

GIDEALED ZC05M-20

GIDEALED Smart ZigBee 3.0 5-in-1 LED Controller ZC05M-20 Instruction Manual

Model: ZC05M-20

1. INTRODUCTION

Thank you for choosing the GIDEALED Smart ZigBee 3.0 5-in-1 LED Controller. This device is designed to provide versatile control over various types of LED strip lights, including RGB, RGBW, RGBWW, CCT, and Dimmer configurations. It integrates with ZigBee 3.0 compatible hubs, allowing for smart home automation, app control, and voice control via platforms like Amazon Alexa. Please read this manual thoroughly before installation and operation to ensure proper use and optimal performance.

2. SAFETY INFORMATION

- Ensure the power supply is disconnected before installation or maintenance.
- This controller operates on DC12-24V. Do not connect it to AC power or voltages outside this range.
- The maximum output current is 15A per channel, with a total maximum output of 20A. Do not exceed these limits to prevent damage to the controller or LED strips.
- Install the controller in a dry environment, away from moisture, high temperatures, and direct sunlight.
- Ensure all wire connections are secure and correctly polarized (V+, V-, R, G, B, C, W).
- If you are unsure about any part of the installation, consult a qualified electrician.

3. PRODUCT OVERVIEW

The GIDEALED ZC05M-20 is a compact and versatile LED controller designed for smart lighting systems. It supports multiple LED strip types and offers various control methods.

3.1 Key Features

- **5-in-1 Compatibility:** Supports RGB, RGBW, RGBWW, CCT, and Dimmer LED strip lights.

- **ZigBee 3.0 Protocol:** Ensures broad compatibility with ZigBee 3.0 certified hubs and devices.
- **Smart Control:** App control via ZigBee hub bridge (e.g., Tuya Smart Hub) and voice control via Amazon Alexa (Echo Plus, Echo 4th Gen, Echo Studio, Echo Show 2nd Gen).
- **Wide Voltage Range:** Operates with 12V or 24V DC power supplies.
- **Easy Installation:** Tool-free wire connections with push-in terminals.

3.2 Controller Components

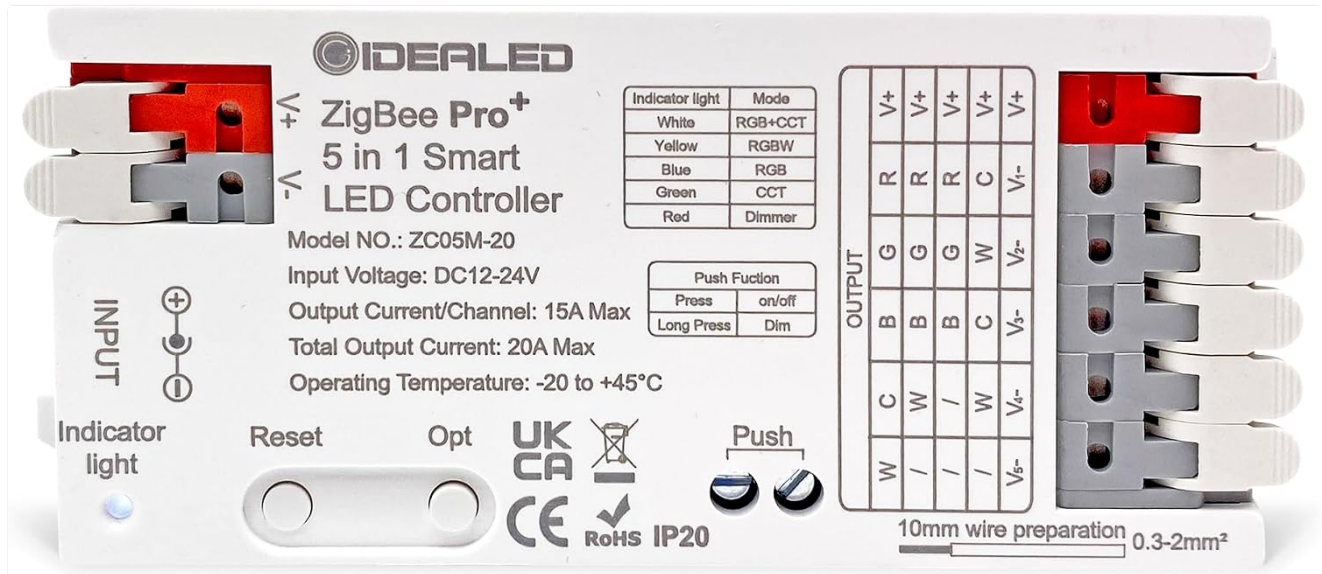


Figure 1: GIDEALED ZigBee 5-in-1 LED Controller (Model ZC05M-20). This image displays the top view of the controller, highlighting the input and output terminals, indicator light, reset button, and push button for manual control. The output section shows terminals for V+, R, G, B, C, W, and V- connections, along with an indicator light legend for different modes.

ZigBee 3.0 5 in 1 LED Strip Controller Pro

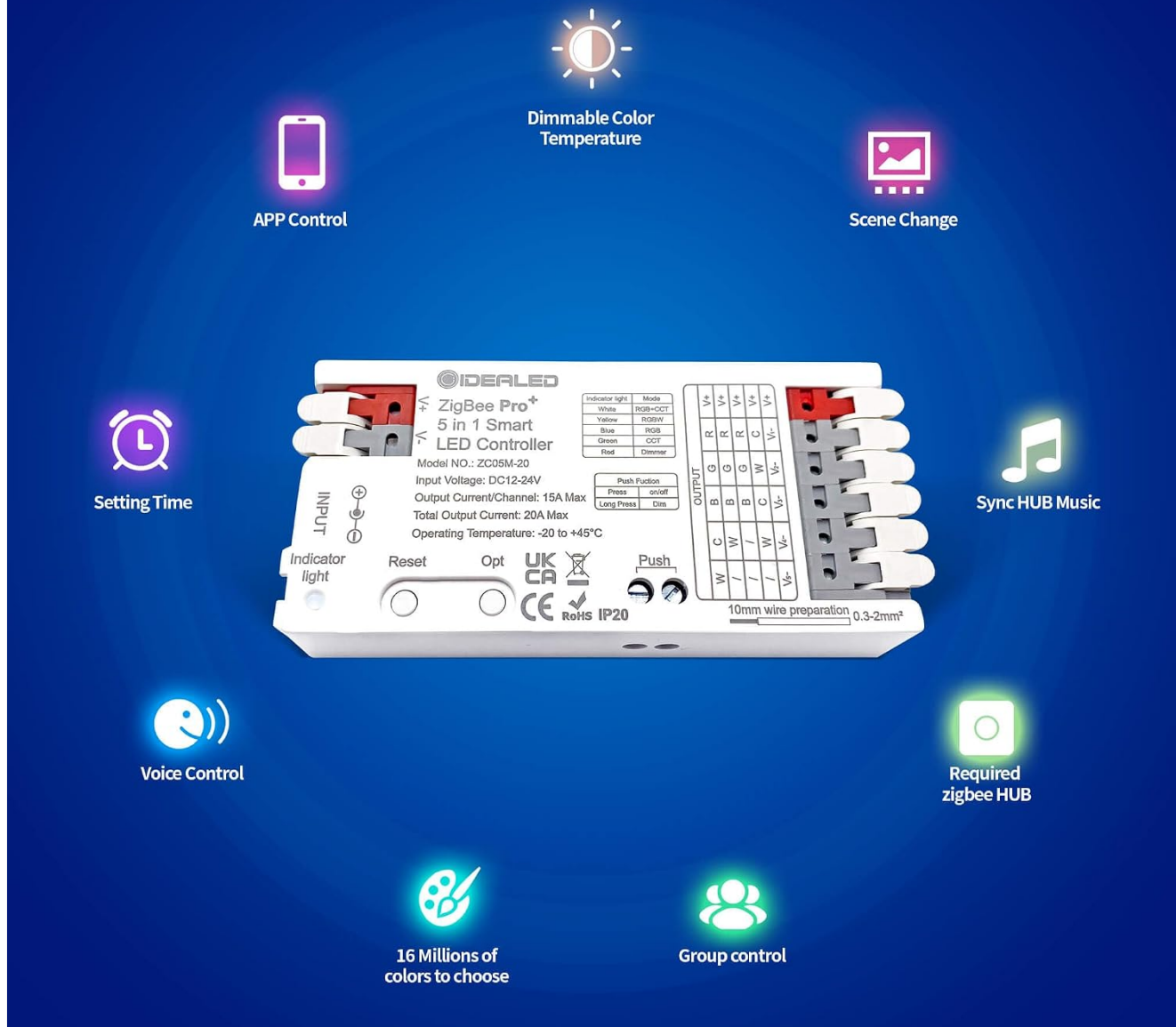


Figure 2: Overview of Controller Features. This diagram illustrates the various functionalities of the ZigBee 5-in-1 LED Controller, including dimmable color temperature, APP control, scene change, setting time, sync music, voice control, 16 million colors, group control, and the requirement for a ZigBee Hub.

4. SETUP AND INSTALLATION

4.1 Requirements

- Compatible LED strip light (RGB, RGBW, RGBWW, CCT, or Dimmer type).
- DC12-24V power supply (appropriate wattage for your LED strip).
- ZigBee 3.0 compatible hub/bridge (e.g., Tuya Smart Hub, Amazon Echo Plus, Echo 4th Gen, Echo Studio, Echo Show 2nd Gen).

4.2 Wiring Instructions

The controller features push-in terminals for easy and secure wire connections. Ensure 10mm wire preparation and use 0.3-2mm² wire gauge.

Hand-Free Voice Control

Work with Alexa & Google Assistant



Alexa, Set the light to Warm white

Okay

No Gateway is required: Zigbee 3.0 Controller can work directly with: Amazon Echo Plus (2nd Gen), Echo Studio, Echo Show (2. Gen) and other smart speakers with built-in zigbee3.0 protocol (But don't work with Echo dot)

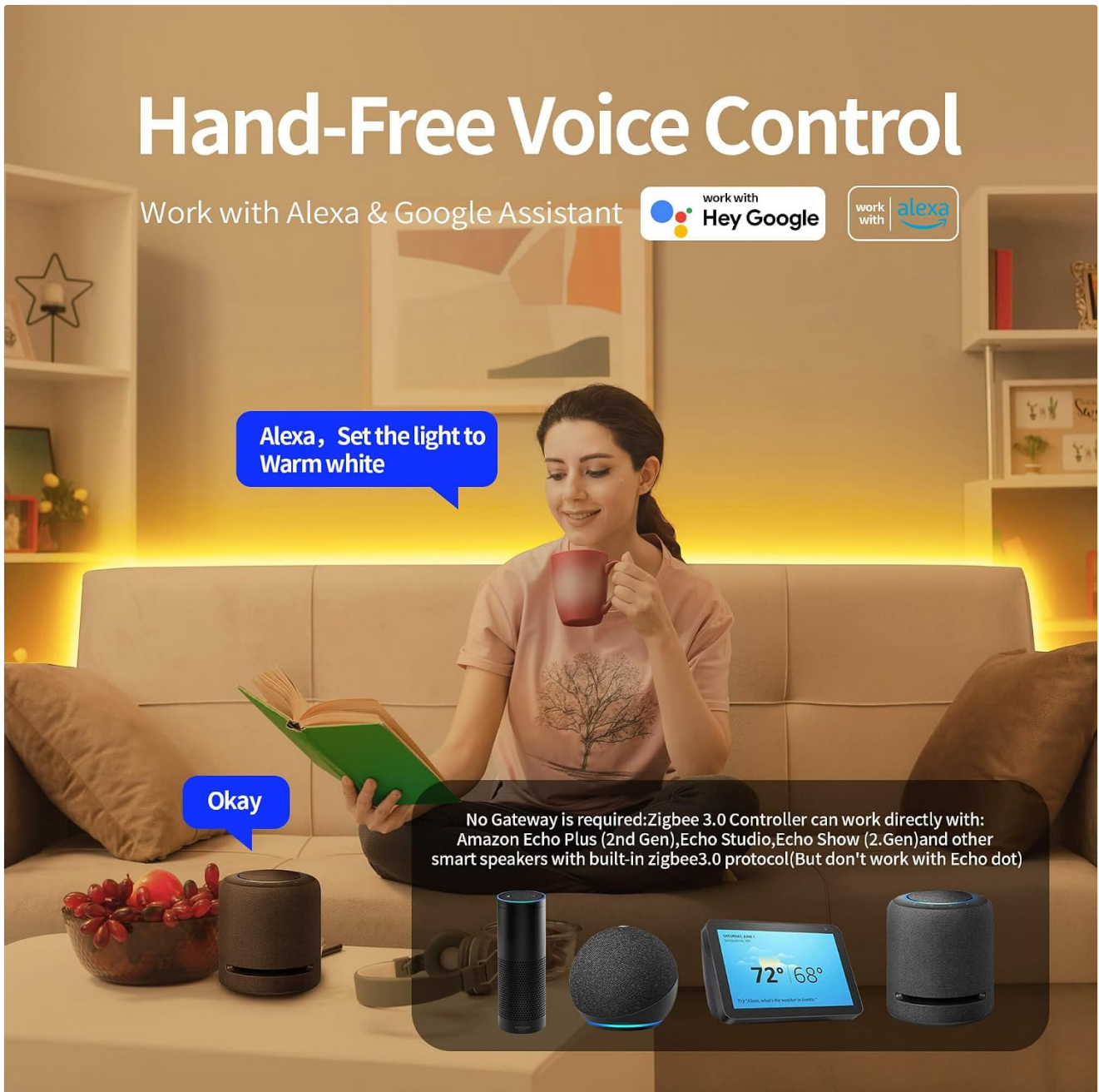


Figure 3: Wiring Diagram for Various LED Strip Types. This diagram illustrates how to connect different types of LED strips (RGB+CCT, RGBW, RGB, CCT, Dimmer) to the GIDEALED 5-in-1 LED Controller. Each strip type shows the required connections to the controller's output terminals (V+, R, G, B, C, W, V-) and the DC power supply input.

1. **Prepare Wires:** Strip approximately 10mm of insulation from the ends of your LED strip wires and power supply wires.
2. **Connect Power Supply:** Connect the DC12-24V power supply to the 'INPUT' terminals on the controller. Ensure correct polarity: V+ to V+ and V- to V-.
3. **Connect LED Strip:** Based on your LED strip type, connect the corresponding wires to the 'OUTPUT' terminals. Refer to Figure 3 for specific wiring configurations:
 - **RGB+CCT:** Connect R, G, B, C, W, and V+ wires.
 - **RGBW:** Connect R, G, B, W, and V+ wires.
 - **RGB:** Connect R, G, B, and V+ wires.
 - **CCT:** Connect C, W, and V+ wires.
 - **Dimmer (Single Color):** Connect V- and V+ wires.
4. **Secure Connections:** Gently lift the connection terminal, insert the wire, and then press the terminal down to secure it. No tools are required for this step.

Control your LED lights Anytime , Anywhere

You can control all zigbee controllers (light strips) in your home simultaneously on 1 app by setting groups

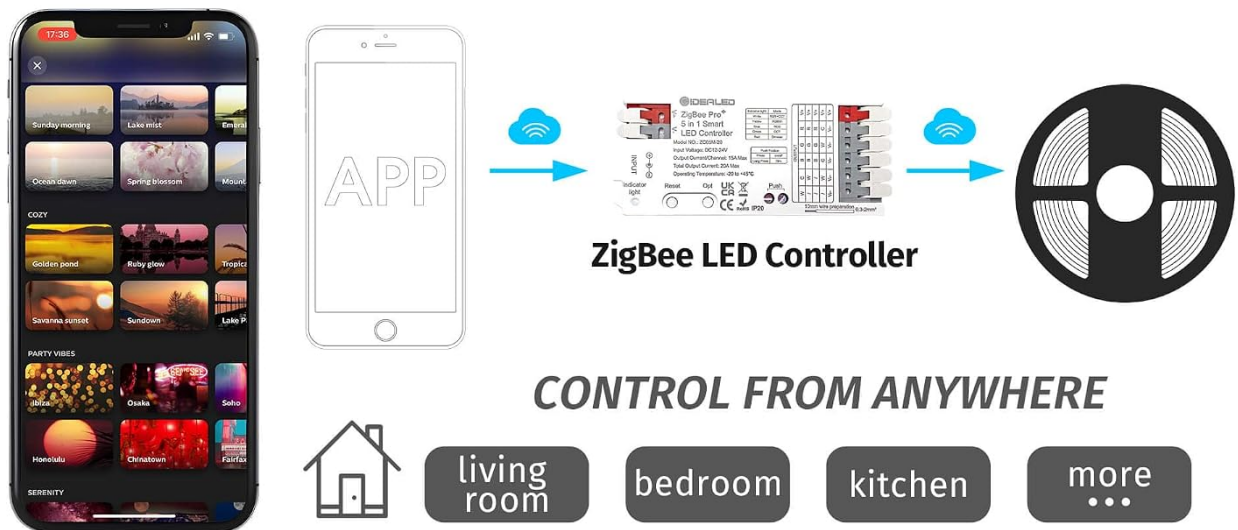


Figure 4: Tool-Free Wire Installation. This image demonstrates the simple, tool-free method of connecting wires to the controller by lifting the terminal clip, inserting the wire, and pressing the clip down to secure the connection.

4.3 Pairing with ZigBee Hub

After wiring, power on the controller. The indicator light will flash, indicating it is in pairing mode. Follow your ZigBee hub's instructions to add a new device. Once paired, the indicator light will stop flashing and remain solid.

5. OPERATION

5.1 Smart APP Control

Once paired with a ZigBee hub (e.g., Tuya Smart Hub), you can control your LED strip lights using the corresponding mobile application.

Smart APP Control

Zigbee HUB Required:

This zigbee 3.0 Controller Compatible with Hub Bridge Gateways, Lightify Hub , Amazon Echo Plus , and Tuya smart Hub

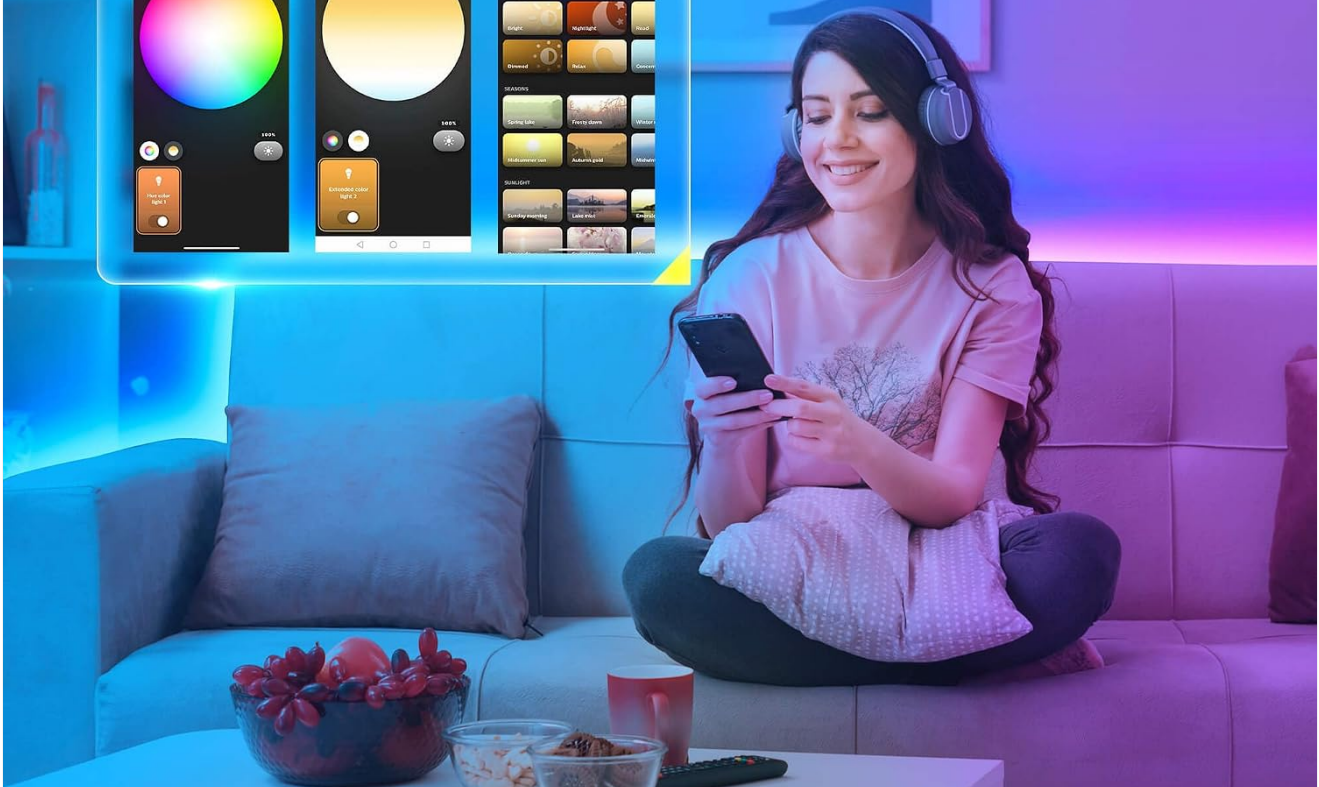


Figure 5: Smart APP Control Interface. This image shows a user interacting with a smartphone app to control LED lighting. The app displays color wheels, scene selections, and brightness controls, demonstrating the capabilities of smart app control for the LED controller.

- **Color Adjustment:** Select from 16 million colors for RGB/RGBW/RGBWW strips.
- **Color Temperature:** Adjust the white light from warm to cool for CCT strips.
- **Dimming:** Adjust brightness from 1% to 100% for all compatible strip types.
- **Scene Modes:** Apply pre-set or custom lighting scenes.
- **Scheduling:** Set timers and schedules for automatic on/off or scene changes.
- **Group Control:** Control multiple GIDEALED controllers simultaneously by grouping them in the app.

5.2 Voice Control (Alexa)

The controller supports direct connection with Amazon Alexa devices that have a built-in ZigBee 3.0 protocol, such as Echo Plus, Echo (4th Gen), Echo Studio, and Echo Show (2nd Gen). A separate ZigBee hub is not required for these specific Alexa devices.

WIRING DIAGRAM

5 in 1 LED Controller for different types of light strips(12-24V)

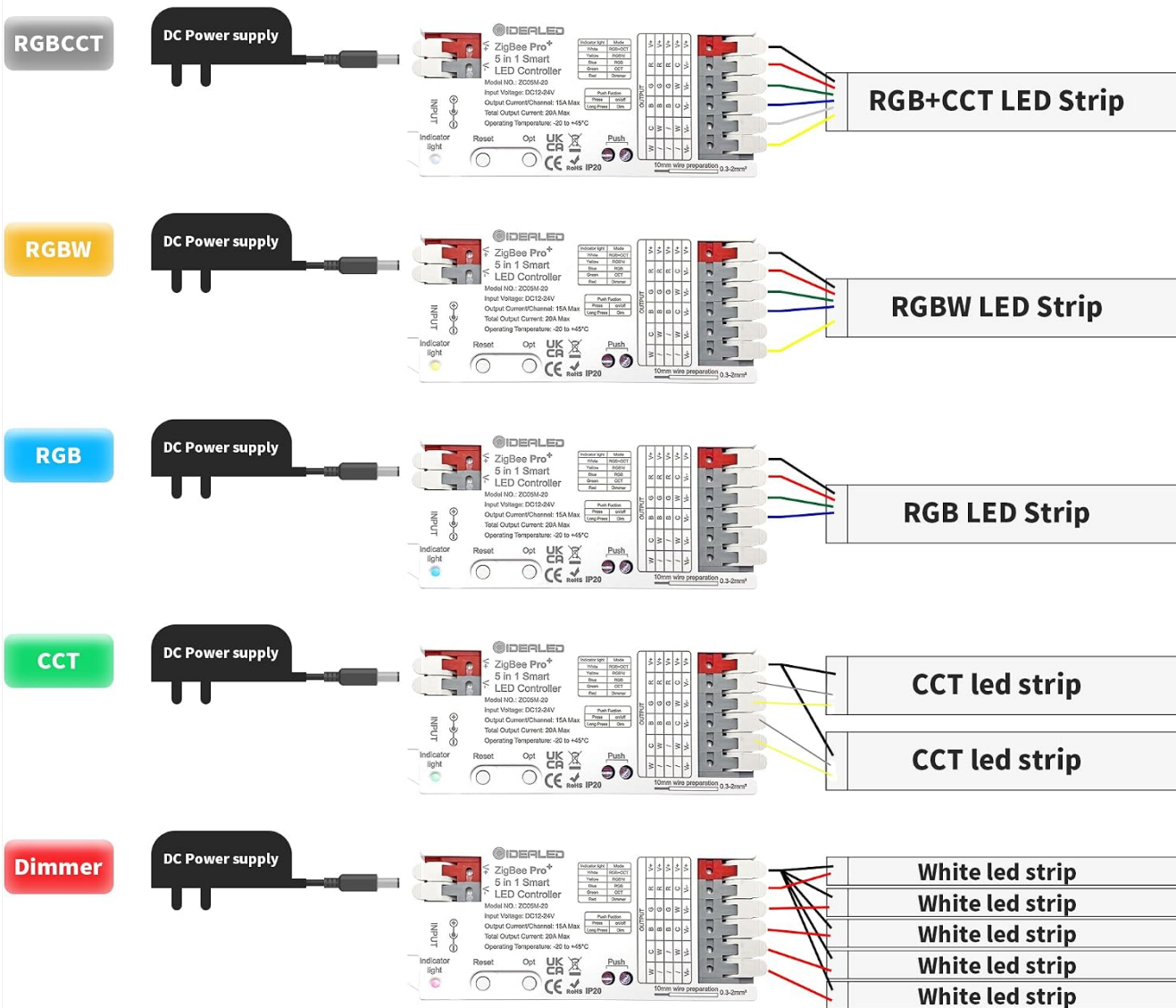


Figure 6: Hands-Free Voice Control with Alexa. This image depicts a woman using voice commands with an Amazon Echo device to control her smart lighting. Various Amazon Echo devices are shown, illustrating the compatibility for voice control.

- **Discovery:** Once connected to a compatible Alexa device, ask Alexa to discover new devices.
- **Voice Commands:** Use commands such as:
 - "Alexa, turn on [Light Name]"
 - "Alexa, set [Light Name] to warm white"
 - "Alexa, dim [Light Name] to 50%"
 - "Alexa, change [Light Name] to blue"

5.3 Manual Control

The controller features a 'Push' button and an 'Opt' button for basic manual control and configuration.

- **Push Button:**
 - **Short Press:** Toggles the LED strip on/off.
 - **Long Press:** Initiates dimming functionality.

- **Opt Button:**
 - **Short Press:** Cycles through and matches the corresponding LED strip type (RGB, RGBW, RGBWW, CCT, Dimmer). The indicator light will change color to reflect the selected mode (White for RGB+CCT, Yellow for RGBW, Blue for RGB, Green for CCT, Red for Dimmer).
- **Reset:** Long press the 'Reset' button for 5 seconds to factory reset the controller and enter pairing mode.

6. MAINTENANCE

- Keep the controller clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid exposing the controller to extreme temperatures or humidity.
- Do not attempt to open or repair the controller yourself, as this will void the warranty.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
LED strip does not light up.	No power supply; incorrect wiring; LED strip type not matched; controller not paired.	Check power supply connection and voltage. Verify wiring polarity. Short press 'Opt' button to match LED strip type. Ensure controller is paired with ZigBee hub.
Cannot control via app/voice.	No ZigBee hub connected; controller not paired; hub/app issue.	Ensure a ZigBee hub is present and powered. Reset and re-pair the controller with the hub. Check hub/app status and internet connection.
Colors/brightness are incorrect.	Incorrect LED strip type selected; wiring issue.	Short press 'Opt' button to cycle through and select the correct LED strip type. Verify R, G, B, C, W wire connections.
Controller is unresponsive.	Power issue; software glitch.	Disconnect and reconnect power. Perform a factory reset by long pressing the 'Reset' button for 5 seconds.

8. SPECIFICATIONS

Feature	Specification
Model Number	ZC05M-20
Brand	GIDEALED
Operating Voltage	DC12-24V
Output Current/Channel	15A Max
Total Output Current	20A Max
Connectivity Protocol	ZigBee 3.0
Control Method	App, Voice (Alexa)
Compatible LED Types	RGB, RGBW, RGBWW, CCT, Dimmer

Feature	Specification
Operating Temperature	-20°C to +45°C
Material	Plastic
Item Weight	2.46 ounces
Package Dimensions	4.33 x 1.85 x 0.94 inches

9. WARRANTY AND SUPPORT

GIDEALED products are designed and manufactured to the highest quality standards. For warranty information or technical support, please refer to the contact details provided with your purchase or visit the official GIDEALED website. Please retain your proof of purchase for warranty claims.