

GRV MR16

GRV MR16 GU5.3 LED Light Bulb

Instruction Manual

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your GRV MR16 GU5.3 LED Light Bulb. Please read this manual thoroughly before installation and operation, and retain it for future reference.



Figure 1.1: Two GRV MR16 GU5.3 LED Light Bulbs, showcasing their standard form factor and LED array.

2. SAFETY INFORMATION

- **Power Off Before Installation:** Always ensure the power supply is turned off before installing or replacing the bulb to prevent electric shock.
- **Voltage Compatibility:** This MR16 LED bulb is designed for AC12V and DC12-24V systems. Do not use it in high-voltage environments (e.g., AC110V or AC220V household sockets), as this will cause the bulb to burn out.
- **Non-Dimmable:** This bulb is non-dimmable. Do not connect it to dimmer switches, as this may damage the bulb or cause flickering.

- **Indoor Use Only:** This bulb is intended for indoor use. If used outdoors, adequate moisture protection measures must be applied as the lamp cup is not moisture-proof.
- **Avoid Enclosed Fixtures:** Not suitable for fully enclosed fixtures. Using in enclosed fixtures may accelerate lumen depreciation and shorten the lamp's lifespan due to heat buildup.
- **Operating Temperature:** Ensure the working environment temperature is between -20°C and 40°C (-4°F and 104°F).
- **No Harmful Emissions:** This LED bulb contains no mercury (Hg), infrared (IR), or ultraviolet (UV) radiation.
- **Recycling:** Dispose of the product responsibly according to local electronic waste regulations.



! Note

**This LED bulb is not dimmable
not waterproof, If you need to use
it outdoors, please apply moisture
protection measures**



Figure 2.1: Important notes regarding the non-dimmable nature and outdoor use requirements of the LED bulb, along with its dimensions (1.97in/50mm diameter, 1.5in/38mm height).

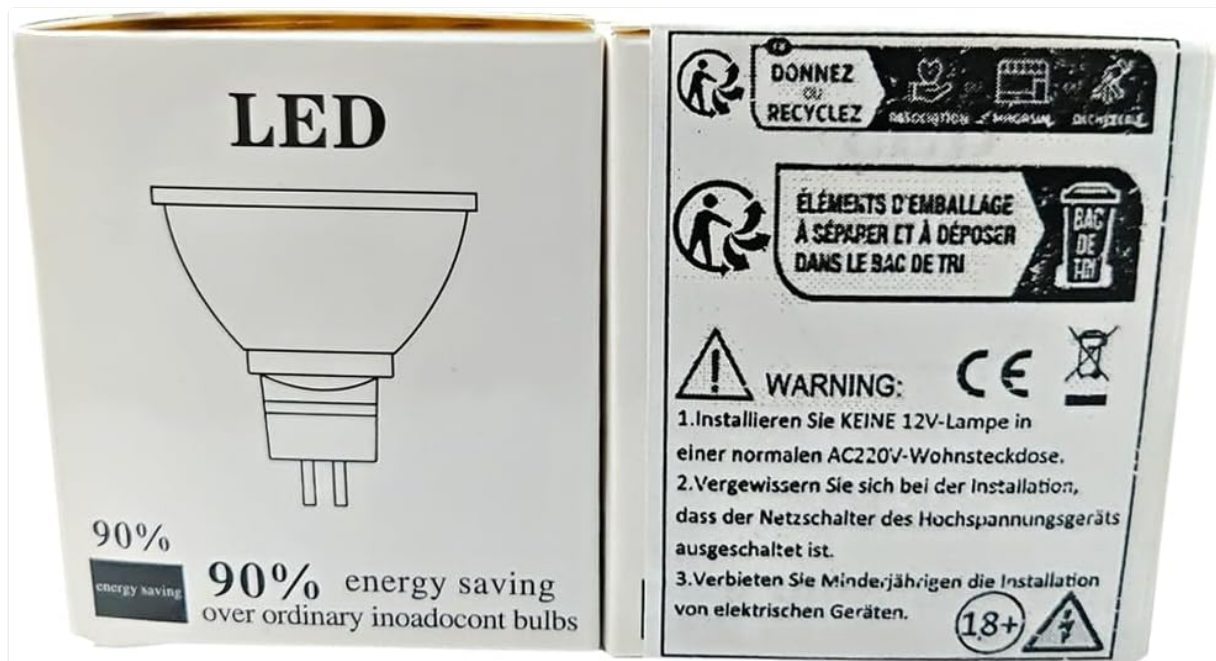


Figure 2.2: Packaging displaying safety warnings, including the need to turn off power before installation, unsuitability for enclosed fixtures, and working temperature range. Also shows recycling symbols.

3. PRODUCT OVERVIEW

The GRV MR16 GU5.3 LED Light Bulb is an energy-efficient replacement for traditional 30W-35W halogen lamps. It features a standard GU5.3 bi-pin base and provides cool white illumination suitable for various indoor lighting applications.

3.1 Components



Figure 3.1: The bulb consists of a glass shell and an internal array of 48 2835SMD LEDs, providing a wide luminous angle of 160°-180°.

3.2 Features

- **High Color Rendering Index (CRI):** With a CRI of 80+, the bulb renders colors vividly and naturally, reducing eye strain.
- **Energy Efficient:** Consumes only 3W, offering significant energy savings compared to 30W-35W halogen

bulbs.

- **Long Lifespan:** Designed for an average life of 30,000 hours, reducing the need for frequent replacements.
- **Stable Performance:** CE and RoHS approved, ensuring stable operation without flickering.



Figure 3.2: Visual representation of the improved color accuracy with a CRI of 80+ compared to 70%, showing more vivid colors.

4. INSTALLATION

Follow these steps to safely install your GRV MR16 GU5.3 LED Light Bulb:

1. **Turn off Power:** Locate the light fixture's power switch and turn it off. For added safety, turn off the corresponding circuit breaker.
2. **Remove Old Bulb:** Carefully remove the existing MR16 halogen bulb from the GU5.3 socket. Allow it to cool down if it was recently in use.
3. **Insert New Bulb:** Align the two pins of the GRV MR16 LED bulb with the holes in the GU5.3 socket. Gently push the bulb into the socket until it is securely seated. Do not force the bulb.
4. **Restore Power:** Once the bulb is securely installed, restore power to the fixture by turning on the circuit breaker and then the light switch.
5. **Test:** Verify that the new LED bulb illuminates correctly.

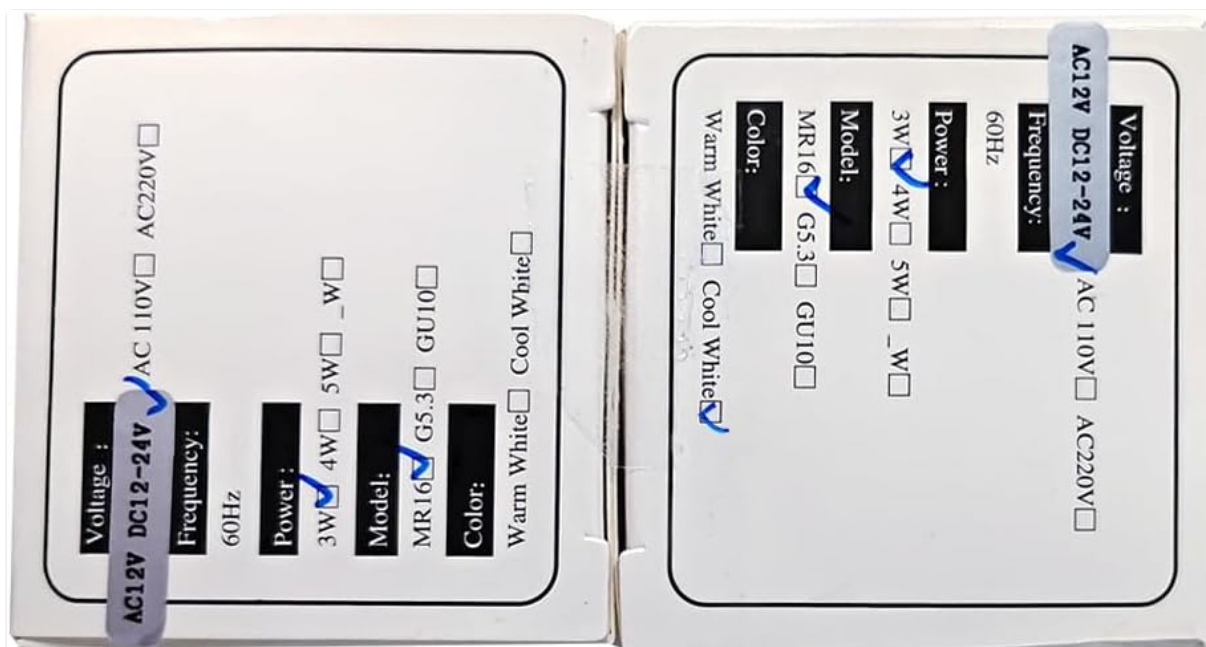


Figure 4.1: Packaging indicating the bulb's voltage (AC12V DC12-24V) and power (3W) specifications, crucial for correct installation.

5. OPERATION

The GRV MR16 GU5.3 LED Light Bulb operates immediately upon receiving power. It provides a consistent cool white light (6500-7000K) with a wide beam angle.

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Video 5.1: Demonstration of the GRV MR16 GU5.3 LED Bulb's lighting effect and its ability to replace 30W-35W MR16 halogen lamps, showcasing its performance across AC12V and DC12-24V working voltages.



Figure 5.1: Examples of common applications for the MR16 LED bulb, including track lighting, recessed lighting, and spotlighting in both indoor and protected outdoor environments.

6. MAINTENANCE

The GRV MR16 GU5.3 LED Light Bulb requires minimal maintenance. Follow these guidelines to ensure optimal performance and longevity:

- **Cleaning:** Before cleaning, ensure the power is off and the bulb has cooled. Wipe the bulb gently with a soft, dry cloth. Do not use liquid cleaners or abrasive materials.
- **Inspection:** Periodically inspect the bulb and its connections for any signs of damage or loose fittings.
- **Replacement:** If the bulb stops functioning, ensure power is off before safely removing and replacing it with a new GRV MR16 GU5.3 LED bulb.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Bulb does not light up.	No power, incorrect voltage, loose connection, or faulty bulb.	Check power supply and switch. Verify voltage (AC12V/DC12-24V). Re-seat the bulb. Replace if faulty.
Bulb flickers.	Connected to a dimmer switch, unstable voltage, or incompatible transformer.	Ensure bulb is not connected to a dimmer (it is non-dimmable). Check power supply stability. Use a compatible LED transformer if applicable.
Bulb burns out quickly.	Over-voltage, used in enclosed fixture, or high ambient temperature.	Verify correct voltage (AC12V/DC12-24V). Avoid using in fully enclosed fixtures. Ensure operating temperature is within - 20°C to 40°C.

8. SPECIFICATIONS

Attribute	Value
Model	MR16
Base Type	GU5.3
Power Consumption	3 Watts
Lumen Output	350 Lumen
Incandescent Equivalent	30W-35W Halogen
Input Voltage	AC12V, DC12-24V
Light Source	48 pcs 2835 SMD LEDs
Color Temperature	Cool White (6500-7000K)
Color Rendering Index (CRI)	80+
Luminous Angle	160°-180°
Dimmable	No
Average Lifespan	30,000 Hours
Certifications	CE, RoHS
Product Dimensions	1.97"W x 1.57"H (50mm x 38mm)
Indoor/Outdoor Use	Indoor (Outdoor with moisture protection)

Specification



Model:MR16

Power: 3W

Lumen:350LM

Input: AC12V DC12-24V

Base:Standard GU5.3 base

Light source: 48 pcs 2835 SMD LEDs

Color temperature:Cool White(6500-7000K)



LED Bulb

3W = 30W



Halogen Bulb

Figure 8.1: Visual representation of the bulb's specifications, including model, power, lumen, input, base, light source, and color temperature, along with a comparison to a 30W halogen bulb.

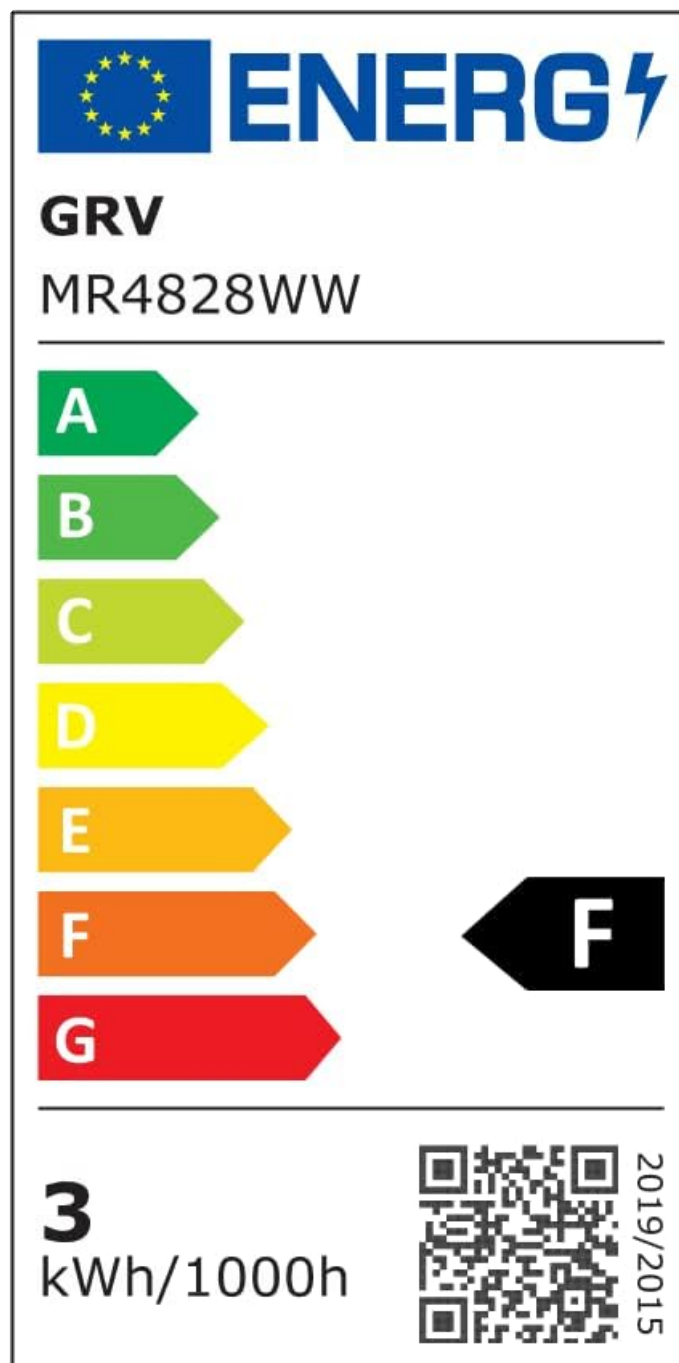


Figure 8.2: EU Energy Label for the GRV MR16 LED bulb, indicating its energy efficiency class F and consumption of 3 kWh/1000h. More details can be found at eprel.ec.europa.eu/qr/1388462.

9. WARRANTY AND SUPPORT

For warranty information or technical support, please contact GRV customer service through the retailer where the product was purchased or visit the official GRV store on Amazon: [GRV Store](#).

Please have your product model (MR16) and purchase details ready when contacting support.