WeGoIOT DOM-WLE-10P

WeGoIOT ESP32 WLED Controller (DOM-WLE-10P) Instruction Manual

Model: DOM-WLE-10P

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your WeGoIOT ESP32 WLED Controller (DOM-WLE-10P). This device is designed to control 5V-24V addressable LED strips, offering dynamic lighting effects via Wi-Fi app control. Please read this manual thoroughly before use to ensure proper functionality and safety.

2. Product Overview

The WeGoIOT ESP32 WLED Controller is a high-performance device featuring an ESP32 module, NXP high-speed cache chip, solid-state capacitors, and large electrolytic capacitors for reliable signal transmission. It comes pre-loaded with WLED firmware, offering over 100 built-in lighting effects and extensive customization options.

Image: Overview of the WeGoIOT ESP32 WLED Controller, highlighting its compatibility with 5-24V and PD 5V/12V/20V chargers.

Internal Components

The controller's robust design includes:

- **ESP32 Module:** High-stability module for reliable performance.
- **NXP High-Speed Cache Chip:** Enhances data processing.
- **16A Fuse:** Built-in for circuit protection.
- **Large Electrolytic Capacitors:** Provide stronger anti-interference capability.
- **Solid-State Capacitors:** Offer improved durability and stability.

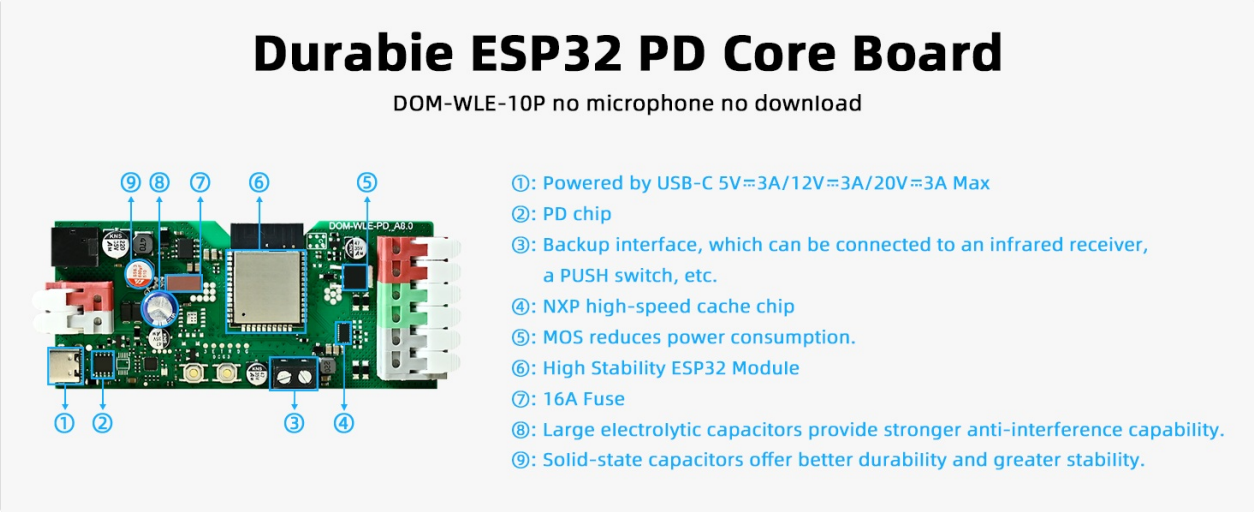

Image: Detailed diagram of the ESP32 PD Core Board, showing key components like the ESP32 module, PD chip, fuse, and capacitors.

Compatibility

This controller supports most addressable LED strip types. Ensure your LED strip's voltage matches the power supply voltage.

Image: Visual representation of various addressable LED strip types compatible with the controller.

3. Safety Information

- **Voltage Matching:** Always ensure the Power Delivery (PD) output voltage matches your LED strip's voltage requirement before connection. Incorrect voltage will cause permanent damage to the LEDs. For example, never use 12V/20V PD mode for 5V LED strips.
- **Power Supply:** Use only compatible 5V-24V power supplies or USB-C PD chargers (5V/3A, 12V/3A, 20V/3A MAX).
- **Indoor Use:** This device is designed for indoor use and is not water-resistant.
- **Maximum Output:** The controller supports a maximum output of 16A. Do not exceed this limit.
- **Installation:** Ensure all connections are secure and properly insulated to prevent short circuits.

4. Package Contents

Verify that all items are present in the package:

- 1x WeGoIOT ESP32 WLED Controller (DOM-WLE-10P)
- 1x Quick Start Guide (with QR tutorial links)
- 1x 3CM Sticker

Image: Contents of the product package, including the DOM-WLE Controller, Quick Start Guide, and a sticker.

5. Setup

5.1 Wiring Diagram

Connect your LED strip and power supply to the controller as shown in the diagram below. Pay close attention to the polarity and correct pin assignments (GND, V+, Data).

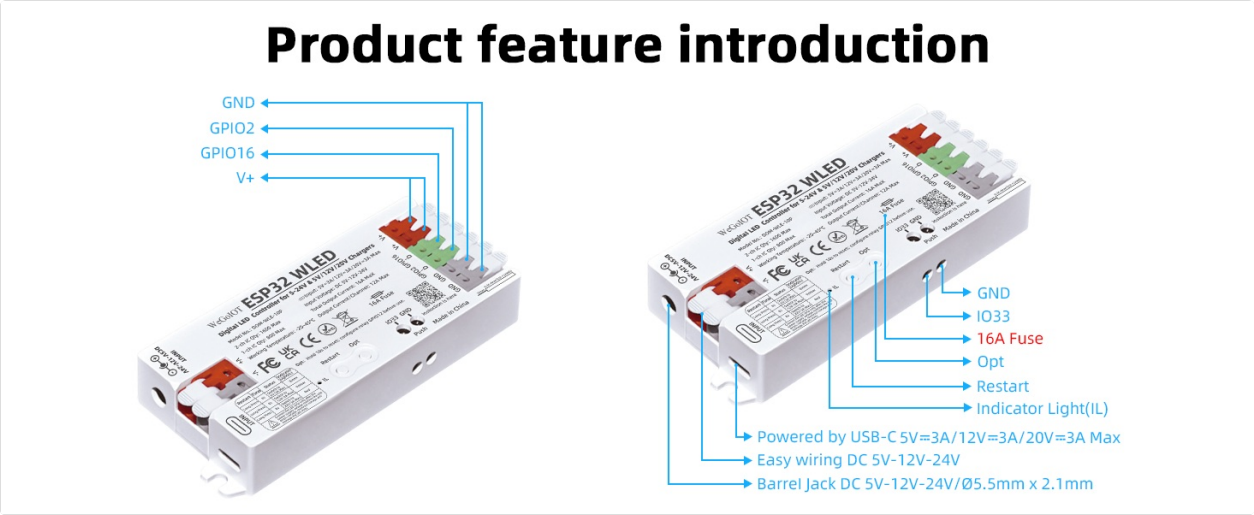

Image: Wiring diagram illustrating connections for GND, GPIO2, GPIO16, V+, USB-C power, and barrel jack DC input.

5.2 Power Connection

The controller supports two independent wide-voltage input ports:

- **USB-C PD Input:** Compatible with universal PD fast chargers and power banks (supports 5V/3A, 12V/3A, 20V/3A MAX), up to 60W.
- **DC Barrel Jack Input:** Supports 5V-24V DC power.

Important: Always ensure the PD output voltage matches your LED strip's requirement before connection. Incorrect voltage will cause permanent damage to LEDs.

Image: The controller connected via USB-C, demonstrating its Power Delivery support for flexible power options.

5.3 WLED App Connection

The controller uses the WLED firmware, which can be controlled via a web interface accessible through Wi-Fi. No additional app download is required.

1. Power on the WLED controller.
2. On your mobile phone, open Wi-Fi settings and search for the network named "WLED-AP".
3. Connect to "WLED-AP" using the password "wled1234".
4. After a successful connection, your phone will automatically redirect to the WLED page (or open a browser and navigate to http://4.3.2.1).

5. Click "TO THE CONTROLS!" to access the control interface.
6. For permanent network access, go to the "Config" menu, then "WiFi Setup", and connect the controller to your home 2.4GHz Wi-Fi network.

Image: Step-by-step guide for connecting the WLED controller to your home Wi-Fi network via the app interface.

6. Operating Instructions

6.1 WLED App Control

The WLED interface provides comprehensive control over your LED strips.

Image: The WLED app interface on a smartphone, showing color selection and effect options.

Dynamic Modes

The WLED firmware includes over 100 built-in lighting effects, such as Rainbow Gradient, Breathing, and various noise effects. These can be selected and customized directly from the app.

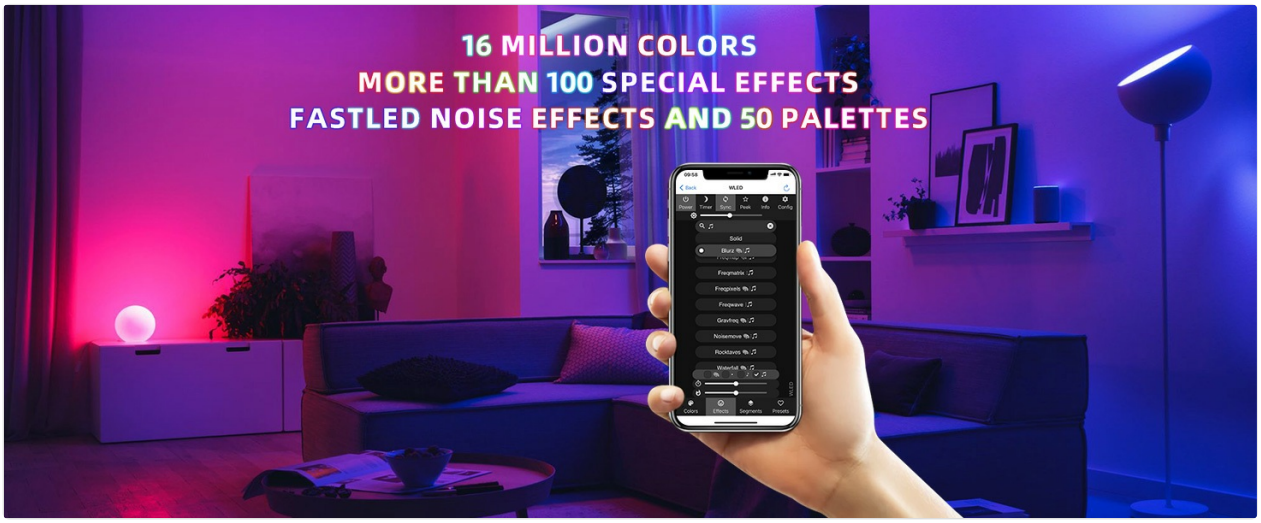

Image: A smartphone displaying the WLED app with a list of over 100 dynamic lighting effects.

Segmented Color Control

You can personalize every segment of your LED strip to display different colors and effects. This allows for advanced and intricate lighting designs.

Image: The WLED app interface demonstrating segmented color control, allowing users to define and customize individual sections of an LED strip.

DIY Lighting Effects

The WLED app allows for the creation of custom lighting effects and up to 250 user presets.

Image: The WLED app showing the interface for creating and customizing DIY lighting effects with segment settings.

Sync Effects

On the same Wi-Fi network, the lighting effects of multiple LED strips connected to WLED controllers can be synchronized.

Image: A comparison of LED strip lighting before and after synchronization using the WLED app.

Relay Configuration

The controller supports relay configuration. When the power is turned off, there is no current passing through the LED strip, reducing power consumption.

Image: Screenshots of the WLED app showing settings related to relay configuration for power management.

6.2 Button Functions

The controller features two buttons for basic control and reset functions.

Button Functions

Action	Time	Status	Indicator Light (IL)
Long Press (Restart)	8s	Switch to 5V/3A Max	Green
Long Press (Restart)	8s	Switch to 12V/3A Max	Yellow
Long Press (Restart)	8s	Switch to 20V/3A Max	Red
Press and hold (Opt)	10 seconds	Reset controller	N/A
Briefly press (Opt)	N/A	Turn on/off	N/A
Press (Opt)	2 seconds	Switch colors	N/A

Attention: Connect LED strip only after voltages match. Incorrect voltage will damage the LED strip.

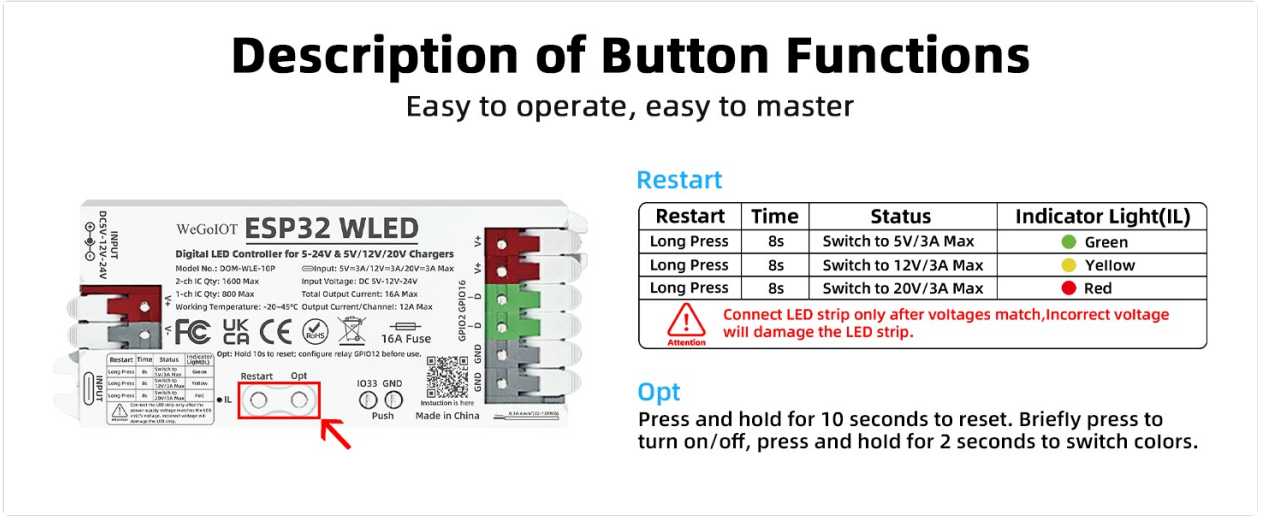

Image: Diagram showing the physical buttons on the controller and a table detailing their functions and corresponding indicator

light statuses.

6.3 Alexa Integration

The controller can be integrated with Amazon Alexa for voice control.

1. Go to the control page of the WLED controller, click on the "Config" button in the top right corner to enter the settings, and then click on "Sync Interfaces".
2. Scroll up to find "Alexa Voice Assistant", check the box next to "Emulate Alexa device", and then save.
3. After successfully saving, power cycle the WLED controller once by turning it off and on.
4. Open "Amazon Alexa" app, click on the "Devices" page at the top right corner on the "+" sign, and then click "Add Device".
5. Then, scroll up and click on "Other" to enter, select "Wi-Fi", and then click "Discover Devices" to search for lights.

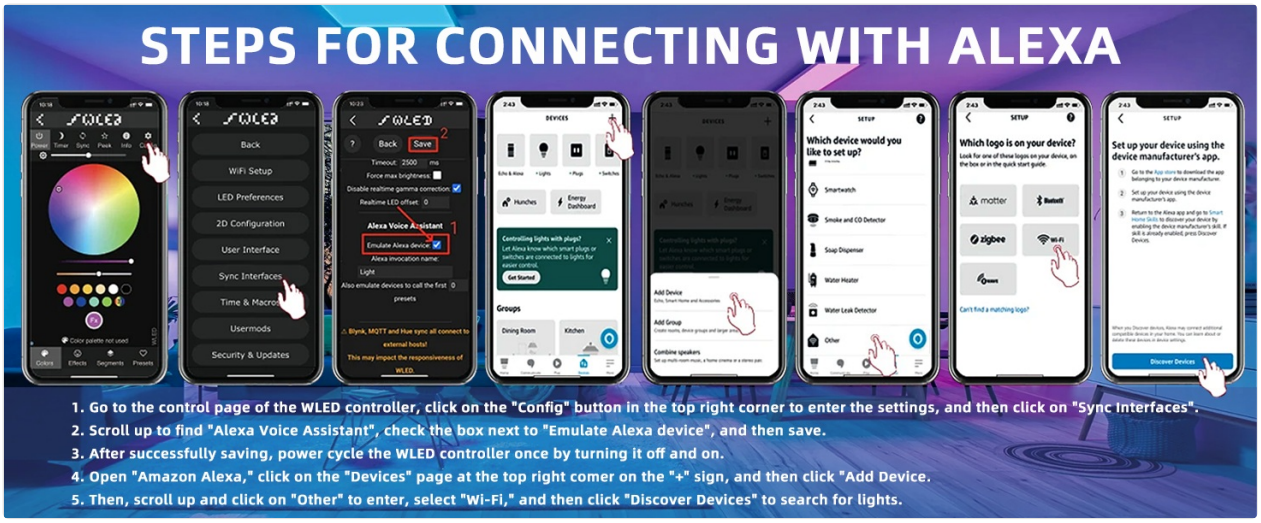

Image: Visual guide detailing the steps to connect the WLED controller with Amazon Alexa for voice control.

6.4 Remote Control

The WeGoIOT ESP32 WLED Controller supports remote control functionality. A remote control offers convenient access to presets, scene modes, brightness adjustments, and on/off functions. Please note that the remote control is sold separately.

Image: An illustration of the WLED controller with a remote control, highlighting features like preset scenes, sleep mode, and brightness adjustment.

7. Maintenance

- **Cleaning:** Use a dry, soft cloth to clean the controller. Do not use liquid cleaners or aerosols.
- **Environment:** Keep the controller in a dry environment, away from direct sunlight, high temperatures, and humidity.
- **Firmware Updates:** Periodically check for WLED firmware updates to ensure optimal performance and access to new features. Updates can typically be performed via the WLED web interface.

8. Troubleshooting

- **No Power:** Ensure the power supply is correctly connected and providing the correct voltage. Check the fuse.
- **LEDs Not Lighting Up:** Verify the LED strip is correctly wired to the controller (Data, V+, GND). Confirm the LED strip voltage matches the power supply. Check the WLED app settings for output configuration.
- **Poor Wi-Fi Connection:** Ensure the controller is within range of your Wi-Fi router. Try restarting the controller and your router. If issues persist, consider connecting to a 2.4GHz network as 5GHz is not supported.
- **App Not Responding:** Restart the WLED controller. Clear your browser cache or try a different browser/device. Ensure your device is connected to the same Wi-Fi network as the controller.
- **Controller Reset:** If the controller is unresponsive, press and hold the "Opt" button for 10 seconds to perform a factory reset.

9. Specifications

Product Specifications

Feature	Specification
Model Number	DOM-WLE-10P
Input Voltage	DC 5V-24V
USB-C PD Input	5V/3A, 12V/3A, 20V/3A MAX (up to 60W)
Total Output Current	16A Max
Channels	2-ch IC Qty: 1600 Max (1-ch IC Qty: 800 Max)
Connectivity	Wi-Fi (2.4GHz)
Firmware	WLED
Operating Temperature	-20°C to 45°C
Standby Power	~0.5W
Material	Plastic
Indoor/Outdoor Usage	Indoor
Water Resistance Level	Not Water Resistant
Dimensions	109.5mm x 46mm x 17.5mm (approx.)

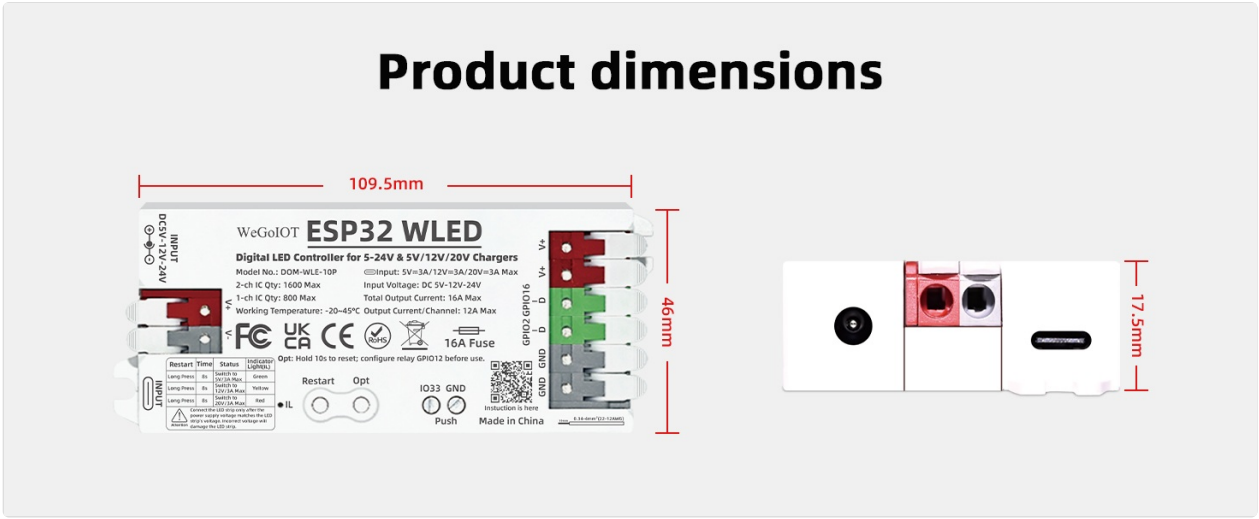

Image: Diagram illustrating the dimensions of the WeGoIOT ESP32 WLED Controller.

10. Warranty and Support

10.1 Warranty

This WeGoIOT product comes with a 1-year manufacturer's warranty from the date of purchase. The warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accident, unauthorized modification, or incorrect voltage application.

10.2 Support

For technical support, troubleshooting assistance, or warranty claims, please contact WeGoIOT customer service. Refer to the Quick Start Guide included in your package for contact information or visit the official WeGoIOT website.

You can also find additional resources and tutorials by scanning the QR code provided in the Quick Start Guide or by visiting the following link: https://qr61.cn/oQcGOA/qU2cycr