

Manual Instruction

SPI Tuya LED Controller(WiFi+2.4G)

Model No.: CE.MCC.ST-SPI

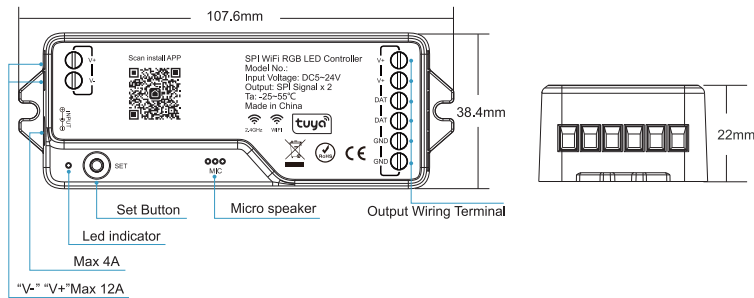
1.Product feature

- WiFi Wireless Control, Bluetooth Wireless Control and 2.4G RF Wireless Remote Control.
- WiFi and Bluetooth wireless technology can greatly improve the distribution network experience. If router is disconnected, you can open bluetooth to control the device at the short distance.
- App with multiple control options such as dimming ,remote control, group control, scene customization, timing, music rhythm ,tap to run, automation and do not disturb, etc.
- Voice control by Amazon Alexa \ Google Assistant \ Yandex Alice Tmall Genie and Baidu Xiao du.
- Support color calibration and numbers of IC setting on the APP, to increase the compatibility of many kinds of LED strip.
- Built-in multiple music effects, Supports the music collection mode of mobile phone microphone and onboard microphone.
- Rich Dynamic modes, support dynamic modes customization.
- Variety of ON/OFF animation effects.
- Support color adjustment segmentation ,Full color spray painting, segment painting, eraser segment painting.
- 2.4G RF wireless signal auto-transmission technology,the remote control distance has no limitless.
- Support reverse polarity protection.
- V0 anti-fire PC case.

2.Technical parameters

Parameters	Model No.	DR03W
Product type	RGB	WS2812B,WS2811,etc
IC QTY		20-720
Output Signal		5V SPI Signal
Working Temperature		-25~55°C
Input	Voltage: V+ V- input port Max 12A 5.5X2.1mm DC Connector input Max 4A DC5V LED Strip must use DC5V Power supply(When using DC5V power supply, distance between the power supply and the controller should not be too far, as it can cause a voltage drop and lead to instability and disconnection of the controller.) DC12V LED Strip must use DC12V Power supply. DC24V LED Strip must use DC24V Power supply.	

3.Product structure and size



4. APP control

1.Follow the below step to install smart life app or tuya app on your smart phone Download and install **[Smart Life]** APP or **[Tuya Smart]** APP Search for [Smart Life] in Apple or Google store or scan following QR code to download and install the app.

Please click " Register " button to create account while using it in the first time Log in directly if you already had account.



5. Wiring Drawing

DC5V LED Strip must use DC5V Power supply. DC12V LED Strip must use DC12V Power supply. DC24V LED Strip must use DC24V Power supply.

Use a more high-power power supply. Insufficient power will cause the controller Wi-Fi disconnect, Freeze or out of control.

The LEDs at the far end of the strip might be dimmer because of the added resistance and voltage drop that occurs as the current flows to that end of the strip.This is a normal physical phenomenon, and all the LED strips cannot avoid this problem.

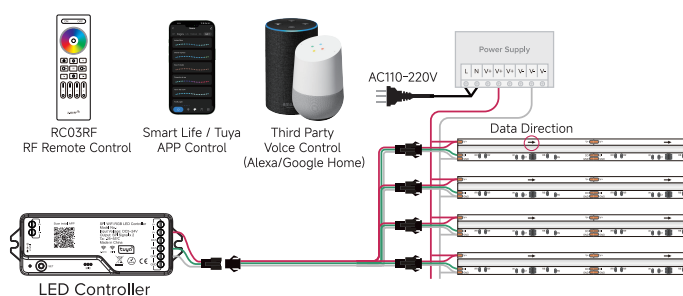
The factors that affect brightness are:

- ① Length. If your project is too long, the voltage drops.
- ② Power supply. Make sure the power is enough for the project.
- ③ Lighting effect. The full white lighting effect will consume a lot of energy.RGB LED strip White light is mixed white light= Red+green+blue light
- ④ Brightness. The brighter the brightness, the more consumption.
- ⑤ etc.

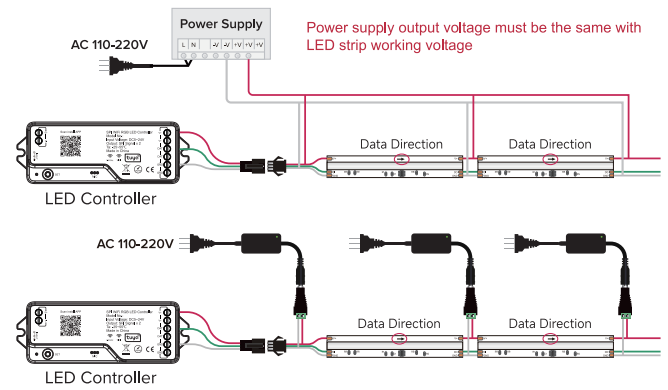
Solution:

- ① Adding voltage every 5 meters (16.4ft).
- ② Lower brightness
- ③ Enough power.
- ④ Avoid the full white lighting effect.
- ⑤ Using DC12V or DC24V LED strip.
- ⑦ etc.

Parallel Connection & Voltage Supplementation



Series Connection & Voltage Supplementation



⚠ Attention:

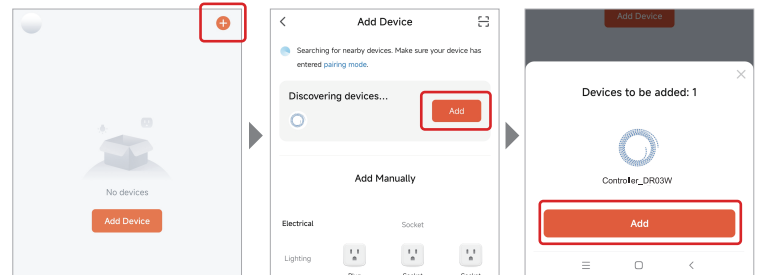
1. Two outputs signal are exactly same, which allows to connect multiple strips at the same time.
2. For 4 wires (+V ,Data,Backup Data, GND) SPI LED strip such as WS2813 WS2815 LED strip, the backup data wire can be connected to GND output port or DAT output port

6. Link to APP

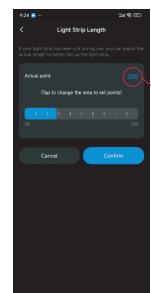
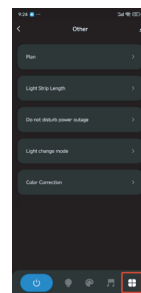
Function	Connection Way	The states of Pilot lamp and strip
Reset network, link to app mode	1.Long press "SET"button over 3s,indicator light blinks means network reset successfully,the device will go into link mode.	The indicator light flashes, and the LED strip is unchanged,
	Switch ON/OFF 3 times(ON-OFF-ON-OFF-ON), light blink 3 times means network reset successfully. Attention: Every time turn on the switch, please turn off power immediately after the indicator light on.If the power is discharged more than 4s,network reset will be unsuccessful.	Indicator light flashes, and strips flash 3 times.
	1.Power off the controller for 10s(Make sure the controller is completely powered off), press and hold "ON" Button on the remote, then power on the controller,if the light blink 3 times means reset successfully.	

7. Network Configuration

- (1) Connect the controller to the power supply.
- (2) Long-press the "SET" key until the pilot lamp flashes quickly.
- (3) Turn on the Bluetooth and Wi-Fi and select Wi-Fi 2.4GHz network you want. Meanwhile, please disconnect Bluetooth from other devices, such as earphones, stereos, etc. (make sure that your phone linked with 2.4GHz WiFi, the controller does not support 5GHz WiFi and WiFi6)
- (4) Open Tuya Smart APP or Smart Life APP, you will be reminded of "Devices to be added" or "Discovering devices", click the "Add" button.



- (5)Click the icon of the linked device to enter home page, click the "Add" icon to go to below interface
- (6) Set up the length of the LED strip by clicking on "Light strip length" to access the interface below.



Set the IC Chip QTY

The numbers in the picture represent the pixel count (IC Chip QTY), not LED QTY. Pixel count=IC Chip QTY ≠ LED QTY .Please read the LED strip product title or product description carefully. If unsure, you can ask the strip supplier.

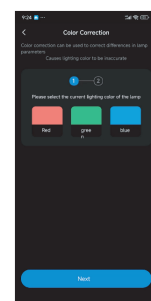
1. WS2812B ,WS2812B ECO ,WS2815,WS2813 ,SK6812RGBW LED Strip, 1 IC Chip = 1 LED.
2. WS2814,WS2805 ,WS2811 LED Strip,1 IC chip drives 3 LED or 6 LED.
3. WS2811 FCOB RGB LED,WS2814 FCOB RGBW 1 IC chip drives 45LED or 36LED or 56LED.

DR03W: Max control **720 IC Chip** .

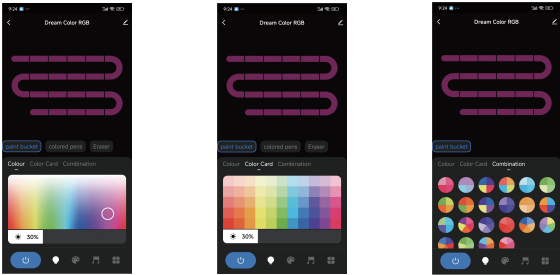
- (7) Led strip color correction: click on "color correction" to access the color calibration interface shown in the picture below.

Please select the corresponding color in the above interface based on the current color of the strip, and then click "Next" when the setting is complete.

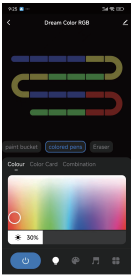
Note: The sixth (6) and seventh (7) steps must be set up during the first use.



(8) Click " " icon to go to the below interface. Select "paint buchket" mode, there are 3 color patterns for selections: "colour","Color card","Combination"

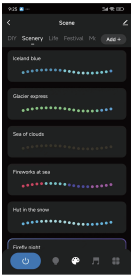


(9) Select the "Colored pens" mode to apply any color you like to paint the strips. The strips will display the color according to your painting, as shown in the picture below.

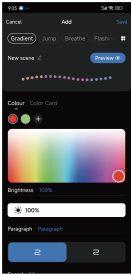


You could also select "Eraser" to wipe off the color for any part of strip(The erased part will not light up)

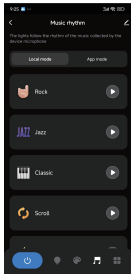
(10) Select " " icon to go to the below interface, there are variety of animation effects for selections



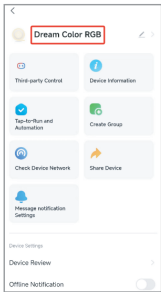
(11) Click on the upper left corner "DIY" button to customize your favorite animation effect, as shown in the picture below.



(12) Click " " icon to go to the music rhythm function,there are 2 types for selections "Local mode" and "APP mode"

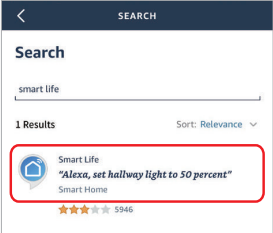


(13) Click top right corner " " icon to go to the below interface



You can edit device name, se up voice control,tap to run, group control and device sharing functions etc.

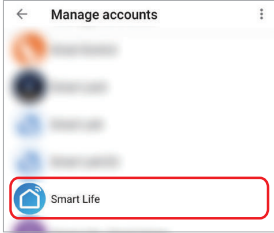
Support Amazon Alexa Control
Please search "Smart Life" skill in Alexa APP and activate the skill



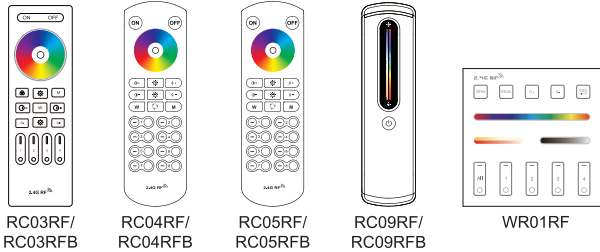
Note:

- In APP, a light strip is fixed with 20 segments, strip length (total number of pixel points) + 20 segments = number of pixel points per segment.
- The maximum length of the light strip is 720 pixels, for example, a light strip of 5 meters long with 60 pixels per meter, you can set the length to 300 pixels.The whole light strip is divided into 20 segments, each segment has 15 pixels.
- When the light strip length is less than or equal to 20 pixels, for example, 10-20, each pixel sequentially corresponds to each segment from the beginning.
- When the light strip length is not an integer multiple of 20, the remainder of the strip will display the color of the last segment.
- When the actual light strip length is not an integer multiple of 20, it is recommended to set the length longer and increase the value to a multiple of 20.
- When the set of the light strip length is less than the actual length, the back part of the light strip can not be controlled.
- When the selected dynamic mode cycle running interval is too long, please reset the correct pixel length.
- When the static or dynamic mode color display is not consistent with the APP interface, please re-select the light strip color sequence.

Support Google Home Control
Please search " Smart Life" skill in Google Home APP and activate the skill

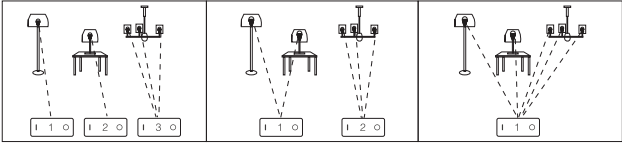


8. Compatible 2.4GHz RF Group Control Remote (Need purchased separately)



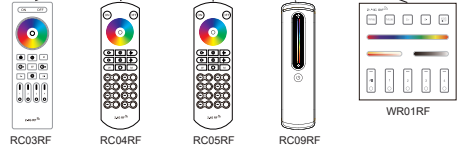
9. RF Remote Group Control

Countless controllers can be divided into different groups or into one group.**Note:Before using RF Remote,you should use the APP to set the IC QTY , and color calibration**



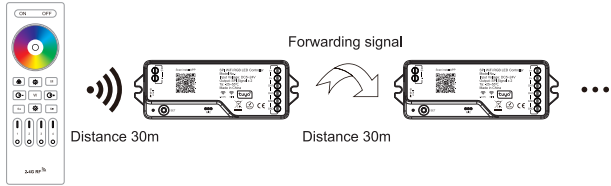
Remark:

The user can re-programme freely as needed. One remote can control countless controllers, but one controller can only be controlled by five remotes (Max).



10. Signal Transmitting

Controller can transfer the signal from remote to another controller within 30m,as long as there is a controller within 30m, control distance can be limitless.



11. Bluetooth control instructions

When the router is disconnected, you can turn on the Bluetooth on your smartphone and connect directly to controlled device at a short distance

Switching Bluetooth control steps:

- Complete the network distribution of the equipment.
- Power off the router used for network configuration, turn off WiFi on the mobile phone, turn on Bluetooth,1 minute later, reopen the APP,it can control the device by Bluetooth automatically.

Note:

Bluetooth-only connection (without WiFi) supports short-range basic control only. Advanced features (grouping, scheduling, third-party voice integration, etc.) are disabled in this mode.

12. Causes of Connection Failures and How to Resolve Them

- LED Strip only light up Red light.No other colors can light up**
A: The voltage of the power supply doesn't match the voltage of LED light . Maybe your LED strip is DC24V,You just use DC12V Power supply .Please check your power supply output voltage.
- The insufficient power of the power supply causes the controller to lose control.**
A: Use a more high-power power supply. Insufficient power will cause the controller Wi-Fi disconnect. If you don't know how to calculate the power of LED light strips, please contact us and we can help you with the calculation.
- Incorrect network usage**
A: Using 2.4GHz network.You can check your home network for problems via a mobile hotspot. Because the mobile hotspot network is 2.4GHz.
- Bluetooth not turned on**
A:Turning on Bluetooth improves connection success.Meanwhile, please disconnect Bluetooth from other devices, such as earphones, stereos, etc.
- Too much distance between router and controller, weak WiFi signal**
A: Adjust the distance between the controller and the router.
- You can use the Tuya Smart APP and connect 2.4GHz WiFi Successfully But the LED strip can not light up .**
A: The controller and LED strip light is poor connection . Please reconnect all the wires again.B:The data direction of LED strip light is wrong , please check the little arrow on the LED strip PCB board .
- LED strip goes off when lighting up White light.**
A: If your light is RGB type, we suggest you don't light up white light as the mixed white(R+G+B) consumes very high power. Insufficient power causes the strip to go off.

13. Attention

- Please check whether the input voltage of the constant voltage power supply is in accordance with the controller, and please check the connection of both the cathode and anode.
- The working Voltage is DC5-24V, the controller will be broken if the voltage is higher than 24V.
- Non-professional user cannot dismantle the controller directly, otherwise, it may cause fire and electric shock.
- The working temperature is-25-55°C; Do not use the device to direct sunlight, moist and other high temperature area.
- Please do not use controller around the mental area and high magnetic field, otherwise, it will badly affect the control distance.
- This controller only work with 2.4GHz WiFi network,don't use 5.0GHz WiFi.

Made in China

