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› RGB Knob Dimmer User Manual

shenruifa shenruifanovhsmgcwk

RGB Knob Dimmer User Manual

Model: shenruifanovhsmgcwk

Brand: shenruifa

1. INTRODUCTION

This user manual provides detailed instructions for the installation, operation, and maintenance of your shenruifa RGB Knob Dimmer. Please read this manual thoroughly before use to ensure proper functionality and safety.

The shenruifa RGB Knob Dimmer is an intelligent three-way dimming controller specifically designed for LED lighting applications. It utilizes PWM digital brightness adjustment technology, allowing manual adjustment of the brightness for the three primary colors (Red, Green, Blue) to achieve any desired color mix and brightness level.

2. PRODUCT OVERVIEW

The RGB Knob Dimmer features three independent rotary knobs for precise control over Red, Green, and Blue channels, along with clearly marked input and output terminals.



Figure 2.1: Front view of the RGB Knob Dimmer. Shows the three rotary knobs for Red, Green, and Blue channels, along with the input and output screw terminals.

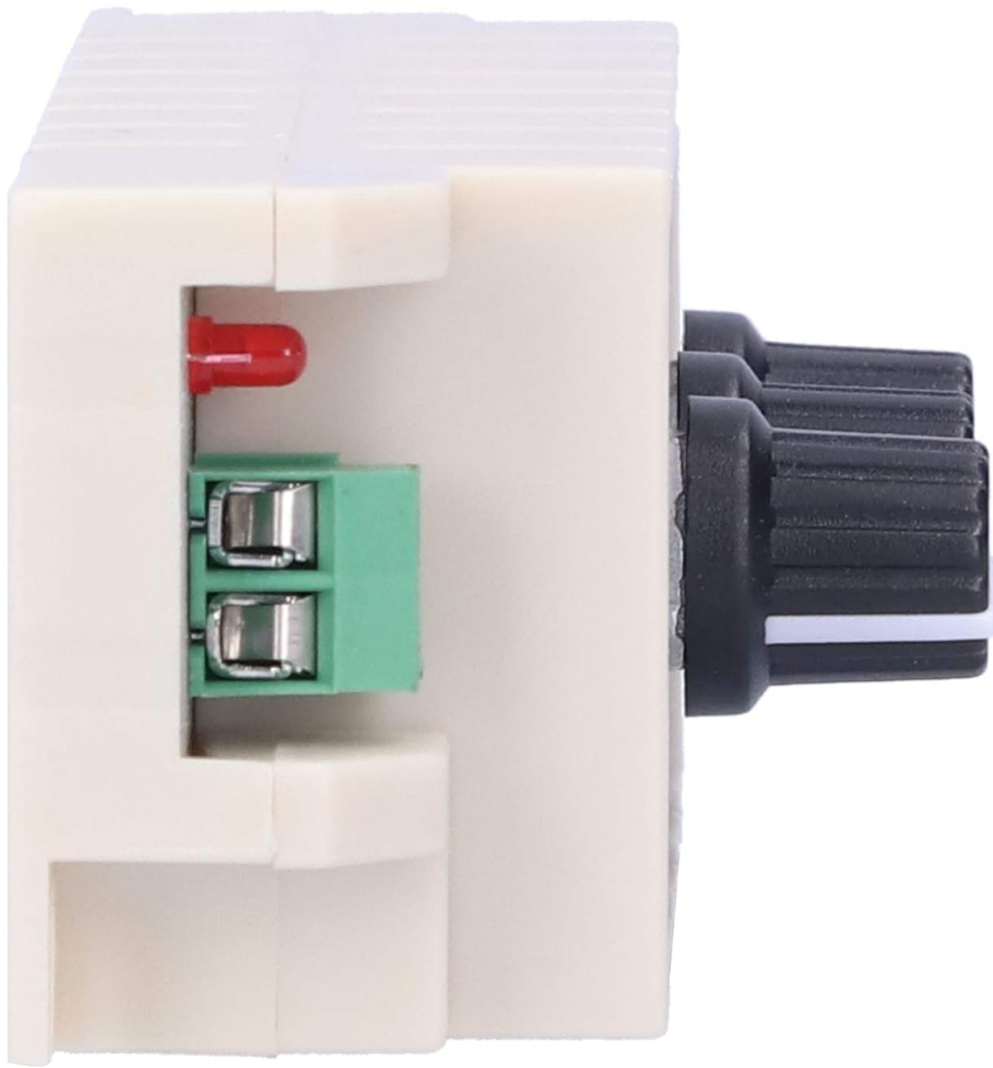


Figure 2.2: Side view of the RGB Knob Dimmer, highlighting the input terminal block and power indicator LED.



Figure 2.3: Bottom view of the RGB Knob Dimmer, showing mounting points.

3. SPECIFICATIONS

Feature	Specification
Product Type	RGB Knob Dimmer
Material	ABS
Dimensions (L x W x H)	Approx. 13 x 3 x 4 cm / 5.1 x 1.2 x 1.6 inches
Weight	Approx. 96 g / 3.4 oz
Input Voltage	DC12V-24V
Output Channels	3 Channels (Red, Green, Blue)
Load Current (per color)	3A
Connection Mode	Common Anode

Feature	Specification
Operating Temperature	-20°C to 60°C

4. SETUP AND INSTALLATION

Follow these steps to correctly install your RGB Knob Dimmer:

- Power Supply Connection:** Connect your DC12V-24V power supply to the "INPUT" terminals of the dimmer. Ensure correct polarity: connect the positive (+) wire of the power supply to the "+" terminal of the dimmer, and the negative (-) wire to the "-" terminal.
- LED Light Connection:** Connect your RGB LED strip or light fixture to the "OUTPUT" terminals. This dimmer uses a common anode connection.
 - Connect the common positive (+) wire of your RGB LED light to the "V+" terminal on the dimmer's output.
 - Connect the Red (R) channel wire of your LED light to the "R" terminal.
 - Connect the Green (G) channel wire of your LED light to the "G" terminal.
 - Connect the Blue (B) channel wire of your LED light to the "B" terminal.
- Secure Connections:** Ensure all wire connections are secure and properly tightened in the screw terminals.
- Mounting (Optional):** The dimmer can be mounted using screws through the designated mounting holes on the bottom of the unit (refer to Figure 2.3).

Important Safety Notes:

- Do not directly connect two wires together to avoid short circuits.
- Ensure cables are connected correctly according to the provided connection diagram and color coding.
- The power supply voltage for this product is DC12V-24V. Do NOT connect to AC220V or any other AC voltage.

5. OPERATION

The RGB Knob Dimmer features three independent rotary knobs for controlling the brightness of each color channel:

- Red Knob:** Controls the brightness of the Red LED channel.
- Green Knob:** Controls the brightness of the Green LED channel.
- Blue Knob:** Controls the brightness of the Blue LED channel.

Brightness Adjustment:

- Increase Brightness:** Turn the corresponding knob clockwise. The brightness of that color will gradually increase. When turned all the way clockwise, the brightness will be at its maximum.
- Decrease Brightness / Turn Off:** Turn the corresponding knob counter-clockwise. The brightness of that color will gradually decrease. When turned all the way counter-clockwise, the light for that color will turn off.

By adjusting the three knobs independently, you can mix various colors and achieve desired lighting effects for your LED setup.



Figure 5.1: Examples of lighting applications using an RGB dimmer, demonstrating color mixing and ambiance creation.

6. MAINTENANCE

The shenruifa RGB Knob Dimmer requires minimal maintenance. Follow these guidelines to ensure its longevity:

- **Cleaning:** Gently wipe the surface of the dimmer with a soft, dry cloth. Do not use abrasive cleaners, solvents, or excessive moisture, as these can damage the unit.
- **Environment:** Ensure the dimmer is installed in a dry environment, away from direct sunlight, high temperatures, and excessive humidity.
- **Connections:** Periodically check all wire connections to ensure they remain secure. Loose connections can lead to flickering or malfunction.

7. TROUBLESHOOTING

If you encounter issues with your RGB Knob Dimmer, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
LEDs do not light up.	No power supply; Incorrect wiring; Faulty LED strip/light.	• Check if the power supply is connected and providing the correct DC12V-24V voltage. • Verify all wiring connections (input and output) are correct and secure, paying attention to polarity (+/-) and color channels (R, G, B). • Test the LED strip/light with another power source or dimmer to confirm it is functional.
Only some colors light up or colors are incorrect.	Incorrect wiring of RGB channels; Faulty LED channel.	• Ensure the R, G, B wires from the LED light are connected to the corresponding R, G, B terminals on the dimmer. • Check if the common positive (V+) wire is correctly connected. • Rotate the individual color knobs to full brightness to check if the specific channel responds.
Flickering or unstable brightness.	Loose connections; Overload; Incompatible power supply.	• Tighten all screw terminal connections. • Ensure the total current draw of your LED lights does not exceed 3A per channel. • Verify your power supply is stable and provides sufficient current for your LED load.

If the problem persists after trying these solutions, please contact customer support.

8. PACKAGE CONTENTS

The package should contain the following items:

- 1 x shenruifa RGB Knob Dimmer
- 1 x User Manual (this document)

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the seller's policy or contact shenruifa customer service through the platform where you purchased the product. Please have your model number (shenruifanovhsmgckw) and ASIN (B0D86JYKX3) ready when contacting support.