

# DIM/CCT/ RGB/RGBW/RGB+CCT

## V5-SP

### RF 5 CH Constant Voltage LED Controller

- 5-in-1 function, for single color or color temperature, RGB, RGBW, RGB+CCT LED strips.
- Match with RF 2.4G single zone or multiple zone single color, dual color, RGB, RGBW, RGB+CCT remote control.
- One RF controller accept up to 10 remote control.
- 4096 levels 0-100% dimming smoothly without any flash.
- When using with RGB/RGBW/RGB+CCT light, built in 10 dynamic mode, include jump or gradual change style.
- Auto-transmitting function: Controller automatically transmit signal to another controller to extend the remote control distance exponentially.
- Synchronize on multiple number of controllers.
- Connect with external push switch to achieve on/off, and brightness, color temperature, RGB color adjustment function.
- Light on/off fade time 3s selectable.
- Reverse/Over-heat protection.

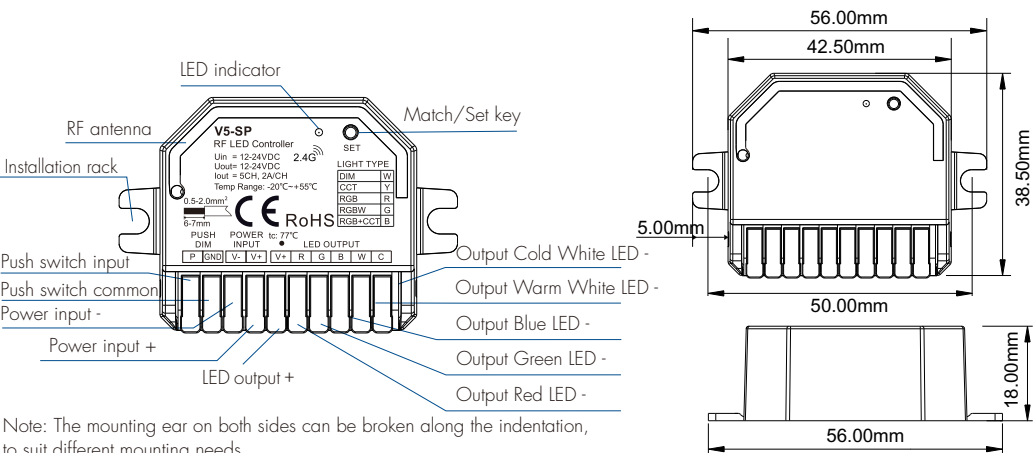


CE RoHS

#### Technical Parameters

| Input and Output        |                   | Dimming data            |                             | Safety and EMC  |                                                             |
|-------------------------|-------------------|-------------------------|-----------------------------|-----------------|-------------------------------------------------------------|
| Input voltage           | 12-24VDC          | Input signal            | RF 2.4GHz + Push-DIM        | EMC standard    | EN IEC 55015/<br>EN IEC 61547-1/-2<br>ETSI EN 301 489-1/-17 |
| Input current           | 10.5A             | Control distance        | 30m (Barrier-free space)    | Safety standard | EN 61347-1/-2                                               |
| Output voltage          | 5x(12-24)VDC      | Dimming gray scale      | 4096 (2^12) levels          | Radio equipment | ETSI EN 300 328<br>ETSI EN 300 440                          |
| Output current          | 5CH,2A/CH         | Dimming range           | 0 -100%                     | Certification   | CE RoHS                                                     |
| Output power            | 5 X(24-48)W       | Dimming curve           | Logarithmic                 | Package         |                                                             |
| Environment             |                   | PWM frequency           | 2KHz(default)               | Size            | l60 x V60 x H40mm                                           |
| Operation temperature   | Ta: -20°C ~ +55°C | Warranty and Protection |                             | Gross weight    | 0.043kg                                                     |
| Case temperature (Max.) | Tc: +77°C         | Warranty                | 5 years                     |                 |                                                             |
| IP rating               | IP20              | Protection              | Reverse polarity, Over heat |                 |                                                             |

#### Mechanical Structures and Installations



Note: The mounting ear on both sides can be broken along the indentation, to suit different mounting needs.

#### Light Type Setting

User need to set the correct light type via the SET key before matching the RF remote control. Long press the SET key to switch 5 light types sequentially, every long press 2s to switch one, the LED indicator turns to the corresponding color.

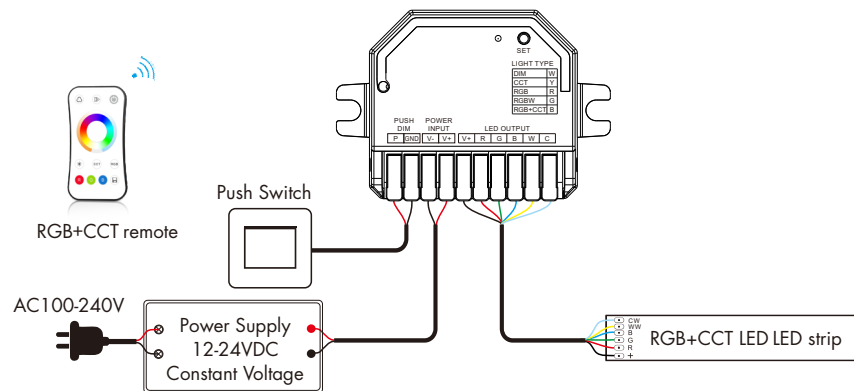
| Light type          | DIM   | CCT    | RGB | RGBW  | RGB+CCT |
|---------------------|-------|--------|-----|-------|---------|
| LED indicator color | white | yellow | red | green | blue    |

#### Note:

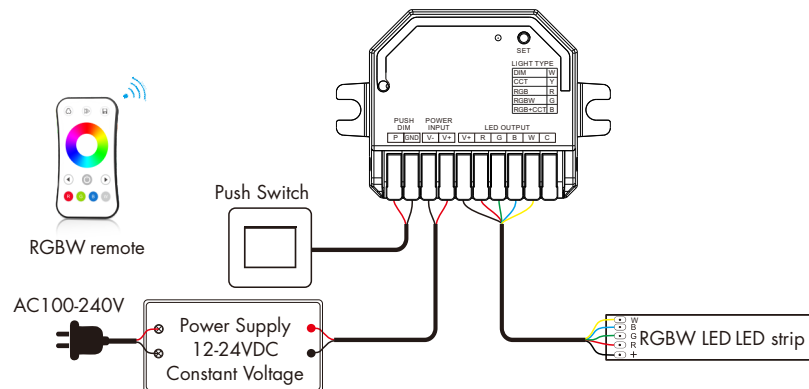
For RGBW light type, RGB channel and W channel can not be turned on at the same time;  
For RGB+CCT light type, RGB channel and CCT channel can not be turned on at the same time.

#### Wiring Diagram

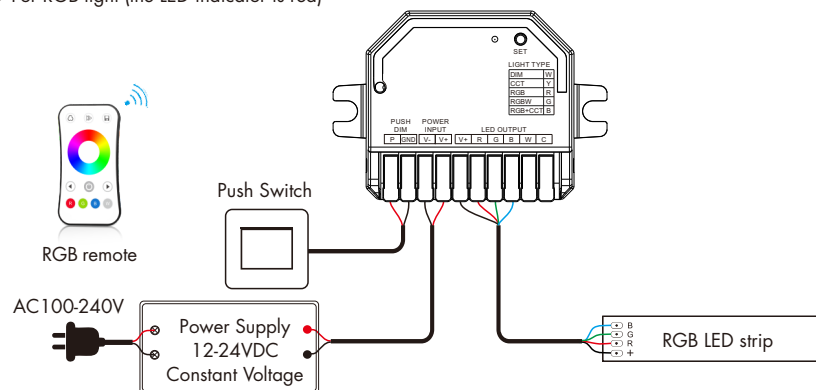
- For RGB+CCT light (the LED indicator is blue)



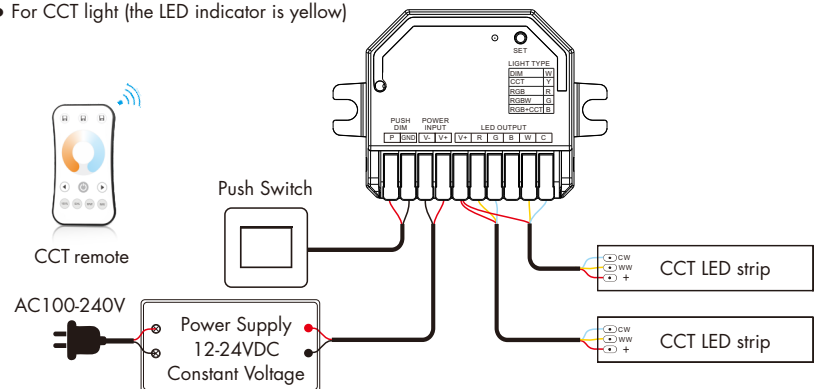
- For RGBW light (the LED indicator is green)



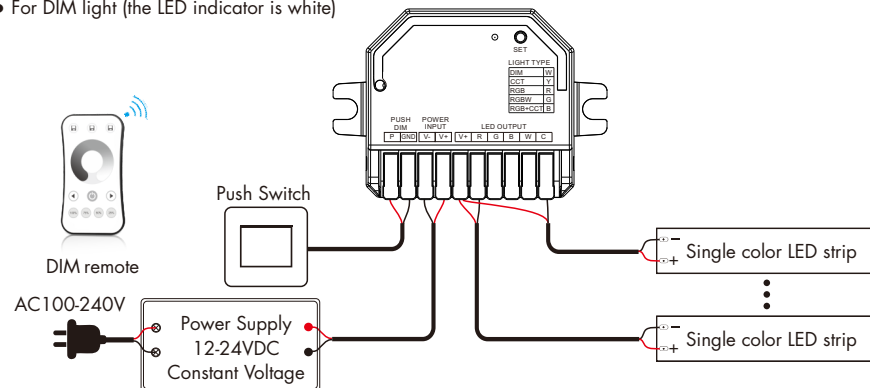
- For RGB light (the LED indicator is red)



- For CCT light (the LED indicator is yellow)



- For DIM light (the LED indicator is white)



#### Wire preparation:

1. The wiring can be solid or stranded with a cross-sectional area of 0.5 to 2.0 mm<sup>2</sup>.  
Conventional 1mm<sup>2</sup> can withstand 10A output current.
2. When wiring is installed, the terminals must be tightened. If they are not tightened, the contact point resistance will be too high and the terminals will easily burn due to heat when used at full load for a long time.

**Note:** The output power of a constant voltage power supply should be at least 1.2 times that of the output load (light strip), otherwise the full power output of the load can easily cause automatic flickering or shaking of the light.



## Push Switch Dimming

The push switch interface can be connected to push panel switch or push button for dimming. It is recommended that the number of controllers connected to the same push switch does not exceed 25, and the length of the connecting wire does not exceed 20m.

### 1. DIM light:

- **Short press:** Turn the light on or off.
- **Long press (1-6s):** Continuously increase or decrease the brightness, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch between 10% and 100% brightness.

### 2. CCT light:

- **Short press:** Turn the light on or off.
- **Long press (1-6s):** Adjust the brightness by default, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch three color temperatures in sequence (warm white - neutral white - cool white). At the same time, it enters the state of adjusting color temperature by long press, and automatically exits the state of adjusting color temperature after 5s of no operation.

### 3. RGB light:

- **Short press:** Turn the light on or off.
- **Long press (1-6s):** Adjust the brightness by default, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch between color light (RGB) and mixed white light (50% saturation). At the same time, it enters the state of adjusting color or saturation by long press, and automatically exits the state of adjusting color or saturation after 5s of no operation.

### 4. RGBW light:

- **Short press:** Turn the light on or off.
- **Long press (1-6s):** Adjust the brightness by default, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch between color light (RGB) and white light. At the same time, it enters the state of adjusting color or white light brightness by long press, and automatically exits the state of adjusting color or white light brightness after 5s of no operation.

### 5. RGB+CCT light:

- **Short press:** Turn the light on or off.
- **Short press(1-6s):** Adjust the brightness by default, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch between color light (RGB) and color temperature. At the same time, it enters the state of adjusting color or color temperature by long press, and automatically exits the state of adjusting color or color temperature after 5s of no operation.

## On/Off Fade Time Setting

Press and hold the SET key for 10s to restore the default parameters, factory default parameters: RGB+CCT light type, 100% brightness, light on/off fade time is 0.5s. Press and hold the SET key for 15s, the light on/off fade time is set to 3s.

## Match with RF Remote Control(Two ways of matching)

There are two ways to match/delete:

### Use match key

Match:

Short press match key,  
immediately press on/off key (single zone remote)  
or zone key (multiple zone remote) of the remote,  
The indicator blinks means match is successful.

Delete:

Press and hold match/set key for 5s to delete all match,  
The LED indicator blinks means all matched remotes were  
deleted.

### Use Power Restart

Match:

Switch off the power, then switch on power, repeat again.  
Immediately short press on/off key (single zone remote)  
or zone key (multiple zone remote) 3 times on the remote.  
The light blinks 3 times means match is successful.

Delete:

Switch off the power, then switch on power, repeat again.  
Immediately short press on/off key (single zone remote)  
or zone key (multiple zone remote) 5 times on the remote.  
The light blinks 5 times means all matched remotes were  
deleted.

## Dynamic Change Mode (Recalled by RF remote control)

Used for RGB/RGB+W:

| No. | Name                      | No. | Name                  |
|-----|---------------------------|-----|-----------------------|
| 1   | RGB jump                  | 6   | RGB fade in and out   |
| 2   | RGB smooth                | 7   | Red fade in and out   |
| 3   | 6 color jump              | 8   | Green fade in and out |
| 4   | 6 color smooth            | 9   | Blue fade in and out  |
| 5   | Yellow cyan purple smooth | 10  | White fade in and out |

Used for RGB+CCT:

| No. | Name                     | No. | Name                  |
|-----|--------------------------|-----|-----------------------|
| 1   | RGB jump                 | 6   | RGB fade in and out   |
| 2   | RGB smooth               | 7   | Red fade in and out   |
| 3   | 6 color jump             | 8   | Green fade in and out |
| 4   | 6 color smooth           | 9   | Blue fade in and out  |
| 5   | Color temperature smooth | 10  | White fade in and out |

## Installation Precautions

1. The products shall not be stacked, the distance should be  $\geq 20\text{cm}$ , so as not to affect lifespan of the products due to poor heat dissipation.
2. The product shall not be installed close to the switching power supply with an interval of  $\geq 20\text{cm}$  to avoid radiation interference of the switching power supply.
3. The installation height shall be  $\geq 1\text{m}$  from the floor to avoid shortening remote control distance due to too weak reception signal.
4. The products are not allowed to be close to or covered by metal objects, with an interval of  $\geq 20\text{cm}$  to avoid signal attenuation and shorten the remote distance.
5. Avoid installation at the corner of the wall or the corner of the beam, with an interval of  $\geq 20\text{cm}$  to avoid signal interference.