

Sogledwow LT-GL-C-616WL

Sogledwow Elite ESP32 WLED LED Strip Controller with Ethernet User Manual

Model: LT-GL-C-616WL

1. INTRODUCTION

This manual provides instructions for the installation, operation, and maintenance of the Sogledwow Elite ESP32 WLED LED Strip Controller with Ethernet. This device is designed to manage digital addressable RGB IC LED strips, offering advanced control features including Ethernet connectivity, music reactivity, and energy-saving functions.

2. SAFETY INFORMATION

- Ensure the power supply voltage matches the requirements of the LED strip and controller (DC 5-24V).
- Do not exceed the maximum output current of 15A for the controller or 10A per channel.
- Disconnect power before making any connections or performing maintenance.
- This device is designed for indoor use only and is not water-resistant. Avoid exposure to moisture or extreme temperatures.
- The controller includes a 20A pluggable fuse for overcurrent protection. If the fuse blows, replace it with a fuse of the same rating.
- Ensure proper wiring to prevent damage to the circuit. Incorrect polarity at the input terminal can cause damage.

3. PACKAGE CONTENTS

- 1 x Sogledwow Elite ESP32 WLED LED Strip Controller with Ethernet (Model: LT-GL-C-616WL)

4. PRODUCT OVERVIEW

The Sogledwow Elite ESP32 WLED LED Strip Controller is a compact device designed for advanced LED strip management. It features multiple input and output options, an integrated fuse, and network connectivity.



Figure 4.1: Front view of the Sogledwow Elite ESP32 WLED LED Strip Controller, showing input/output terminals, fuse, and Ethernet port.

4.1 Key Components

- **Input Terminals:** For connecting the power supply (DC 5-24V, 15A Max).
- **Output Terminals:** For connecting LED strips (V+, Data, GND). Supports multiple data lines (IO16, IO2, IO13).
- **20A Pluggable Fuse:** Provides overcurrent protection for the output.
- **Ethernet Port:** For wired network connectivity.
- **USB-C Port:** For 5V power input (3A Max) and UART download.
- **Barrel Connector:** For 5-24V DC power input.
- **Function Button:** Multi-purpose button for power, color switching, and reset.
- **Integrated Microphone:** Enables music sound reactive lighting effects.

Sync Lighting

On the same WiFi network, the lighting effects of the LED strip connected to the WLED controller can be synchronized

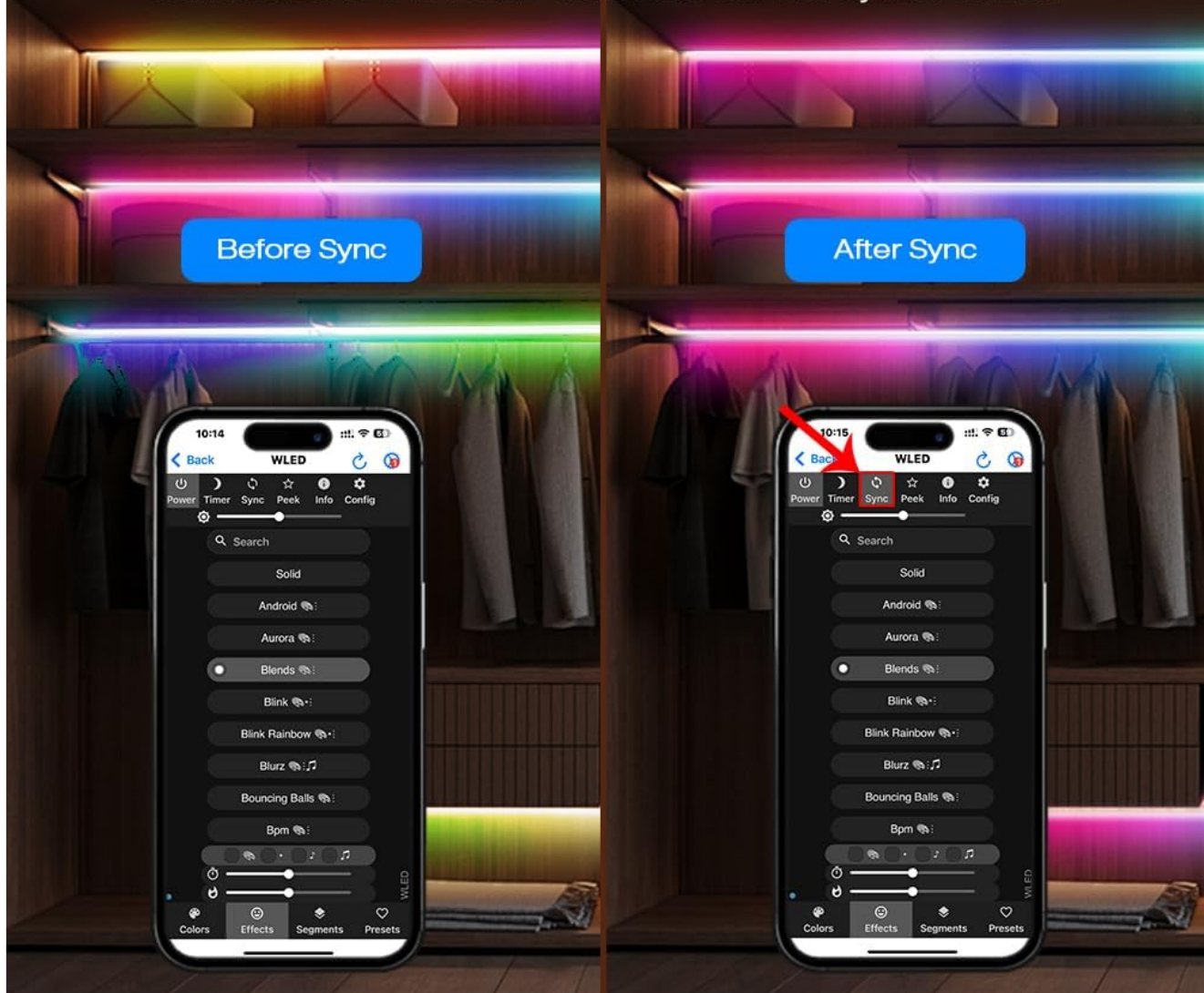


Figure 4.2: Internal circuit design highlighting key components such as the ESD chip, Ethernet chip, input reverse polarity protection, and pluggable fuse.

5. SETUP INSTRUCTIONS

5.1 Power Connection

The controller supports three methods for power input:

1. **USB-C Port:** Connect a 5V USB-C power adapter (3A maximum). Note: This is for power only, not for PC connection during normal operation.
2. **Barrel Connector:** Connect a DC 5-24V power supply.
3. **Wire Terminal (Input):** Connect a DC 5-24V power supply to the V+ and V- terminals. This method supports up to 15A.

Important: Ensure the input voltage matches the voltage requirements of your LED strip. The controller passes the input voltage directly to the output V+ terminals.

5.2 LED Strip Connection

The controller features tool-free lever-style terminals for easy wiring. It supports various addressable LED strip types including WS2811, WS2812, SK6812, WS2813, WS2815, and WS2805.

1. Identify the V+, Data, and GND wires of your LED strip.
2. For each output channel (IO16, IO2, IO13), lift the corresponding lever on the output terminal.
3. Insert the stripped wire (recommended gauge printed on the controller) into the open entry.
4. Lower the lever to secure the wire.
5. Connect the LED strip's V+ wire to the controller's V+ output terminal.
6. Connect the LED strip's GND wire to the controller's GND output terminal.
7. Connect the LED strip's Data wire to one of the available data pins (IO16, IO2, or IO13) on the controller.

Product parameters



Model No.: GL-C-616WL	Input voltage: DC 5-12-24V
Total Output Current: 15A Max	Output Current/Channel: 10A Max
Type-C Voltage: 5V	Type-C Current: 3A Max
IP Rate: IP20	Material: Flame Retardant PC
N.W.: 78.1g	G.W.: 87.2g
Size: 129x50x23mm	Operating Temperature: -20~45°C

Figure 5.1: Illustration of the quick connect port wiring process: 1. Open the connector upwards. 2. Press down after inserting the wire. 3. Wiring is complete.

5.3 Network Connection

The controller supports both Wi-Fi and Ethernet connectivity.

5.3.1 Wi-Fi Setup

1. Power on the controller. It will broadcast a temporary Wi-Fi network (SSID: WLED-APP, Password: wled1234).
2. Connect your smartphone or computer to this temporary Wi-Fi network.
3. Open the WLED app or navigate to the controller's IP address in a web browser.
4. In the WLED interface, go to the 'Config' section, then 'Wi-Fi Setup'.
5. Enter your home Wi-Fi network's SSID and password.
6. Save the settings. The controller will reboot and connect to your home network.

5.3.2 Ethernet Setup

1. Connect a standard Ethernet cable from your router or network switch to the Ethernet port on the controller.
2. Power on the controller.
3. The controller will automatically obtain an IP address from your network via DHCP.
4. You can find the controller's IP address through your router's client list or by using network scanning tools.



Figure 5.2: Close-up of the Ethernet port on the controller, illustrating its plug-and-play functionality.

6. OPERATING INSTRUCTIONS

The Sogledwow Elite ESP32 WLED Controller is primarily operated via the WLED application or web interface.

6.1 WLED App Control

The WLED app provides comprehensive control over your LED strips.

- **Color Selection:** Choose from a wide spectrum of colors using a color wheel or predefined palettes.
- **Dynamic Effects:** Access over 100 pre-programmed dynamic lighting modes to create various visual effects.
- **Segmented Control:** Personalize individual segments of your LED strip to display different colors or effects simultaneously.
- **Sync Lighting:** Synchronize lighting effects across multiple LED strips connected to the same Wi-Fi network.

WLED APP control

No gateway required, simple operation



Figure 6.1: Screenshot of the WLED application interface for color selection and basic controls.

Over 100 Dynamic Effects

There's always one that suits your needs



Figure 6.2: Screenshot of the WLED application displaying a list of over 100 dynamic lighting effects.

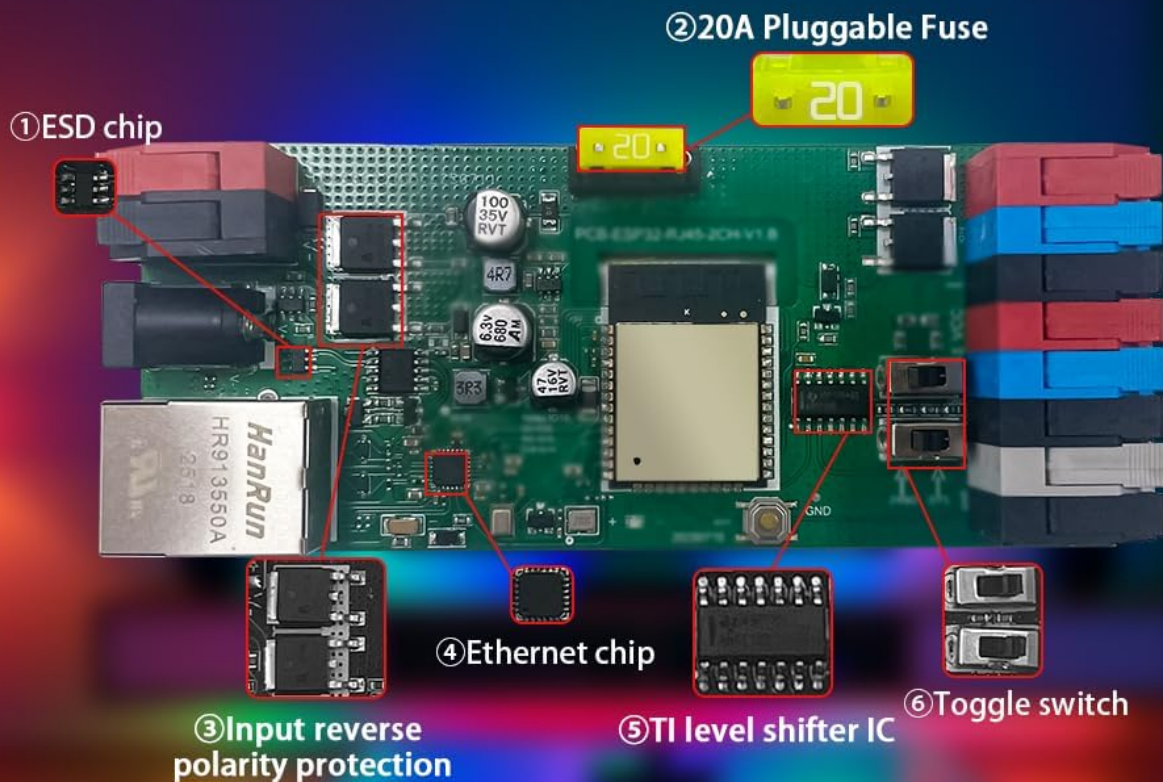
Segmented Color Control

Personalize every strip segment to show different colors



Figure 6.3: Screenshot of the WLED application demonstrating segmented color control, allowing customization of different strip sections.

Excellent Circuit Design



- ①. Prevent damage to components caused by electrostatic discharge entering through the Type-C port.
- ②. When the fuse blows due to overcurrent protection, it can be replaced with a new one.
- ③. When there is a wiring error at the input terminal, protect the circuit from damage .
- ④. Used for Ethernet connection, ensuring more stable signal transmission and lower latency.
- ⑤. A stable 5V output ensures that more stable signal transmission.
- ⑥. Signal calibration by selecting different resistors

Figure 6.4: Comparison showing LED strips before and after synchronization via the WLED app on a Wi-Fi network.

6.2 Music Sound Reactivity

The integrated microphone allows the LED strips to react to ambient music or sounds, creating dynamic visual displays synchronized with audio.



Figure 6.5: Illustration of the microphone function, where LED lights react to the rhythm of music.

6.3 Energy Saving Relay

The controller includes an energy-saving relay that minimizes power consumption when the LED strips are idle or turned off, preventing standby power draw.

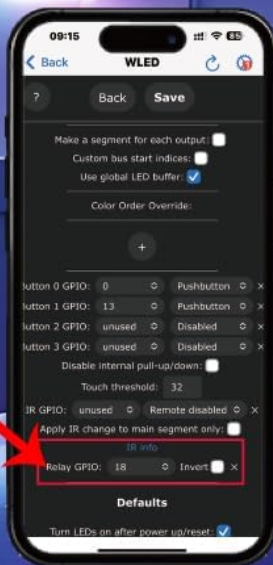
Energy Saving Relay

When the power is turned off, there is no current passing through the LED strip, thus reducing power consumption

Without Relay



High standby power consumption



With Relay



Low standby power consumption

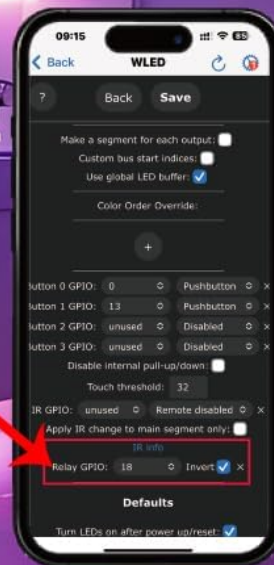


Figure 6.6: Diagram comparing high standby power consumption without a relay versus low standby power consumption with the integrated energy-saving relay.

6.4 Function Button Operation

The single function button on the controller provides quick access to basic controls:

- **Short Press:** Toggles power on/off.
- **Long Press (1 second):** Switches between different colors or effects.
- **Long Press (10 seconds):** Resets the WLED controller to factory settings and activates the WLED-AP hotspot for initial configuration.

7. MAINTENANCE

7.1 Fuse Replacement

The controller is equipped with a 20A pluggable fuse for overcurrent protection. If the LED strip stops working due to an electrical fault, the fuse may have blown.

1. Disconnect all power from the controller.
2. Carefully remove the blown fuse from its holder.
3. Replace it with a new 20A mini blade fuse.
4. Reconnect power and test the system.

7.2 General Care

- Keep the controller clean and free from dust. Use a dry, soft cloth for cleaning.
- Avoid placing the controller in direct sunlight or near heat sources.
- Ensure adequate ventilation around the device to prevent overheating.

8. TROUBLESHOOTING

- **Controller not powering on:** Check all power connections. Ensure the power supply is functioning and providing the correct voltage. Verify the fuse is intact.
- **LED strip not lighting up:** Confirm the LED strip is correctly wired to the controller (V+, Data, GND). Check the WLED app settings to ensure the correct number of LEDs and GPIO pin are configured. Verify the LED strip itself is functional.
- **No Wi-Fi connection:** Ensure the controller is within range of your Wi-Fi router. Double-check the Wi-Fi SSID and password entered in the WLED app. If issues persist, try resetting the controller (long press 10 seconds) and reconfiguring Wi-Fi.
- **No Ethernet connection:** Verify the Ethernet cable is securely connected to both the controller and the router/switch. Check your router's status for connected devices.
- **Lights not reacting to music:** Ensure the microphone is not obstructed. Check WLED app settings for sound reactivity modes and sensitivity.
- **Inconsistent lighting or flickering:** This can be due to insufficient power supply for the length/density of the LED strip. Ensure your power supply can provide enough current (Amps) for all LEDs. Also, check for loose wiring connections.

9. SPECIFICATIONS

Parameter	Value
Model No.	LT-GL-C-616WL
Input Voltage	DC 5-12-24V
Total Output Current	15A Max
Output Current/Channel	10A Max
Type-C Voltage	5V
Type-C Current	3A Max (USB wall adapter, not PC USB)
IP Rating	IP20
Material	Flame Retardant PC
Net Weight (N.W.)	78.1g

Gross Weight (G.W.)	87.2g
Dimensions	129 x 50 x 23mm
Operating Temperature	-20~45°C
Controller Type	App Control
Connectivity	Wi-Fi, Ethernet
Supported LED Types	WS2811, WS2812, SK6812, WS2813, WS2815, WS2805

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Sogledwow website or contact your retailer. Keep your purchase receipt for warranty claims.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question