GLEDOPTO

WLED Series LED Strip Controller

User Instruction

GL–C–008WL、GL–C–009WL、GL–C–010WL
GL–C–010WL–D、GL–C–011WL

ESP8266 WLED Digital LED Controller

Parameters

Model: GL-C-008WL
Input Voltage: DC 5-24V
Input Current: 10A Max
Wireless Communication: WIFI
Temperature: -20~45°C
Dimensions: 89x48x23.5mm

Description of Output Terminal Wiring

The WLED controller can support two output channels. The output wiring terminals "G D V" should be connected to the "GND DATA VCC" of the digital LED strip. Among them, the D terminal corresponds to the default output of GPIO2, so it is recommended to use this group first. The other group, D terminal corresponds to GPIO1, and it can be used only after configuring it in the app.

ESP32 WLED Digital LED Controller

Parameters

Model: GL-C-009WL
Input Voltage: DC 5-24V
Input Current: 10A Max
Wireless Communication: WIFI
Temperature: -20~45°C
Dimensions: 89x48x23.5mm

Description of Output Terminal Wiring

The WLED controller can support two output channels. The output wiring terminals "G D V" should be connected to the "GND DATA VCC" of the digital LED strip. Among them, the D terminal corresponds to the default output of GPIO16, so it is recommended to use this group first. The other group, D terminal corresponds to GPIO2, and it can be used only after configuring it in the app.

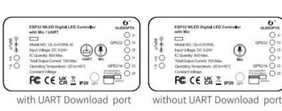
ESP32 WLED Digital LED Controller with Mic

Parameters

Model: GL-C-010WL
Input Voltage: DC 5-24V
Input Current: 10A Max
Wireless Communication: WIFI
Temperature: -20~45°C
Dimensions: 89x48x23.5mm

Description of Output Terminal Wiring

The WLED controller can support two output channels. The output wiring terminals "G D V" should be connected to the "GND DATA VCC" of the digital LED strip. Among them, the D terminal corresponds to the default output of GPIO16, so it is recommended to use this group first. The other group, D terminal corresponds to GPIO2, and it can be used only after configuring it in the app.



with UART Download port without UART Download port

ESP32 WLED PWM LED Controller

Parameters

Model: GL-C-011WL
Input Voltage: DC 12-24V
Input Current: 12A Max
Output Current/Channel：5A Max
Wireless Communication: WIFI
Temperature: -20~45°C
Dimensions: 89x48x23.5mm

Description of Output Terminal Wiring

Connect the ports of the ESP32 WLED PWM LED controller to the LED strip as shown in Figure 1-1.

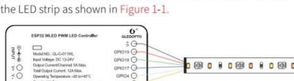


Figure 1-1

LED Strip Configuration

LED Strip Configuration Diagram Enter the WLED control page, click on the top right corner "Config", select "LED Preferences", and then find "Hardware setup" to configure the LED strip information. The GPIO pin information for the LED strip is 19, 18, 17, 4, 16.

Note: Since GPIO16 is the default output port, the light connected to GPIO16 port may flash after the controller is reset.

Mic Configuration (If this feature is available)

1. Go to the WLED control page, click on "Config" in the top right corner, select "Usermods", find "Digitalmic" after entering, configure according to the configuration information, click "Save" after configuration is complete, and then power off the controller.
2. Go to the WLED control page, click on "Info" at the top, click on the button next to "AudioReactive" to use the Mic.

Configuration Information:

1. Microphone type: Generic 12S
2. 12S SD pin: 26
3. 12S WS pin: 5
4. 12S SCK pin: 21

Note: After configuring the microphone parameters, you need to power off and on the controller once to use the microphone function.

APP Download Method

1. IOS : "App Store" Search and download WLED or WLED Native within the app.

2. Android: Download from the website https://github.com/Aircoooke/WLED-App/releases.

APP Configuration Steps

1. Power on the WLED controller.
2. Open the phone settings and enter WiFi settings, find"WLED-AP" and connect to it with the password "wled1234".

3. After successful connection, it will automatically jump to the WLED page (or enter the website 4.3.2.1 in the browser to enter the WLED page).

4. Click "WIFI SETTINGS", set the WiFi account and password, and the click"Save & Connect" at the top of the screen to save.

5. Keep the phone and WLED controller connected to the same WIFI connection, enter the WLED APP (See figure 5-1), click the "+" in the upper right corner of the screen (See figure 5-2), and then click "DISCOVER LIGHTS..." (See figure 5-3). When the button below displays "Found WLED!", it means that the WLED controller has been found (See figure 5-4). Click the checkmark in the upper right corner to return to the main page. The found WLED controller will be displayed in the list (See figure 5-5).

Figure 5-1 Figure 5-2 Figure 5-3 Figure 5-4 Figure 5-5

LED Strip Configuration

Go to the WLED control page and click on the "Config" button in the upper right corner. Then, select "LED Preferences" and navigate to "Hardware setup" to configure the LED strip information.

Note: The configuration of the LED strip for the four controllers (GL-C-008WL、GL-C-009WL、GL-C-010WL、GL-C-010WL-D) is the same.

Relay Configuration

Relay Configuration Go to the WLED control page, click on the top right corner "Config", select "LED Preferences", then find "Relay GPIO". Configure Relay GPIO as 12, uncheck Invert, and click Save to apply the settings.

Note: When using this function, every time the light is turned on or off, the power to the output terminal will be simultaneously turned on or off to save electricity. It is important to note that this function cannot turn off the power supply for backup power.

Description of Button Functions

OPT button:

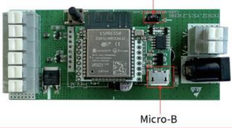
1. Short press: Power on/off.
2. Long press for 1 second: Switch colors.
3. Long press for 10 seconds: Reset the WLED controller and activate the WLED-AP hotspot.

Reset to Factory Settings

Go to the WLED control page and click on the top right corner "Config". Click on "Security & Updates" at the bottom, and then scroll down to find "Factory reset" and check the box. Click "Save" to reset the controller.

UART Download (if this function is available)

1. Open the controller case.
2. Remove the jumper cap③ (used to connect the motherboard power).
3. Insert the Micro-B data cable to download.
4. After downloading, reinstall jumper cap.



Jumper cap①: Connect the PCB bottom board power.

Note: When using Micro-B port for programming, the jumper cap needs to be removed.After downloading, reinstall jumper cap.

Supported Chips

WS2811、WS2812、WS2813、SK6812、
SM16703P、GS8208、TMI814、FL19038, etc.

EC	REP

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Troubleshooting and Solution

Number	Symptoms	Solution
1	Indicator light is not on	Check whether the input power connection is correct
2	APP shows "offline"	1. Check if the phone is on the same network as the controller. 2. Check if the controller is out of the range of the WIFI connection, causing unstable connection. 3. Turn off and on the controller to retry.
3	APP is connected, but the light strip is not controllable	1. Check if the power supply is working properly. 2. Check if the power supply voltage matches the light strip. 3. Check if the input power connection is correct. 4. Check if the light strip connection is correct. 5. Check if the GPIO settings in the APP are correct. 6. Check if the light strip IC model in the APP is set correctly.
4	The brightness of the light strip is low, and the front and back colors are significantly different	1. Check if the power supply is working properly. 2. Check if the power supply matches the light strip. 3. Check if all connections are good, and use conductive and short wires as much as possible for connection. 4. Add power supply at an appropriate position. 5. Check if the APP has set a limit on brightness or current.

Attention

1. Before turning on the power, please ensure that all connections are correct and secure, and do not operate while the power is on.
2. The product should be used under the rated voltage. Using it under excessive or insufficient voltage may cause damage.
3. Do not disassemble the product, as it may cause fire and electric shock.
4. Do not use the product in environments exposed to direct sunlight, moisture, high temperatures, etc.
5. Do not use the product in metal shielded areas or around strong magnetic fields, as this may severely affect the wireless signal transmission of the product.

Disclaimers

1. Our company will update the content of this manual based on the improvement of product functionality. The updates will be displayed in the latest version of this manual, without further notice.
2. Due to our continuous adoption of new technologies, product specifications may change without further notice.
3. This manual is provided for reference and guidance only and does not guarantee complete consistency with the actual product. The actual application should be based on the actual product.
4. The components and accessories described in this manual do not represent the standard configuration of the product. The specific configuration is subject to the packaging.
5. All text, tables, and images in this manual are protected by relevant national laws and may not be used without our permission.
6. This product may be compatible with third-party products (such as apps, hubs, etc.), but our company does not take responsibility for compatibility issues or partial loss of functionality caused by changes in third-party products.