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GLEDOPTO GL-C-204P

GLEDOPTO ZigBee Pro+ 5-in-1 Smart LED Controller (Model GL-C-204P) Instruction Manual

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your GLEDOPTO ZigBee Pro+ 5-in-1 Smart LED Controller, Model GL-C-204P. This device is designed to control various types of LED strip lights within a smart home environment, supporting multiple configurations including RGBCCT, RGBW, RGB, CCT, and Dimmer modes. It operates with a DC 12-48V input and offers a maximum total output of 15A.

2. Safety Information

- **Voltage Compatibility:** Ensure the input voltage (DC 12-48V) and current of your power supply and LED strips are compatible with the controller's specifications. Exceeding the maximum total output current of 15A or 12A per channel can damage the device and connected lighting.
- **Proper Wiring:** Always ensure good contact between the wire and the terminal. Incorrect or loose wiring can lead to overheating or malfunction.
- **Operating Environment:** The controller is designed for indoor use within an operating temperature range of -20°C to +45°C. Avoid exposure to extreme temperatures, moisture, or corrosive environments.
- **Hub Compatibility:** Please note that Tuya Zigbee hubs currently block third-party devices. This GLEDOPTO Zigbee product may not connect to Tuya hubs. Verify compatibility with your specific Zigbee hub before purchase and installation.
- **Professional Installation:** If you are unsure about any wiring procedures, consult a qualified electrician.

3. Package Contents

- 1 x GLEDOPTO ZigBee Pro+ LED Strip Controller (Model GL-C-204P)

4. Product Overview

The GLEDOPTO ZigBee Pro+ controller offers versatile control for various LED strip types. Its compact design integrates essential functions for smart lighting systems.

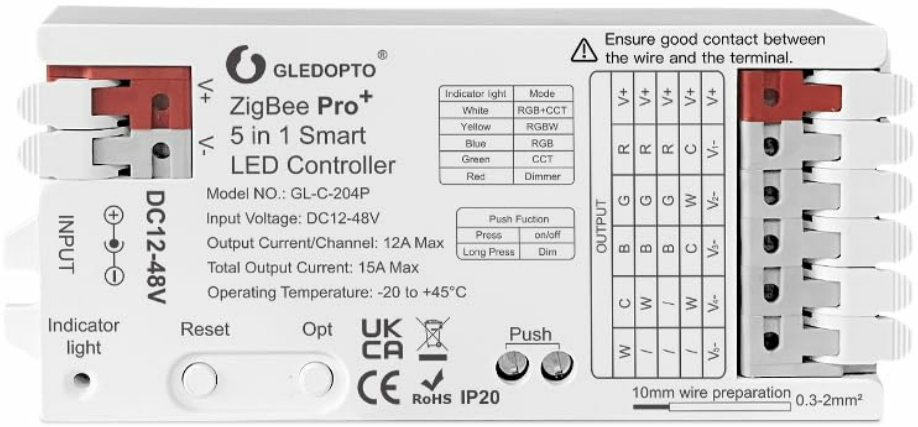


Image 4.1: Front view of the GLEDOPTO ZigBee Pro+ 5-in-1 Smart LED Controller.

Key Features:

- **High Output Current:** Total output current of 15A maximum, with a maximum of 12A per single channel, allowing for longer LED strip installations (e.g., 10-15 meters).
- **Wide Voltage Range:** Supports DC 12-48V input, compatible with a broad range of LED strips and panel lights.
- **5-in-1 Functionality:** Configurable for RGBCCT, RGBW, RGB, CCT, or Dimmer LED strip types.
- **Power-on Status Memory:** Retains the last power-on state (on/off) or defaults to 'on' after a power interruption.
- **Selectable PWM Frequency:** Offers frequencies of 600Hz, 800Hz, 1000Hz, 2000Hz, 4000Hz, and 8000Hz to match various power supplies and reduce potential noise. Default frequency is 1000Hz.

Image 4.2: Detailed view of the controller highlighting its 15A maximum output, support for external push button switches, and quick wire connectors for easy wiring.

Components:

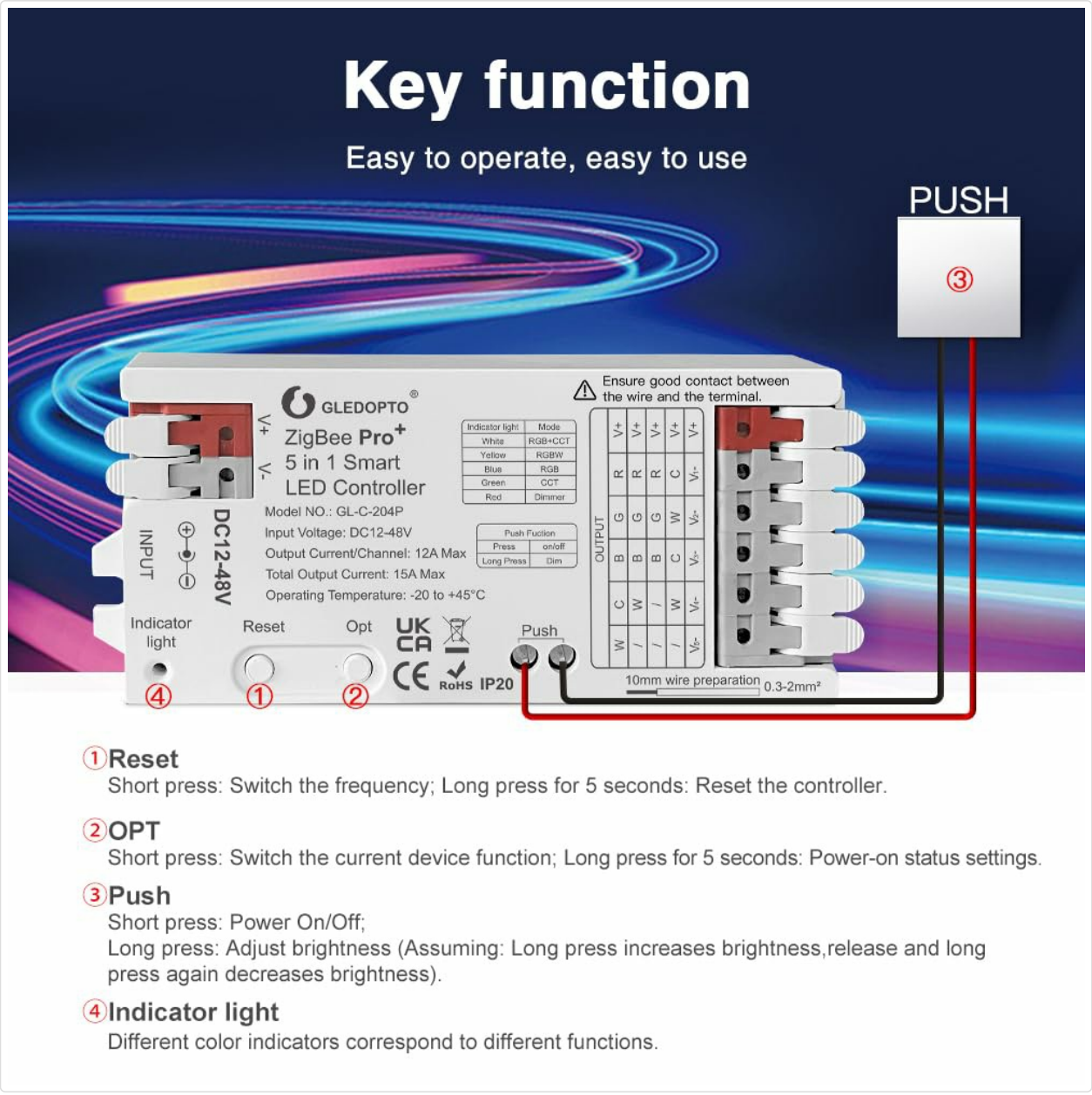


Image 4.3: Diagram illustrating the key functions and components of the controller.

1. **Reset Button:** Used for switching PWM frequency (short press) or resetting the controller (long press for 5 seconds).
2. **OPT Button:** Used for switching the current device function/mode (short press) or setting power-on status (long press for 5 seconds).
3. **Push Button Terminal:** Connects to an external push button for power on/off (short press) and brightness adjustment (long press).
4. **Indicator Light:** Displays different colors corresponding to the selected function mode.

5. Setup

5.1 Wiring Instructions

The controller features quick-connect terminals for simplified wiring. Follow these steps for secure connections:

1. **Prepare Wires:** Strip approximately 10mm of insulation from the ends of your LED strip wires and power supply wires. The suggested wire type is 0.3-2mm² (22-14AWG).
2. **Open Connector:** Gently open the connector lever upwards.

3. **Insert Wire:** Insert the prepared wire into the appropriate terminal. Refer to the terminal labels for correct polarity and channel assignment (V+, R, G, B, W, C, V-).
4. **Secure Connection:** Press the connector lever down to secure the wire. Give each wire a gentle tug to ensure it is firmly held.

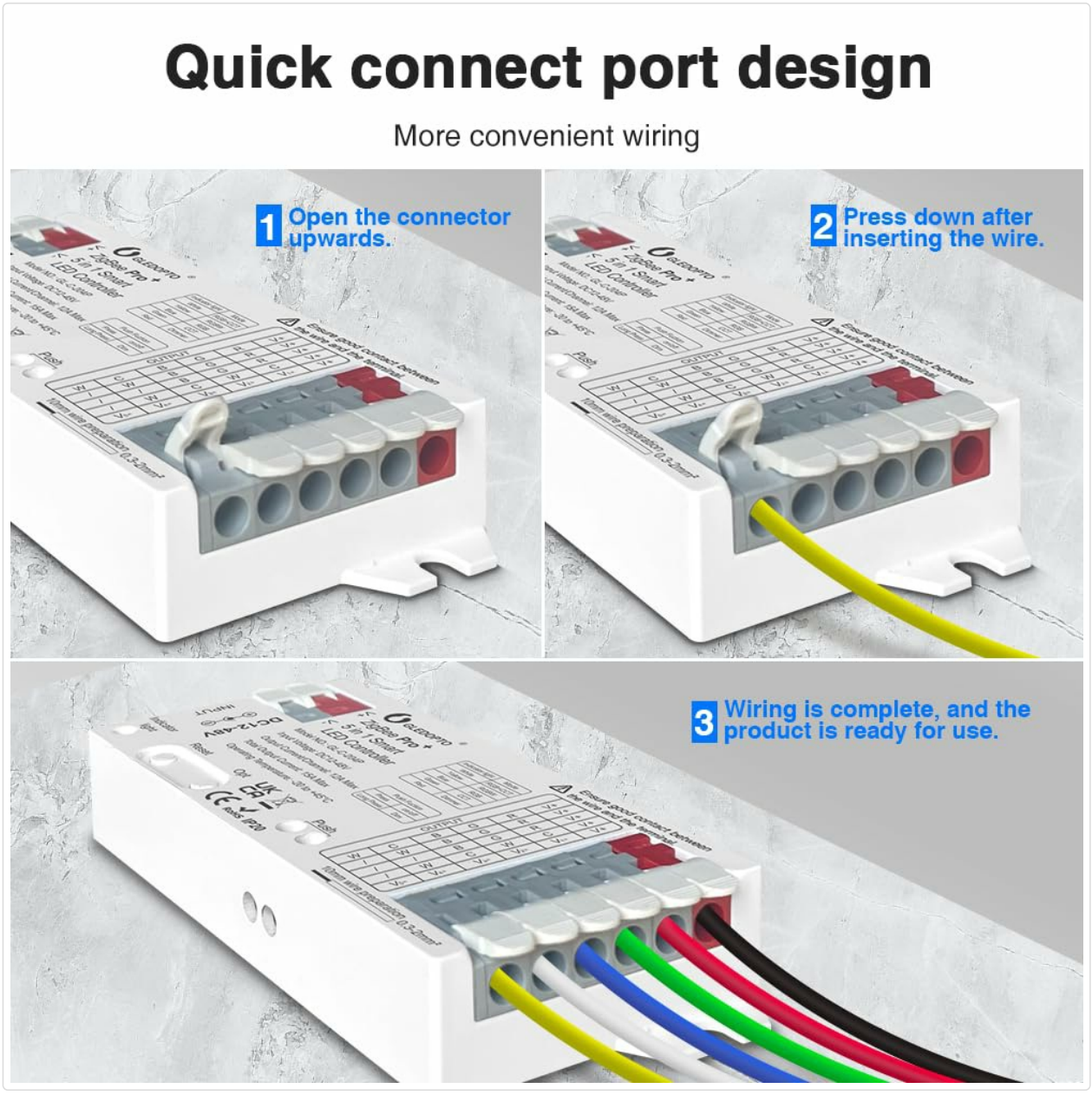


Image 5.1: Step-by-step guide for using the quick connect port design for wiring.

5.2 Pairing with a ZigBee Hub

This controller requires a compatible ZigBee hub for smart control. The pairing process typically involves:

1. **Power On:** Connect the controller to a suitable DC 12-48V power supply.
2. **Initiate Pairing Mode:** Consult your ZigBee hub's instructions to put it into pairing mode.
3. **Reset Controller:** Short press the 'Reset' button on the controller or power cycle the controller (turn off and on) to initiate pairing. The indicator light may flash to confirm pairing mode.
4. **Confirm Pairing:** Once successfully paired, the controller will appear in your ZigBee hub's device list.

Important Note: If you change the device function mode using the 'OPT' button, the controller may need to be re-paired with your ZigBee hub.

6. Operating Instructions

6.1 Mode Selection (5-in-1 Functionality)

The controller supports five different LED strip configurations. Use the 'OPT' button to cycle through these modes:

- **Short Press 'OPT':** Switches the current device function. The indicator light will change color to reflect the selected mode:

Indicator Light Color	Mode
White	RGB+CCT
Yellow	RGBW
Blue	RGB
Green	CCT
Red	Dimmer

Image 6.1: Visual representation of the 5-in-1 modes supported by the controller.

6.2 Power-on Status Settings

You can configure the controller's behavior after a power interruption:

- **Long Press 'OPT' (more than 5 seconds):** The indicator light will flash light blue three times. This action toggles between two power-on states:

1. **Remember Last State:** The controller will resume its state (on/off) prior to the power failure.
2. **Lights Up by Default:** The controller will turn on automatically when power is restored.

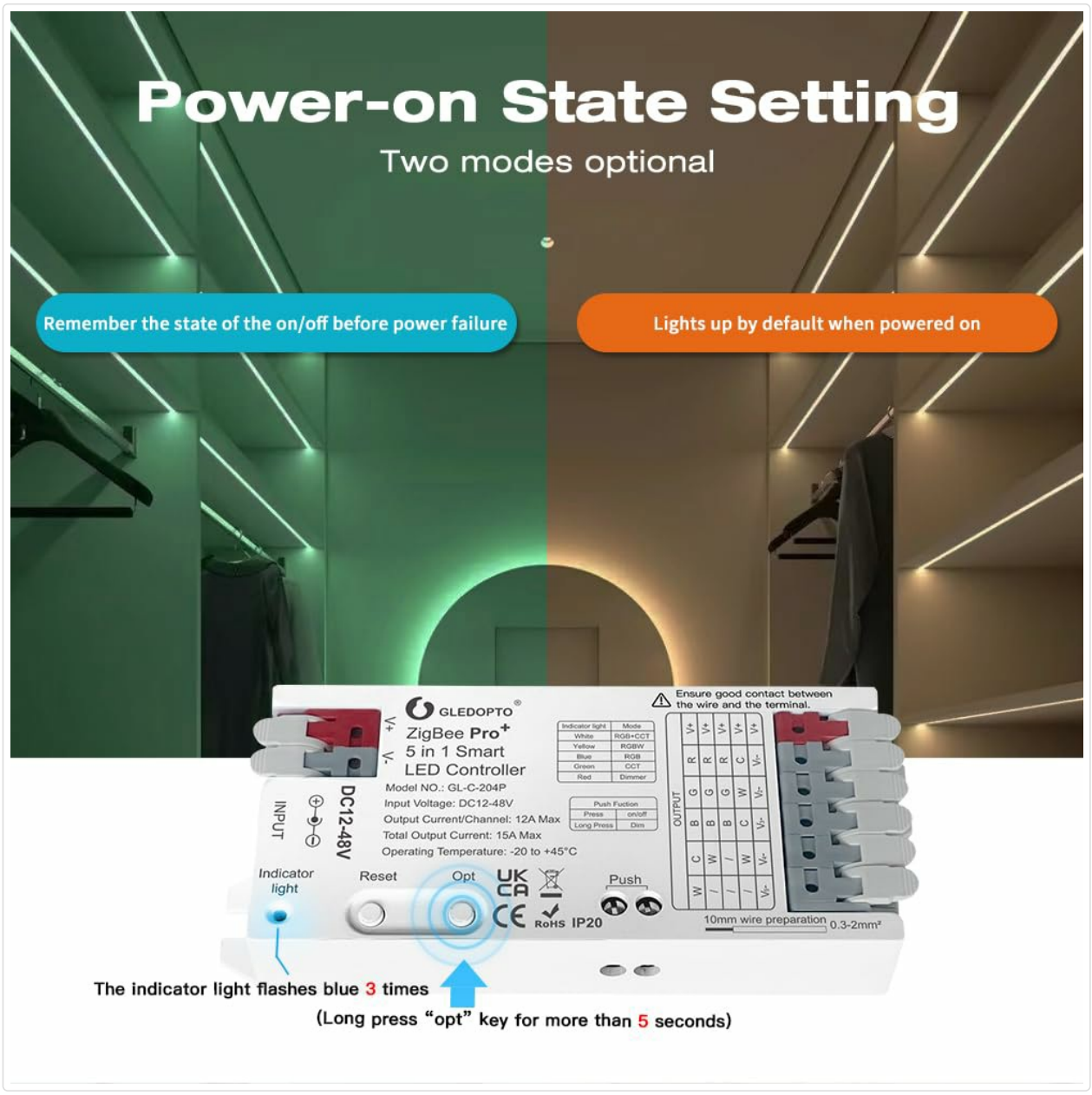


Image 6.2: Illustration of the two optional power-on state settings.

6.3 Selectable PWM Frequency

Adjusting the PWM frequency can help match different power supplies and reduce audible noise (e.g., high-pitched whine) from the LED strips or power supply.

- **Short Press 'Reset':** Cycles through the available frequencies. The number of flashes of the indicator light corresponds to the selected frequency:

Flashes	Frequency
1	600Hz
2	800Hz
3	1000Hz (Default)
4	2000Hz
5	4000Hz
6	8000Hz

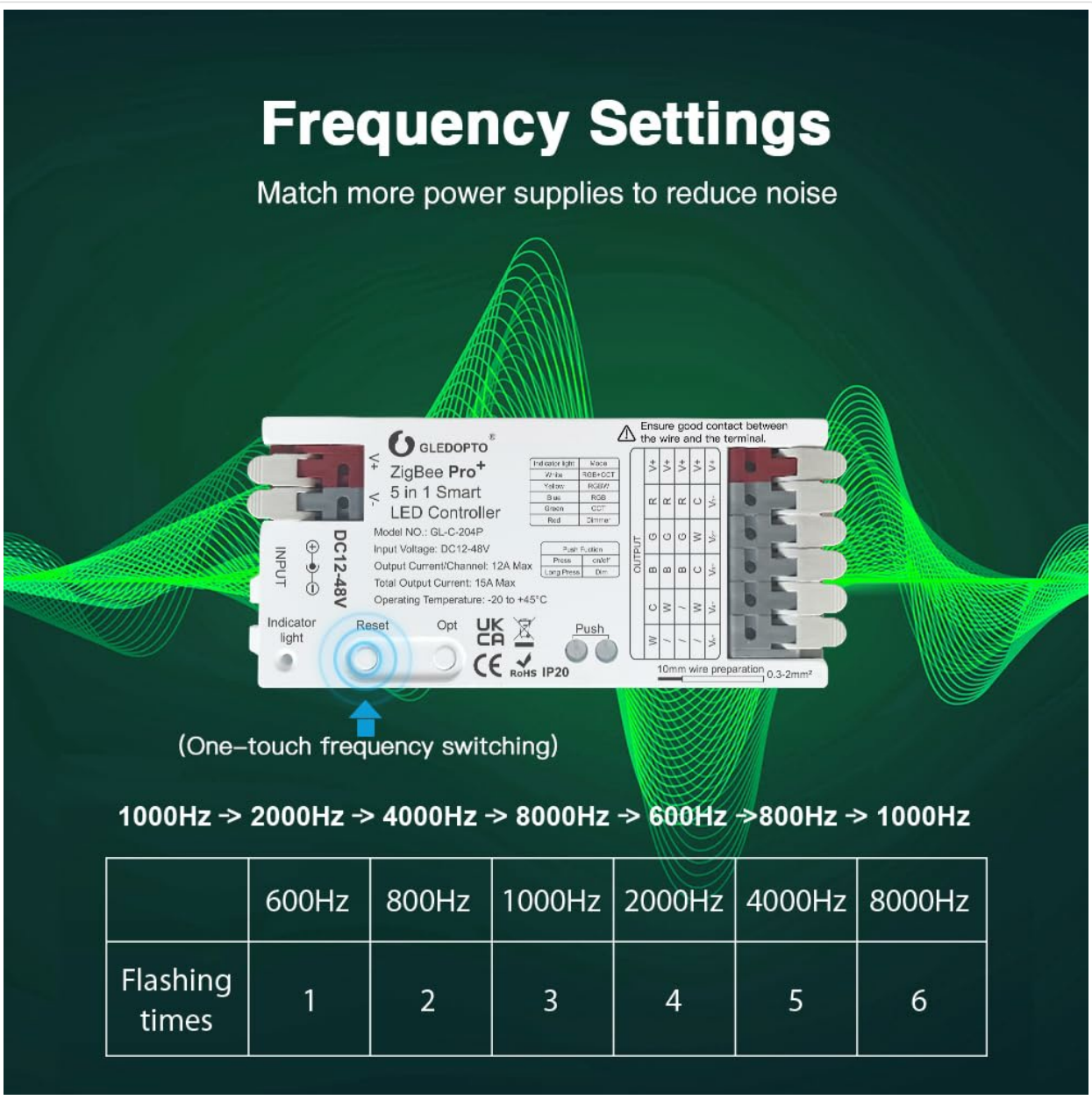


Image 6.3: Diagram illustrating the selectable PWM frequencies and their corresponding indicator light flashes.

6.4 External Push Button Control

An external push button can be connected to the 'Push' terminals for basic control:

- **Short Press:** Toggles power On/Off.

- **Long Press:** Adjusts brightness. Release and long press again to change dimming direction (increases brightness, then decreases brightness).

7. Maintenance

- **Cleaning:** Use a dry, soft cloth to clean the controller. Do not use harsh chemicals or abrasive cleaners.
- **Environment:** Keep the controller in a dry, well-ventilated area, away from direct sunlight and sources of heat or moisture.
- **Connections:** Periodically check all wire connections to ensure they remain secure.

8. Troubleshooting

- **Controller Not Responding:**
  - Ensure the power supply is connected and providing the correct voltage (DC 12-48V).
  - Check all wiring connections for looseness or incorrect polarity.
  - Try power cycling the controller (disconnect and reconnect power).
  - If using a ZigBee hub, ensure the controller is properly paired. Re-pair if necessary.
- **LED Strips Not Lighting Up or Flickering:**
  - Verify that the LED strip type matches the mode selected on the controller (RGBCCT, RGBW, RGB, CCT, Dimmer).
  - Check the LED strip itself for damage or incorrect wiring.
  - Ensure the total current draw of the LED strips does not exceed the controller's maximum output (15A total, 12A per channel).
  - If flickering occurs, try adjusting the PWM frequency using the 'Reset' button.
- **High-Pitched Noise:**
  - This can often be resolved by changing the PWM frequency. Short press the 'Reset' button to cycle through frequencies (600Hz, 800Hz, 1000Hz, 2000Hz, 4000Hz, 8000Hz) until the noise is eliminated or reduced.
- **Controller Overheating:**
  - Immediately disconnect power.
  - Check if the total current draw of the connected LED strips exceeds the controller's maximum capacity (15A total).
  - Ensure adequate ventilation around the controller.
  - Verify that all wire connections are secure and not causing resistance.
- **Cannot Connect to Tuya Hub:**
  - As stated in the safety information, Tuya Zigbee hubs may block third-party devices. This is a known compatibility issue. Consider using a different Zigbee hub (e.g., Home Assistant, Conbee) for full functionality.

9. Specifications

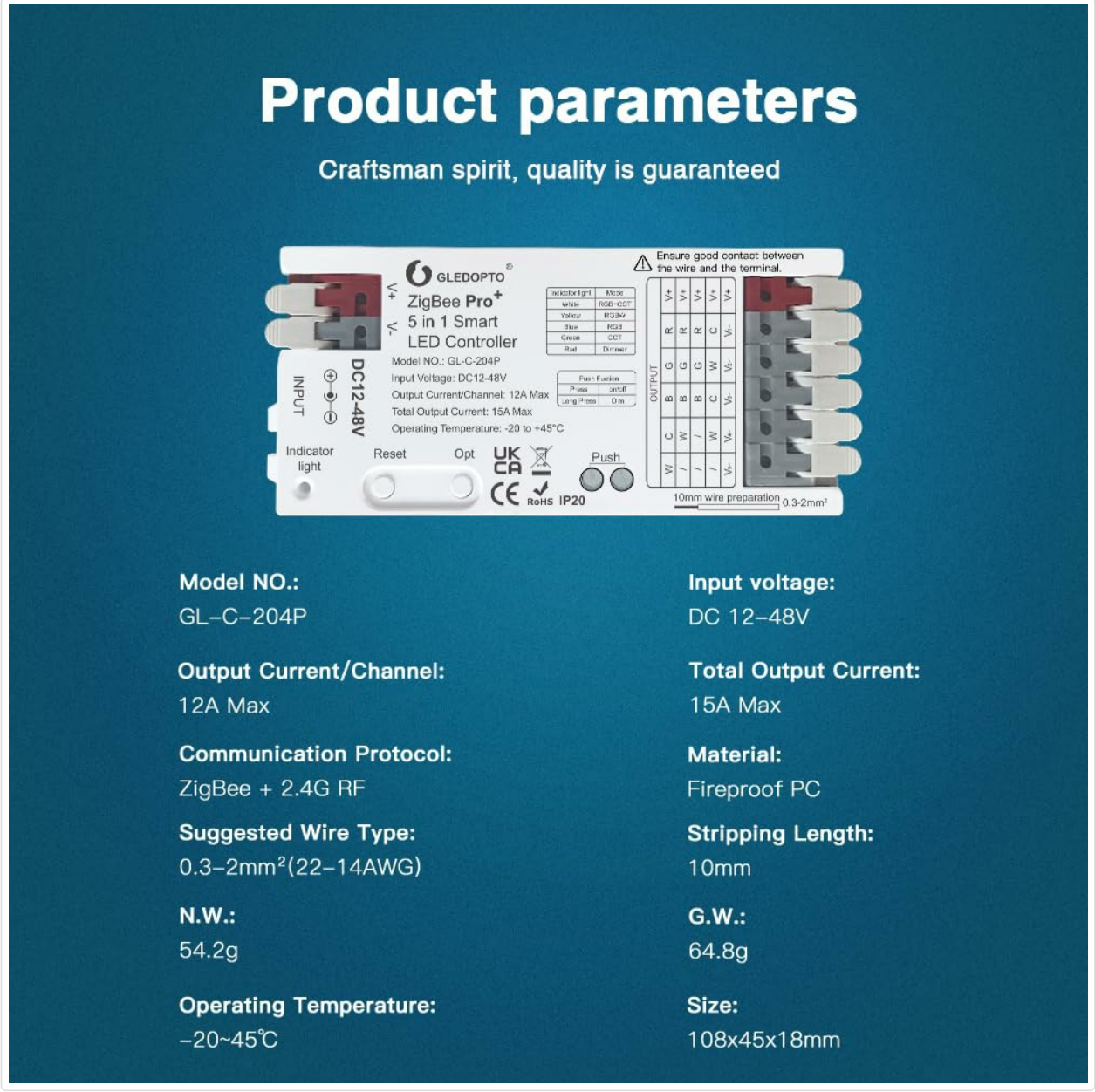


Image 9.1: Detailed product parameters for the GLEDOPTO ZigBee Pro+ LED Controller.

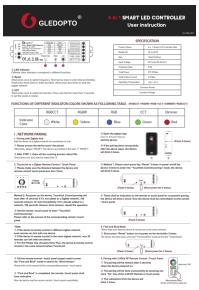
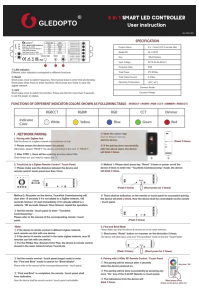
Parameter	Value
Model No.	GL-C-204P
Input Voltage	DC 12-48V
Output Current/Channel	12A Max
Total Output Current	15A Max
Operating Temperature	-20°C to +45°C
Communication Protocol	ZigBee + 2.4G RF
Suggested Wire Type	0.3-2mm² (22-14AWG)
Stripping Length	10mm
Material	Fireproof PC
Net Weight	54.2g

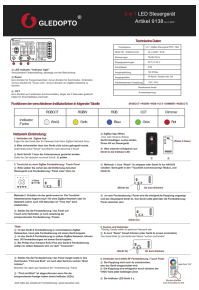
Parameter	Value
Gross Weight	64.8g
Dimensions (L x W x H)	108 x 45 x 18 mm (4.25 x 1.77 x 0.71 inches)

10. Warranty and Support

GLEDOPTO products are designed for reliability and performance. For warranty information and technical support, please refer to the official GLEDOPTO website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Related Documents - GL-C-204P

	Gledopto 5-in-1 Smart LED Controller User Manual User instructions for the Gledopto 5-in-1 Smart LED Controller (Model: GL-C-001P), covering network pairing, reset procedures, factory reset, wiring diagrams for RGBCCT, RGBW, RGB, CCT, and Dimmer functions, power-on status settings, frequency settings, and saturation control via 2.4GHz RF remote.
	Gledopto 5 in 1 Smart LED Controller User Instruction Manual Comprehensive user instruction manual for the Gledopto 5 in 1 Smart LED Controller (Model GL-C-001P). This guide details specifications, pairing procedures (Zigbee, RF), wiring diagrams for various LED types (RGBCCT, RGBW, RGB, CCT, Dimmer), reset functions, and power-on status/frequency settings.
	Gledopto Smart Lighting Products Catalog - Zigbee, WiFi, RF LED Controllers, Bulbs, and Fixtures Explore the comprehensive range of Gledopto smart lighting solutions, including Zigbee 3.0, WiFi, and RF LED controllers, dimmers, RGB+CCT strips, downlights, bulbs, and floodlights. Enhance your home with intelligent, energy-efficient lighting.
	Gledopto GL-C-301P ZigBee 5-in-1 LED Smart Controller Pro+ User Manual Comprehensive user instructions for the Gledopto GL-C-301P ZigBee 5-in-1 LED Smart Controller Pro+. Learn about product parameters, button functions, wiring diagrams, gateway connection, remote control compatibility, and reset methods.
	ZigBee Light Link Gateway Controller: Connection and Pairing Guide Instruction manual detailing the connection and pairing of ZigBee Light Link controllers with smart home gateways. Covers wiring, setup, and reset procedures for various LED types.



[GLEDOPTO 5-in-1 Zigbee Mini LED Controller GL-C-002P User Manual]

Comprehensive user manual for the GLEDOPTO 5-in-1 Zigbee Mini LED Controller (Model GL-C-002P), covering technical specifications, network integration, pairing, wiring, reset procedures, and disposal information.