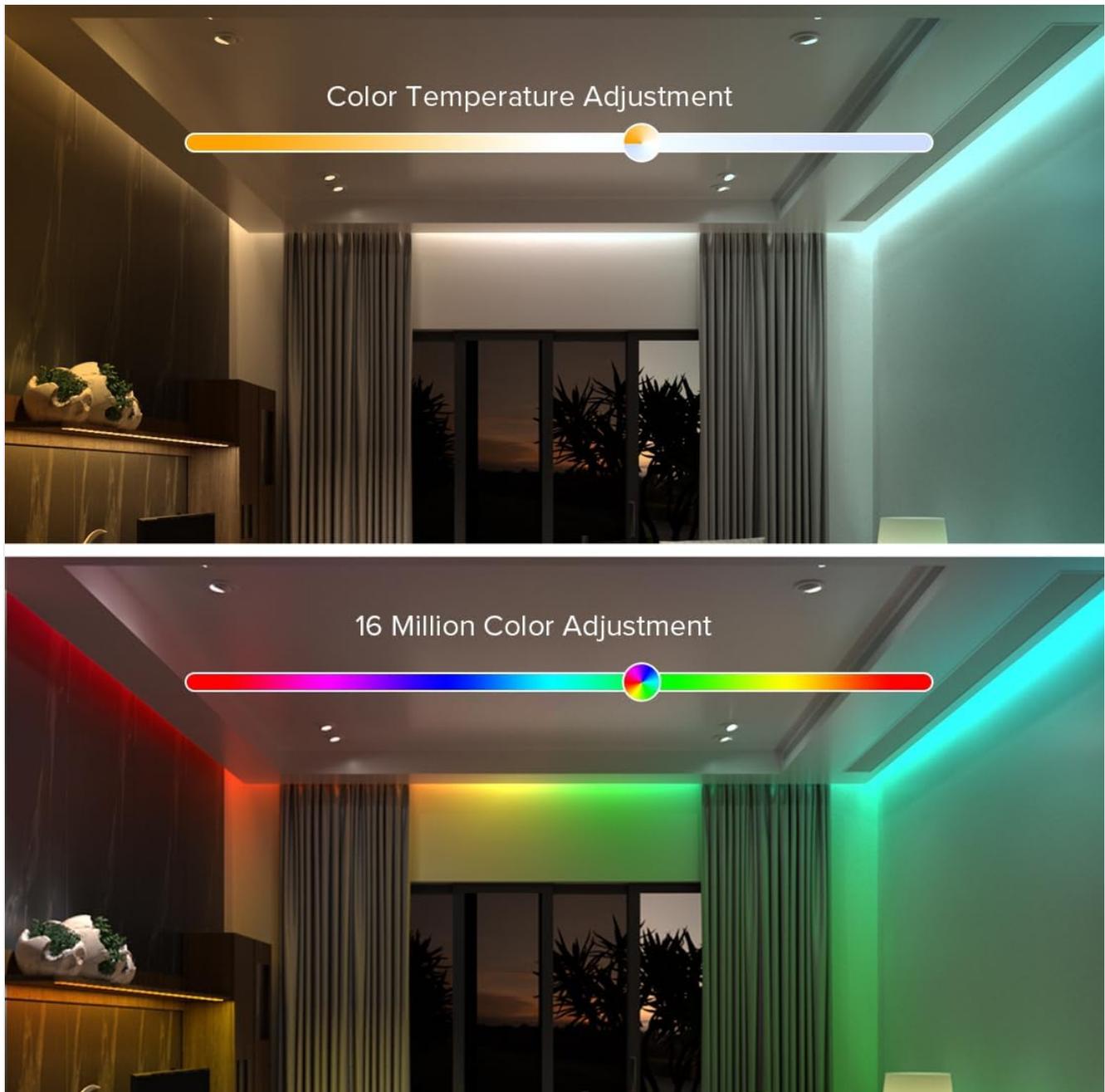


Figure 4.4: The RB4 RF remote control, detailing its buttons for power, switch, color ring/color temperature, brightness adjustment, zones (1-4), mode selection, speed adjustment, music mode, and all zones control. Dimensions are 133.39mm (5.25in) x 48.39mm (1.9in) x 10.35mm (0.4in).

4.2.1 Zone Setting and Group Control

To set a specific zone, short press the zone number (1-4) on the remote. To bind a controller to a specific zone, long press a zone key (1-4) within 20 seconds after the controller is powered on. The remote supports controlling multiple controllers within a 30m range, allowing for flexible group lighting setups.

Zone Setting



Figure 4.5: Illustration of how the RB4 RF remote can control multiple SP630E controllers across different zones within a 30-meter range, enabling group control or individual zone adjustments.

4.3 Operation Videos

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Video 4.1: This video demonstrates the various functions and controls available through the BanlanX mobile application for the SP630E controller, including dynamic effects, color selection, and music synchronization.

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Video 4.2: This video illustrates the compatibility of the SP630E controller with different types of LED strips, showcasing how to select and control various lighting configurations.

5. SPECIFICATIONS

Attribute	Detail
Brand	BTF-LIGHTING
Model Number	RB4+SP630E
Item Weight	2.39 ounces
Package Dimensions	7.17 x 6.02 x 1.3 inches
Item Package Quantity	1
Style	Modern
Color	White
Material	Plastic
Specific Uses	Indoor use only
Special Features	2.4GHz RF Remote, APP control, Bluetooth, PWM RGB CCT LED Strip, SPI RGB CCT LED Strip
Light Direction	Adjustable
Power Source	DC

Attribute	Detail
Batteries Included?	No
Batteries Required?	Yes
Type of Bulb	LED
Max Number of Supported Devices	4
Compatible Devices	LED Light Strip

6. TROUBLESHOOTING

- **LED Strip Not Lighting Up:**

- Check all wiring connections to ensure they are secure and correctly matched to the controller's ports (VCC, R, G, B, CW, WW, DAT, GND).
- Verify the power supply is connected and providing the correct voltage (DC5V-24V) for your LED strip.
- Ensure the correct LED type is selected in the BanlanX app settings. Incorrect selection can prevent the strip from lighting or displaying colors properly.
- For SPI LED strips, confirm the data direction (arrows on the strip) is correct.

- **Incorrect Colors or Effects:**

- Perform color calibration through the BanlanX app to match the app's color output with the LED strip's actual colors.
- Double-check the selected LED type in the app.

- **Remote Control Not Responding:**

- Ensure the remote control has working batteries.
- Verify the remote is paired with the controller. For zone binding, long press a zone key within 20 seconds of powering on the controller.
- Check for obstructions between the remote and the controller that might interfere with the 2.4GHz RF signal.

- **App Connection Issues:**

- Ensure Bluetooth is enabled on your smartphone.
- Restart the BanlanX app and try reconnecting.
- Power cycle the SP630E controller (unplug and replug the power).
- Ensure your phone is within Bluetooth range of the controller.

7. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the controller and remote. Avoid using liquid cleaners or solvents, as they may damage the components.
- **Storage:** Store the controller and remote in a cool, dry place away from direct sunlight and extreme temperatures when not in use for extended periods.
- **Battery Replacement (Remote):** If the RB4 remote's performance degrades, replace its batteries. Refer to the remote's specific instructions for battery type and replacement procedure.

- **Firmware Updates:** Periodically check the BanlanX app for any available firmware updates for the SP630E controller. Updates can improve performance and add new features.

8. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact BTF-LIGHTING customer service. Keep your purchase receipt as proof of purchase for any warranty claims.

Visit the official BTF-LIGHTING store for additional products and support: [BTF-LIGHTING Amazon Store](#)