TECHNICAL DOCUMENT

GLEDOPTO Elite 2D-EXMU ESP32 WLED Digital LED Controller without Ethernet Connection GL-C-615WL

Product reference: GL-C-615WL

Brand: GLEDOPTO

Original Brand document

The original technical pages follow this distributor cover and are preserved without changes to Brand identity, specifications, diagrams, certifications or claims.

Source file: GL-C-615WL.pdf

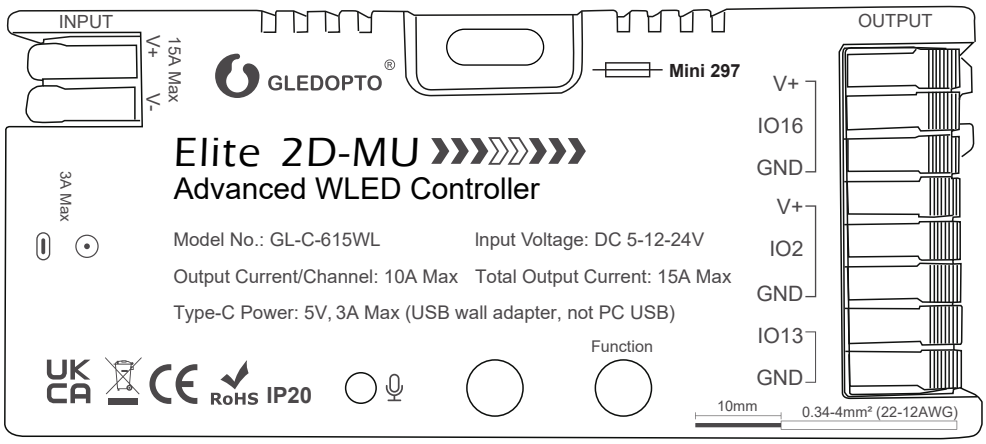
GLEDOPTO®

Elite 2D-MU
Advanced WLED Controller
—User Instruction—

GL-C-615WL

Product Parameter

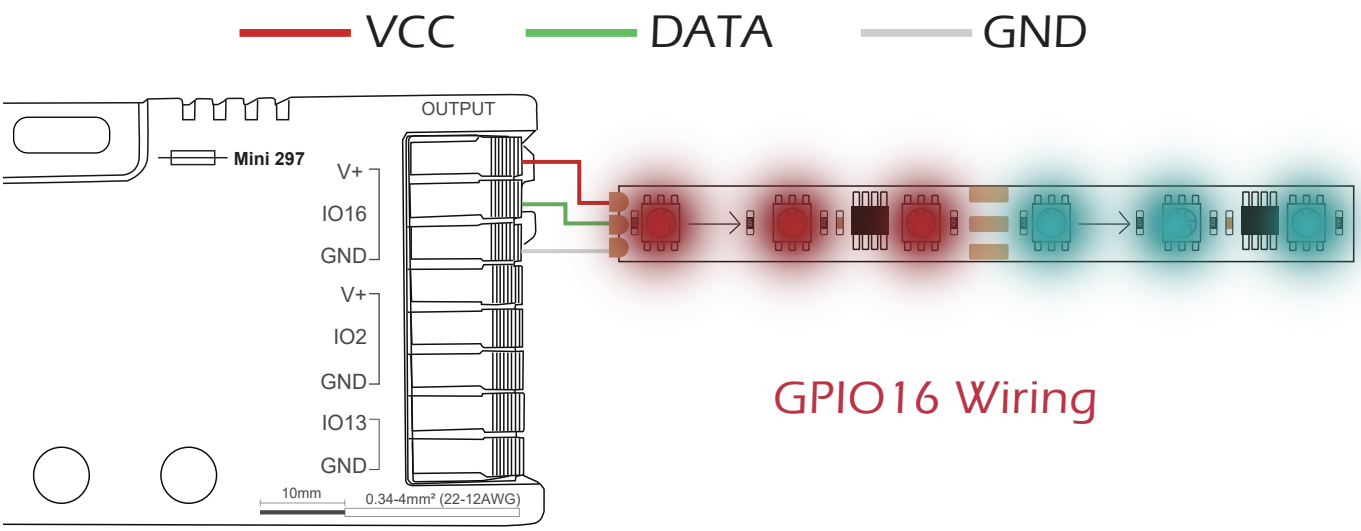
Model: GL-C-615WL
Input Voltage: DC 5-12-24V
Total Output Current: 15AMax
Output Current/Channel: 10AMax
Type-C Input Voltage: 5V
Type-C Input Current: 3AMax
Temperature: -20~45℃



Wiring Terminal Instructions

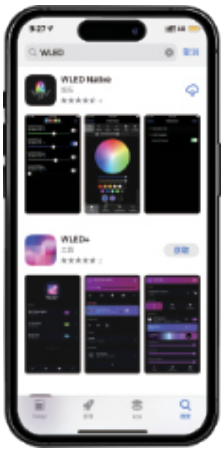
1. WLEDcontroller supports connectingup to two digital LEDstrips. The output terminals labeled 'V+, GPIO16,GND; V+, GPIO2, GND' should be connected to the LEDstrip's 'VCC DATAGND'.

2. IO13 is an extended GPIOsignal port for custom use.



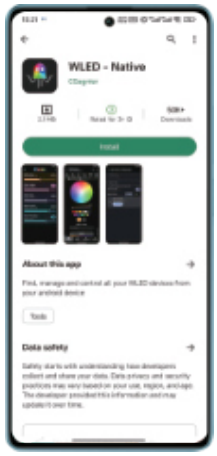
GPIO16 Wiring

APP Download Method



IOS

Search for and download WLED Native in the App Store.



Android

Search for and download WLED Native in the Google Play Store.

APP Configuration Steps



1. Power on the WLEDcontroller.
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 WLEDpage (or enter the website 4.3.2.1 in the browser to enter the WLEDpage).

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



5. Keep both your phone and the WLED controller connected to the same Wi-Fi network. Then, open the WLED-Native APP, and the WLEDcontroller will be displayed in the list.



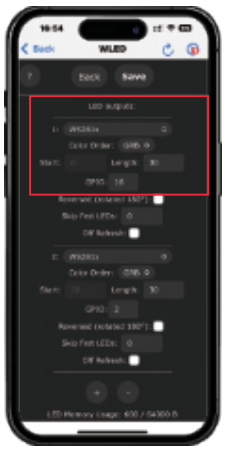
note:

1. After the WLEDcontroller disconnects from the router, the chip will restart and return to the preset state.

2. If the WLEDcontroller is not displayed or cannot be found in the APP, you can open a browser, enter the IP address of the WLEDcontroller, and use the web interface for control (To find the controller's IP address: Connect to the Wi-Fi, locate the router's or controller's web address (usually found at the bottom of the router or onthe controller itself), enter this address inthe browser, and then you can viewthe controller's IP address in the router's backend interface).

LED Strip Configuration

Enter into the WLEDcontrol page and click on the "Config" button in the upper right corner. Then, select "LEDPreferences" and navigate to "Hardware setup" to configure the LEDstrip information.



Relay Configuration



Enter into the WLEDcontrol page, click on the top right corner "Config", select "LED Preferences", then find "Relay GPIO". Configure Relay GPIOas 18, uncheck Invert, and click Save to apply the settings.

note:

1. The relay function is configured by default.
2. When turningoffthe light via the APP, remote control, or PUSHswitch, the power supply to the output terminal will be cut offto save energy.It should be noted that this functioncannot deactivate the supplementary power supply.

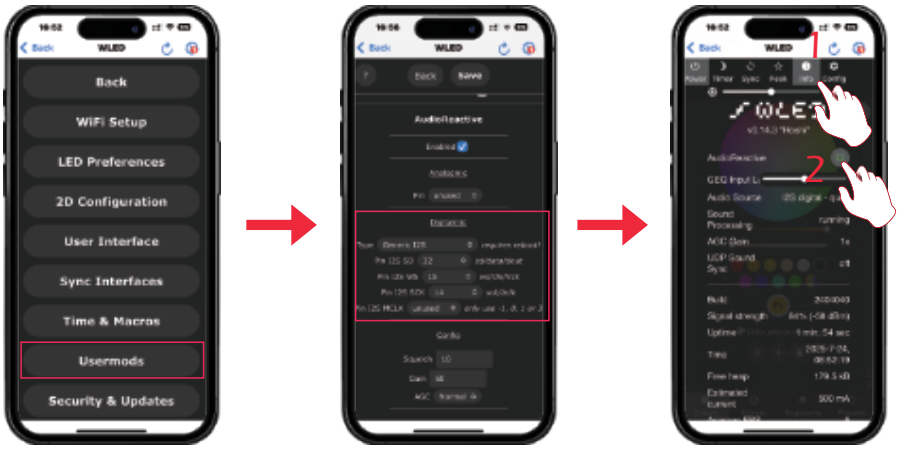
Mic Configuration

1. Enter into the WLEDcontrol 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 offthe controller.

2. Enter into the WLEDcontrol page, click on "Info" at the top, click on the button next to "AudioReactive" to use the Mic.

Configuration Information:

1. Microphone type: Generic I2S
2. I2S SDpin: 32
3. I2S WS pin: 15
4. I2S SCK pin: 14



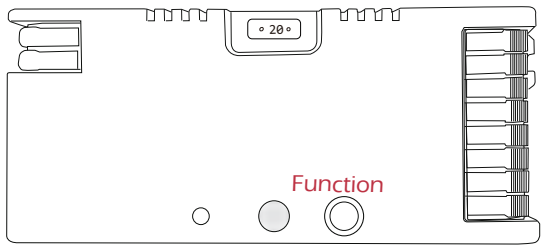
Note:

1. The Mic function is configured by default.
2. After microphone function configured, it will be only activated after rebootingthe controller again.

Description of Button Functions

Funciton:

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



Reset to Factory Settings

1. Button Reset

Longpress the "Function" button for 10 seconds.

2. APP Reset

Enter into the WLEDcontrol 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.



Type-C Download Port

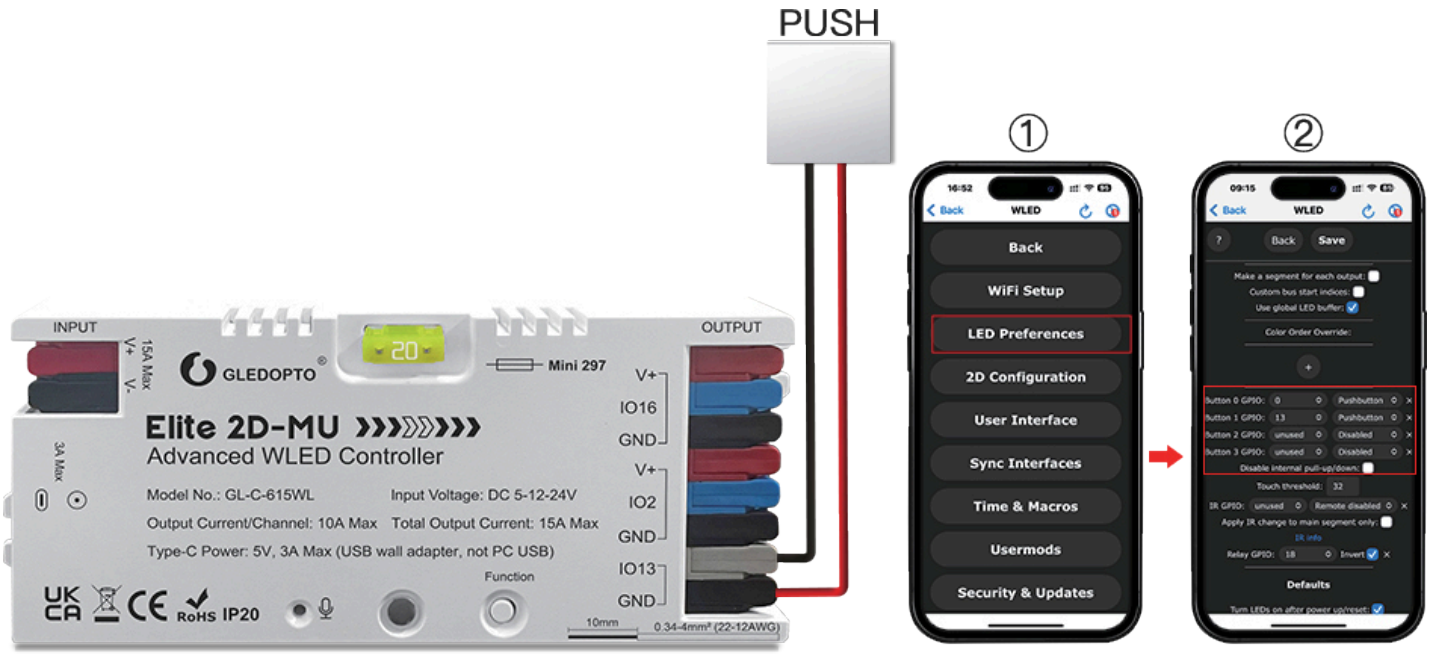
1. Insert the Type-C data cable to start serial port download.
2. After downloadingis complete, you can use the controller.



Supported Chips

WS2805, WS2811, WS2811F, WS2812B, WS2814A, WS2815, SK6812, SM16703, SM16703SP3, FL19038, FW1935, UCS2903B, etc.

IO13 interface is for DIY use



GPIO 13

- Button 0
  - Pushbutton
    - Short press: On/Off
    - Long press 1S: Adjust color
    - Long press 10S: Enter WiFi–AP mode, pop–up hotspot ”WLED–AP”
  - Switch → On/Off
- Button 1
  - Pushbutton
    - Short press: Adjust mode
    - Double–tap: Adjust color in mode
    - Long press: Adjust brightness
  - Switch → On/Off

*Function button is GPIO0

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.



1. Before turningon 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. Usingit under excessive or insufficient voltage may cause damage.
3. Do not disassemble the product, as it may cause fire and electric shock. Do not
4. use the product inenvironments exposed to direct sunlight, moisture, hightemperatures, etc.
5. Do not use the product in metal shielded areas or around strongmagnetic fields, as this may severely affect the wireless signal transmission of the product.
6. The controller is factory-equipped witha 20Afuse, and a spare 5Afuse is also included for your selectionbased onactual needs. The fuse's current-carrying capacity test is conducted at 25°C, and its lifespandecreases as the ambient temperature rises. When the operatingcurrent approaches or exceeds the rated value, the temperature will also increase accordingly. It is advisable to choose a fuse witha nominal current ratingthat is 1.3to 1.5times the operatingcurrent. For example, if the operatingcurrent is 10A, a 15Afuse should be selected.

Disclaimer

1. Our company will update the content of this manual based onthe improvement of product functionality. The updates will be displayed inthe latest versionof this manual, without further notice.
2. Due to our continuous adoption of newtechnologies, product specifications may change without further notice.
3. This manual is provided for reference and guidance only and does not guarantee complete consistency withthe actual product. The actual applicationshould be based onthe actual product.
4. The components and accessories described inthis manual do not represent the standard configuration of the product. The specific configuration is subject to the packaging.
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