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***ZigBee™- Wireless LED RGB Controller***

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# **User Manual**

**Wireless LED RGB Controller**

**Model: ZL01G**

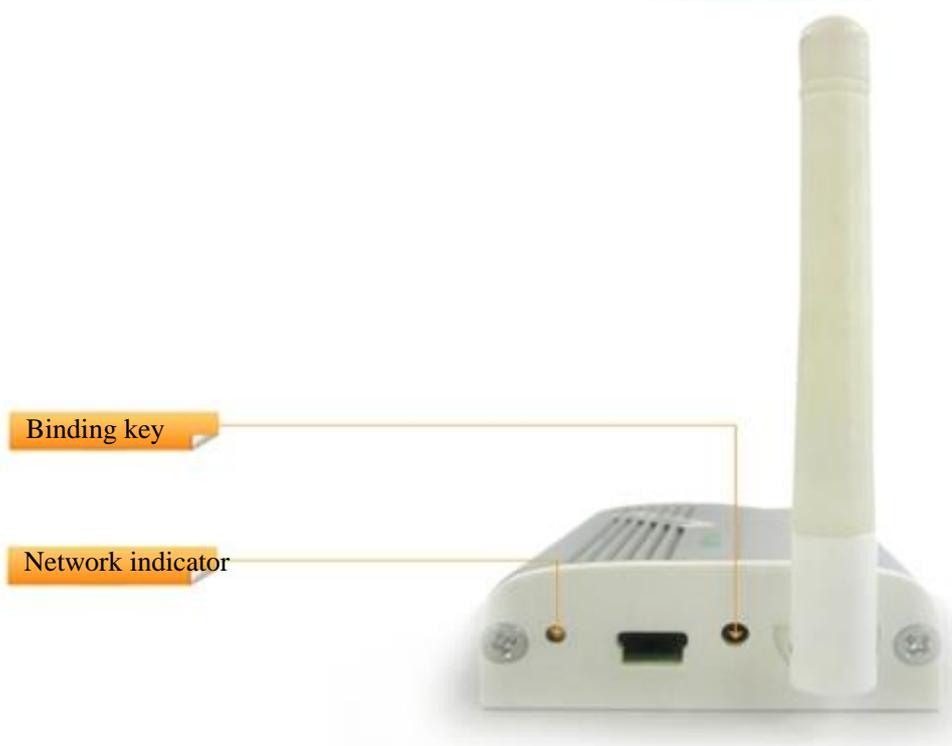
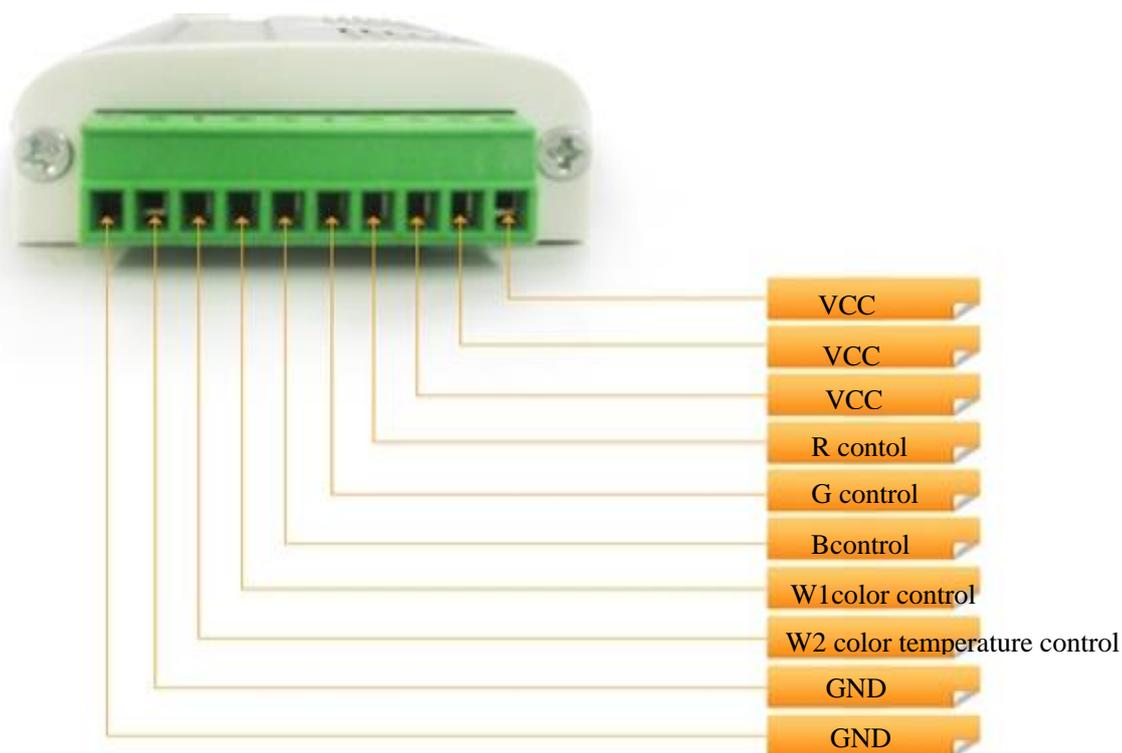
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## 1. Introduction

ZL01G is a ZigBee dimmable / RGB control box, working with RGB lamps and lights strips. It can communicate with end devices through ZigBee network. There are two power supplies, DC12V and 24V. ZL01G can control V+ input RGB panels / lamps, and control RGB colors and brightness.

## 2. Product Appearance



### 3. Specification

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- Device type:Color Dimmable Light
- Protocol based on IEEE802.15.4 / Zigbee Pro™
- Control RGB colors and RGB brightness.
- Input power DC12V and 24V
- Support RGB LED Strip
- Antenna type : I-PEX

## 4. Installation

### 4-1. Join Zigbee network

- (1) Power on ZL01G, it will start to search network automatically.
- (2) If there are routers or coordinators on the same channel, available to connect; ZL01G will join automatically.
- (3) Networking indicator flash: connection fails.
- (4) Networking indicator stays on: connection completes.

### 4-3. Permit join

ZL01G as a router allows other devices to join the network:

- (1) Short press the binding key once.
- (2) Status indicator will flash which means allowing other devices to join network through ZL01G.
- (3) After status indicator flashes 60 times within 60s, permit join function will shut off automatically and the indicator stops flashing.

### 4-4. Binding

ZL01G can bind with On/Off (0x0006) 、 Level(0x0008)、 colorLevel (0x0300) Cluster ID of users' devices; users can remote control on/off devices via ZL01G. Binding steps as shown below:

- (1) Available to bind devices with on/off functions such as Z501, Z503, ZB02C...etc.
- (2) Long press binding key for 3 seconds; the status indicator will flash once.
- (3) Release binding key to start binding.
- (4) Status indicator will flash 5 times and then shut off when binding completes. .
- (5) Status indicator will flash 10 times and then shut off when binding fails.

**NOTE: support max. 24 groups, 24 scenes**

### 4-5. Working function

#### 4.5.1. Memory function

After programming memory function, ZL01G color is stable for over 30s. which the device will memorize current color. It will show color as the previous one before power off.

#### 4.5.2.Gradient function

- (a) After power on, ZL01G will change to target color in 1.5 sec. which is default “**OnoffTransitionTime**”.
- (b) After receiving On/Off/Toggle, on/off will switch gradually in default 1.5 sec.
- (c) “**OnoffTransitionTime**” is adjustable.

#### 4.5.3. Dimming and color function

During dimming process, the color remain unchanging.

During coloring process, the brightness remain unchanging.

**NOTE:** ZL01G has no local control function, it need to bind with device to control brightness and color.

#### 4.5.4. Multiple-segment -dimming function:

Through this function, color and brightness will change in certain interval.

(a) While receiving **Start MfgColorDimmer Request**, the current state of color and level are stored and system can process multiple-segment -dimming according to **Set MfgColorDimmer Request**.

After completing **len's DimmerSetPoint of Set MfgColorDimmer Request** , system will change back to the stored color and leve state.

(b) While receiving **Stop MfgColorDimmer Request** when the system is processing multiple-segment -dimming under **Start MfgColorDimmer Request**. The system will stop multiple-segment -dimming and change back to the stored color and leve state.

#### 4.5.5. Customized command Set MfgColorDimmer (0F78)

Set the brightness and color to be adjusted, and support up to 8 segment of color.

(a) Customized command **Get MfgColorDimmer (0F79)**, obtain dimming information.

(b) Customized command **Start MfgColorDimmer (0F7A)**, start multiple-segment-dimming function.

(c) Customized command **Stop MfgColorDimmer (0F7B)**, stop multiple-segment-dimming function.

#### 4.5.6. Color temperature adjustment

Achieve by commanding **Color temperature** .

Support 2700K-6500K color temperature. The range covers warm and cold color temperature.

**NOTE :** to adjust color, color attribute **ColorMode** set to be **0x01** under **0300**;

to adjust color temperature, color attribute **ColorMode** set to be **0x02**.

## 4-6. Factory Setting

ZL01G is capable of storing and saving network routing information. You can join to a new network by simply resetting the device to restore to the factory setting.

When device is power on, long press binding key for 15 seconds ( the network indicator flashes once on 3<sup>rd</sup> sec., 10<sup>th</sup> sec., 15<sup>th</sup> sec.) , and then short press within 2 sec., network indicator flashes 20 times to default to factory setting . After the network indicator flashes again , ZL01G can re-join the network.

## 4-7. Zigbee cluster for ZL01G

- 1.End Point(s): 0x01
- 2.Device ID: Color Dimmable Light (0x0102)
- 3.EndPoint support Cluster ID

Cluster ID for ZL01G	
Server side	Client side
<b>EP 0X01 (Device ID: Color Dimmable Light (0x0102) )</b>	
Basic(0x0000)	<i>None</i>
Identify(0x0003)	
Group(0x0004)	
Scene(0x0005)	
On/Off(0x0006)	
Level control(0008)	
Commissioning (0x0015)	
Color control (0x0300)	
<i>Diagnostics (0x0B05)</i>	

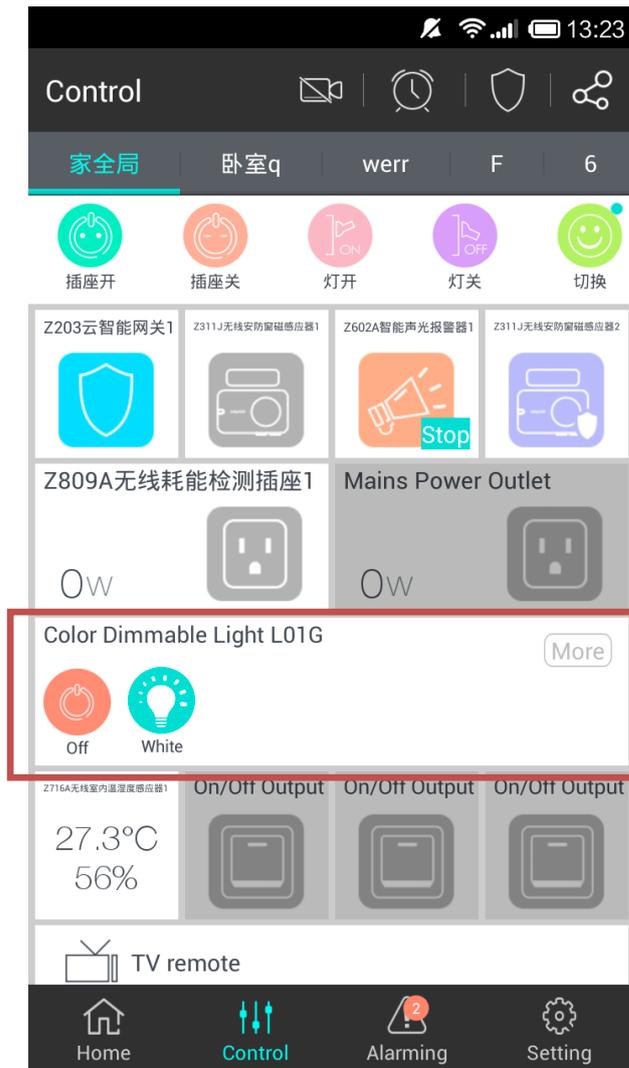
Attributes of the Basic Information:

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>ZCLVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X03	M
0x0001	<i>ApplicationVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X35	O
0x0002	<i>StackVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X0A	O
0x0003	<i>HWVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X01	O
0x0004	<i>ManufacturerName</i>	Character string	0 – 32 bytes	Read only	netvox	O
0x0005	<i>ModelIdentifier</i>	Character	0 – 32	Read only	ZL01GE3	O

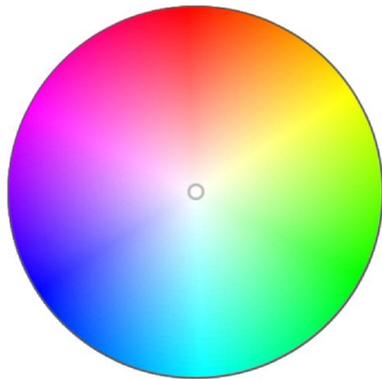
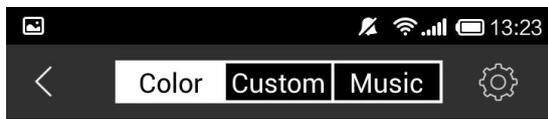
		string	bytes		R	
0x0006	<i>DateCode</i>	Character string	0 – 16 bytes	Read only	20150731	O
0x0007	<i>PowerSource</i>	8-bit Enumeration	0x00 – 0xff	Read only	0X01	M
0x0010	<i>LocationDescription</i>	Character string	0 – 16 bytes	Read/write	-	O
0x0011	<i>PhysicalEnvironment</i>	8-bit Enumeration	0x00 – 0xff	Read/write	0x00	O
0x0012	<i>DeviceEnabled</i>	Boolean	0x00 – 0x01	Read/write	0x01	M

## 5. Operation with Netvox APP

1. Add device to Netvox network system, find the added device at interface as below picture. Press the “white light”, “on/off” to simply control the system.



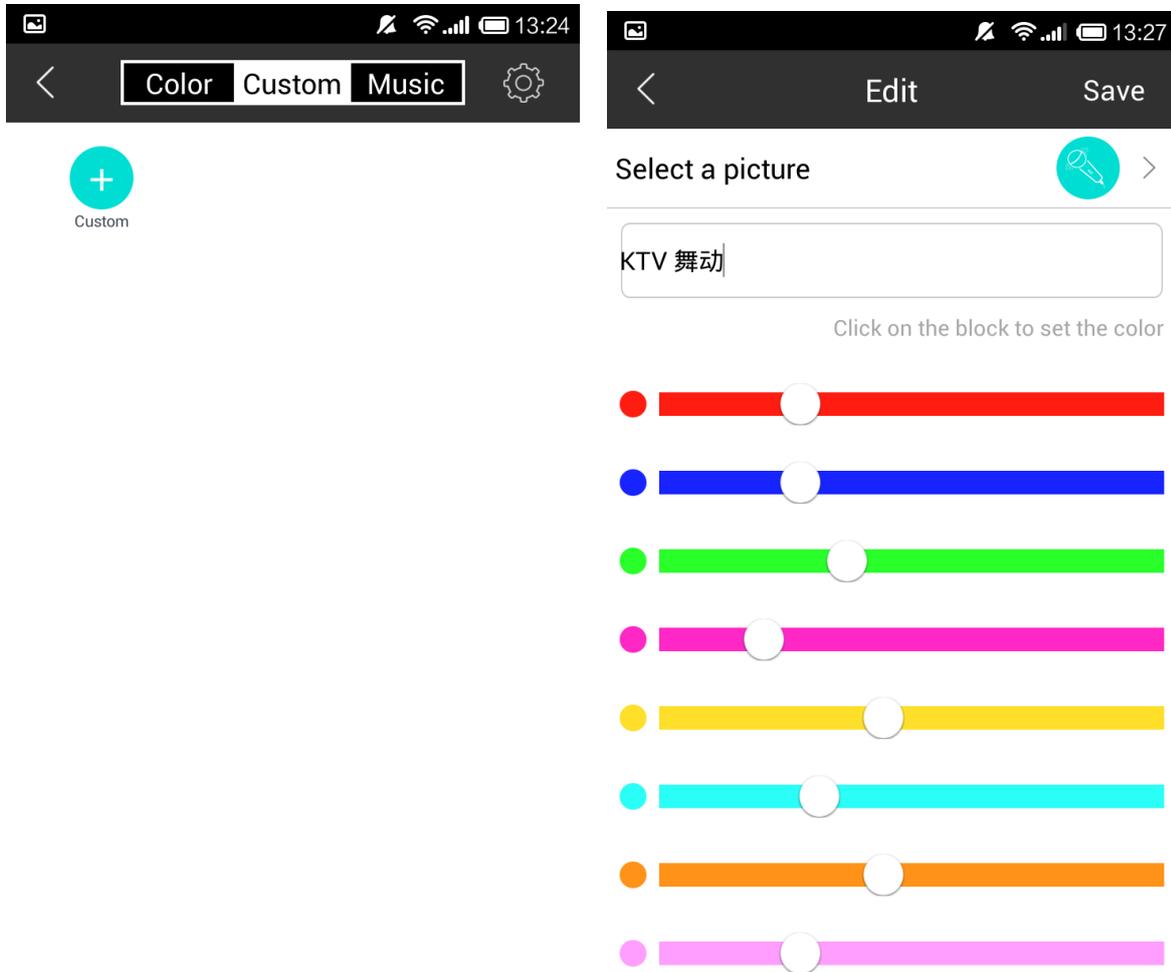
Click more “more”, entering more function interface as below:



(a) Press color -> multicolor (only for RGB light strip), color adjustment, choose specific color and adjust the brightness.

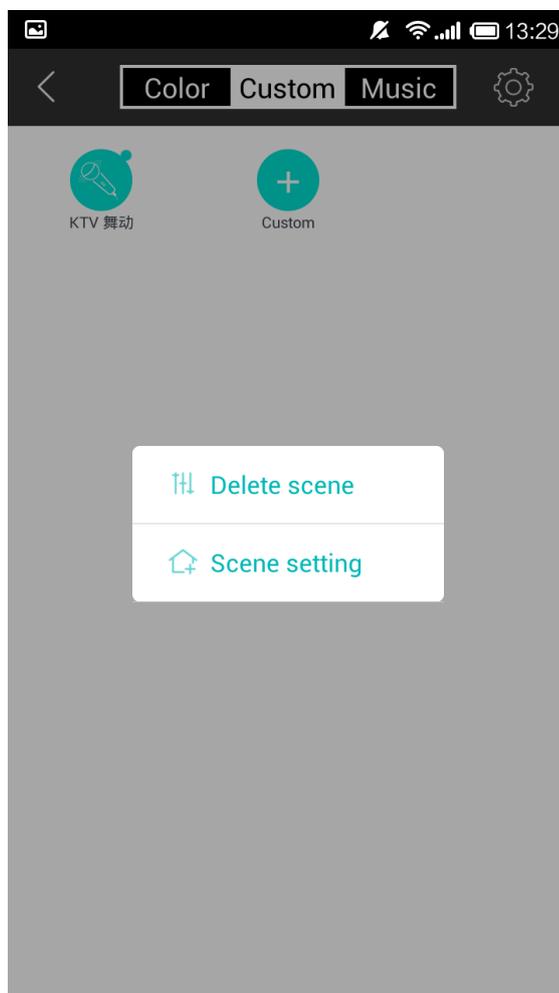
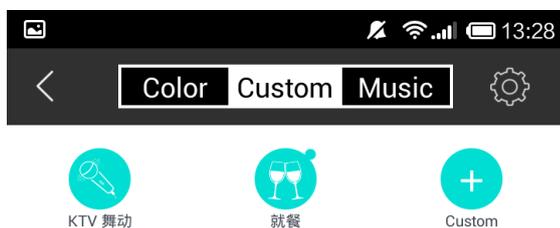
(b) Press color -> white (only for RGB light strip), color temperature adjustment. To the “cold”, color is whiter and colder. To the “warm”, color is yellower and warmer. Users can adjust brightness in the mean time.

3. Press customize to editing, changing picture, changing button name, color and time interval. Support up to 8 colors. Setting interval 0~5 seconds, as below:



Press color dot on the left, each progress bar corresponds to the lighting interval of the color. Extend the bar to set lighting interval, save when it completes.

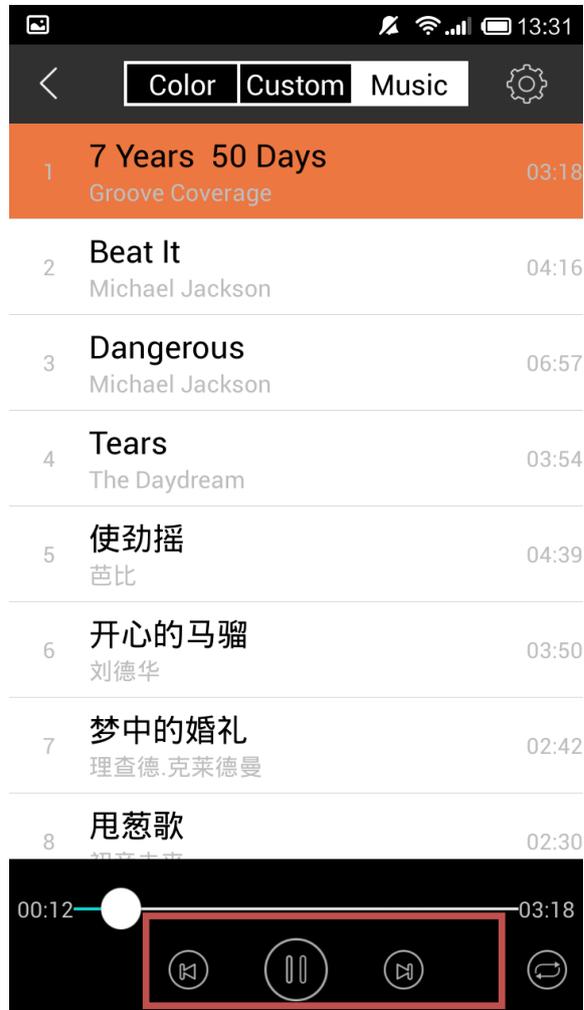
4. When customize setting is done, users are able to control devices while clicking the customize button such as performing colors, time cycles, multiple-segment dimming. Long press the customize button to edit or delete function.



The customize setting will automatically build a short cut button at the interface for user to control easily.



5. Press music, play musics in the mobile. Colors change according to rhythm of the music. Color change frequency will alter along with music heartbeat. Click pause,the music and color also pause. Re-play the music, the color change turns back on again.



## 6. Related Netvox Device

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1) Switch (Model name: ZB02A/B/C)



2) Remotes (Model name: Z503/Z501B)



3) Motion Detector (Model name: ZB01B)

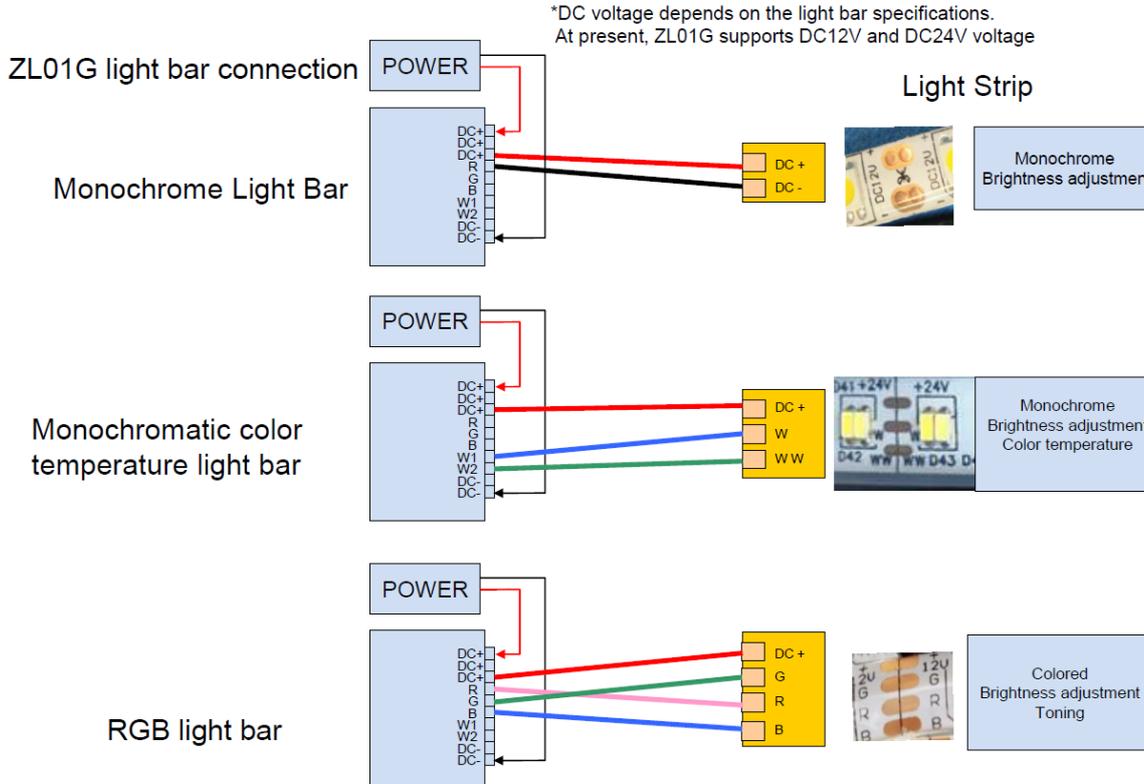
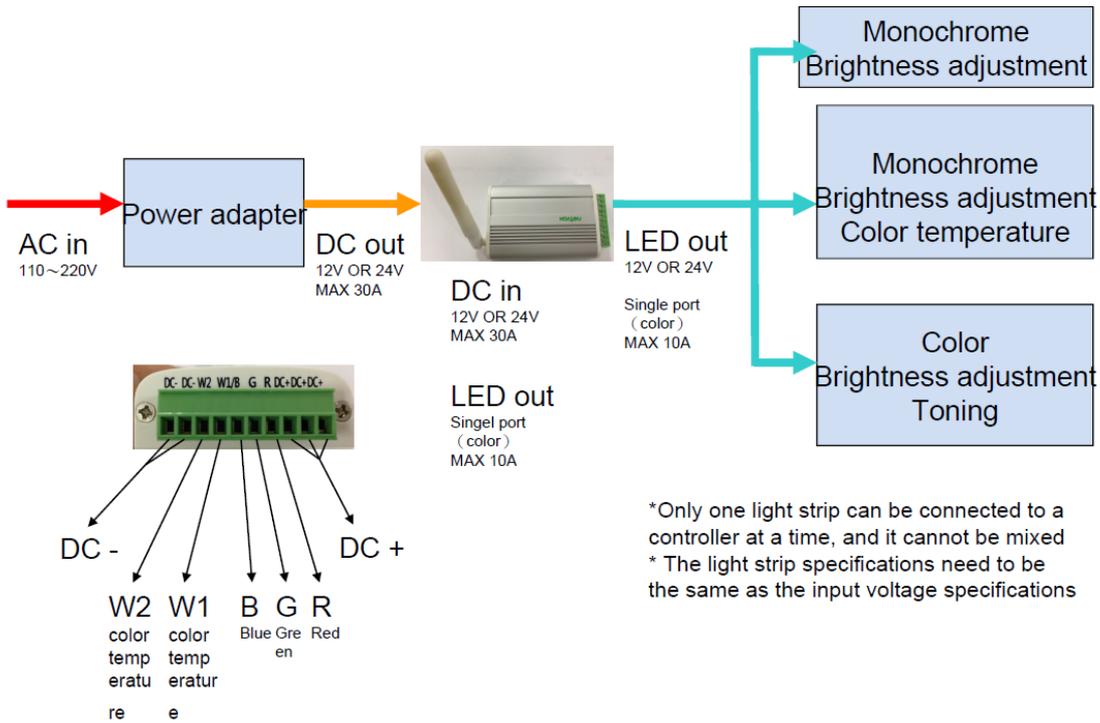


## 7. Install Method

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This device is NOT truly waterproof/ resistant and is for indoor use.

ZL01G Architecture Diagram



## 8. Important Maintenance Instruction

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- Please keep the device in a dry place. Precipitation, humidity, and all types of liquids or moisture can contain minerals that corrode electronic circuits. In cases of accidental liquid spills to a device, please leave the device dry properly before storing or using.
- Do not use or store the device in dusty or dirty areas.
- Do not use or store the device in extremely hot temperatures. High temperatures may damage the device or battery.
- Do not use or store the device in extremely cold temperatures. When the device warms to its normal temperature, moisture can form inside the device and damage the device or battery.
- Do not drop, knock, or shake the device. Rough handling would break it.
- Do not use strong chemicals or washing to clean the device.
- Do not paint the device. Paint would cause improper operation.

Handle your device, battery, and accessories with care. The suggestions above help you keep your device operational. For damaged device, please contact the authorized service center in your area.