

## RGB/CCT/Dimming 3 Channel LED RF Controller

Model No.: OL/RGB/96/CS/RF

3 Channels/Step-less dimming/Wireless remote control/Auto-transmitting/Synchronize



### Features

CE RoHS ETC LVD RED

- Match with RF 2.4G single zone or multiple zone single color, dual color and RGB/RGBW remote control.
- One RF controller accept up to 10 remote control.
- 4096 levels 0-100% dimming smoothly without any flash.
- When using with RGB light, built in 10 dynamic mode, include jump or gradual change style.
- Auto-transmitting function: Controller automatically transmit signal to another controller with 30m control distance.
- Synchronize on multiple number of controllers.
- Light on/off fade time 3s selectable.

### Technical Parameters

| Input and O output |                   |
|--------------------|-------------------|
| Input voltage      | 12-24VDC          |
| Input current      | 12.5A             |
| Output voltage     | 3 x (12-24)VDC    |
| Output current     | 3CH,4A/CH         |
| Output power       | 144-288W (12-24V) |
| Output type        | Constant voltage  |

| Environment             |                   |
|-------------------------|-------------------|
| Operation temperature   | Ta: -30°C ~ +55°C |
| Case temperature (Max.) | Tc: +85°C         |
| IP Rating               | IP20              |

| Warranty and Protection |                                   |
|-------------------------|-----------------------------------|
| Warranty                | 5 years                           |
| Protection              | Reverse polarity<br>Short circuit |

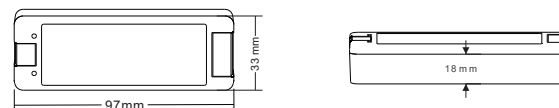
| Dimming data       |                                |
|--------------------|--------------------------------|
| Input signal       | RF 2.4GHz                      |
| Control distance   | 30m(Barrier-free space)        |
| Dimming gray scale | 4096 (2 <sup>12</sup> ) levels |
| Dimming range      | 0 - 100 %                      |
| Dimming curve      | Logarithmic                    |
| PWM Frequency      | 1000Hz (default)               |

| Safety and EMC       |                                                       |
|----------------------|-------------------------------------------------------|
| EMC standard (EMC)   | ETSI EN 301 489-1 V2.2.3<br>ETSI EN 301 489-17 V3.2.4 |
| Safety standard(LVD) | EN 62368-1:2020+A11:2020                              |
| Radio Equipment(RED) | ETSI EN 300 328 V2.2.2                                |
| Certification        | CE, EMC, LVD, RED                                     |

| Weight       |         |
|--------------|---------|
| N et weight  | 0.038kg |
| Gross weight | 0.049kg |

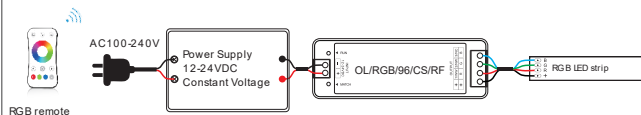
RGB/CCT/Dimming 3 Channel LED RF Controller

### Mechanical Structures and Installations

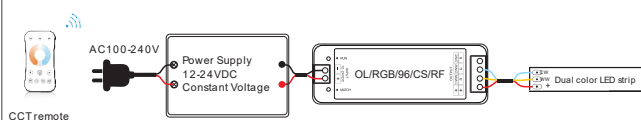


### Wiring Diagram

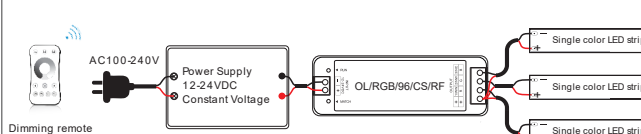
#### • V3 for RGB



#### • V3 for dual color



#### • V3 for single color



## Match Remote Control (two match ways)

End user can choose the suitable match/ delete ways. Two options are offered for selection:

### Use the controller's Match key

**Match:**  
Short press match key immediately press on/off key (single zone remote) or zone key (multiple zone remote) on the remote.  
The LED indicator fast flash a few times means match is successful.

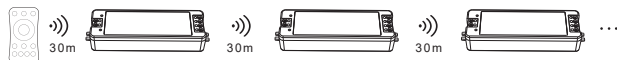
**Delete:**  
Press and hold match key for 5s to delete all match.  
The LED indicator fast flash a few times means all matched remotes were deleted.

### Use Power Restart

**Match:**  
Switch off the power of the receiver, 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 of the receiver, 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.

## Application notes

1. All the receivers in the same zone.



### RF remote

**Auto-transmitting:** One receiver can transmit the signals from the remote to another receiver within 30m, as long as there is a receiver within 30m, the remote control distance can be extended.

**Auto-synchronization:** Multiple receivers within 30m distance can work synchronously when they are controlled by the same remote, under same dynamic mode and with same speed.

Receiver placement may offer up to 30m communication distance. Metals and other metal materials will reduce the range.

Strong signal sources such as WiFi routers and microwave ovens will affect the range.

We recommend for indoor applications that receiver placements should be no further apart than 15m.

2. Each receiver (one or more) in a different zone, like zone 1, 2, 3 or 4.



## Light on/ off fade time

Long press match key 5s, then short press match key 3 times, the light on/off time will be set to 3s, the indicator light blink 3 times.  
Long press match key 10s, restore factory default parameter, the light on/off time also restore to 0.5s.

## RGB Dynamic mode list

| 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 |

## Dual color control

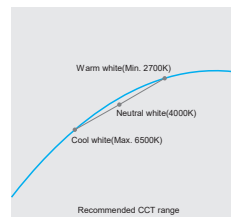
CH1=Warm white LED

CH2=Cool white LED

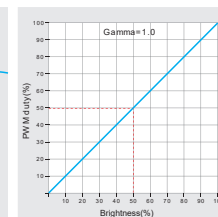
Each channel can supply up to 96W (@ 24V) and white balance can be controlled as such:

| Color temperature  | Cool white      | Neutral white    | Warm white      |
|--------------------|-----------------|------------------|-----------------|
| Power distribution | CH1=0W ,CH2=96W | CH1=48W ,CH2=48W | CH1=96W ,CH2=0W |

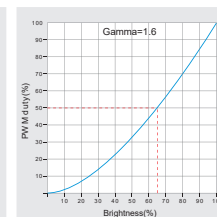
Linear dual color tuning



Dimming curve for CCT



Dimming curve for RGB/DIM



## Malfunctions analysis & troubleshooting

| Malfunctions                                              | Causes                                                                                                                                                   | Troubleshooting                                                                                                     |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| No light                                                  | 1. No power.<br>2. Wrong connection or insecure                                                                                                          | 1. Check the power.<br>2. Check the connection                                                                      |
| Wrong color                                               | 1. Wrong connection of R/G/B wires.                                                                                                                      | 1. Reconnect R/G/B wires.                                                                                           |
| Uneven intensity between front and rear with voltage drop | 1. Output cable is too long.<br>2. Wire diameter is too small.<br>3. Overload beyond power supply capability<br>4. Overload beyond controller capability | 1. Reduce cable or loop supply<br>2. Change wider wire.<br>3. Replace higher power supply<br>4. Add power repeater. |
| No response from the remote                               | 1. The battery has no power<br>2. Beyond controllable distance.<br>3. The controller did not match the remote                                            | 1. Replace battery.<br>2. Reduce remote distance.<br>3. Re-match the remote                                         |



## FCC Warning

### 15.19 Labeling requirements.

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

### 15.21 Information to user.

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

### 15.105 Information to the user.

Note: 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.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## FCC RF Radiation Exposure Statement:

- 1.This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
  - 2.This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment.
- This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.