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› PLUSPOE 24V 120W Dimmable LED Driver Instruction Manual

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PLUSPOE 24V 120W Dimmable LED Driver Instruction Manual

Model: 24V 120W Dimmable LED Driver

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your PLUSPOE 24V 120W Dimmable LED Driver. This power supply converts 110V AC to 24V DC and is designed for use with 24V LED strip lights, puck lights, module lights, and other compatible 24V LED lighting applications. It is compatible with most standard TRIAC wall dimmers, including Lutron and Leviton models.

Please read this manual thoroughly before installation and operation to ensure safe and efficient use of the product.



Image 1.1: PLUSPOE 24V 120W Dimmable LED Driver. This image shows the overall view of the LED driver unit, highlighting its compact and rectangular design with orange end caps.

2. PRODUCT FEATURES

- **High Power Output:** Provides 120W (5.0A) of stable 24V DC power.
- **Dimmable Functionality:** Compatible with standard TRIAC wall dimmers (forward and reverse phase), including Lutron and Leviton.
- **Wide Input Voltage:** Accepts 100V-130V AC, 50/60Hz input.
- **No Minimum Load Required:** Operates quietly without buzzing or humming noise.
- **Robust Protection:** Features short circuit, over current, over loading, and over temperature protection.
- **Secure Connections:** Equipped with a smart double cord grip design and solid terminal blocks for safe wiring.
- **Aluminum Housing:** Designed with an aluminum housing for efficient cooling.

STABLE AND RELIABLE

Excellent Power Driver to Ensure Safety and Stability of Lighting Project



Short Circuit Protection



Over Current Protection



Over Loading Protection



Over Temperature Protection



Image 2.1: Protection Features. This image illustrates the various safety protections integrated into the LED driver, including short circuit, over current, over loading, and over temperature protection, ensuring stable and reliable operation.

Safest Protection for Cord Connection

Smart Double Cord Grip Design
Solid Terminal Block



Image 2.2: Cord Connection Design. This image details the smart double cord grip design and solid terminal blocks, emphasizing secure and safe wiring connections for both AC input and DC output.

3. SAFETY WARNINGS AND PRECAUTIONS

- **Electrical Hazard:** Installation should be performed by a qualified electrician or knowledgeable individual. Ensure power is disconnected before any wiring.
- **Do Not Overload:** It is critical not to exceed the maximum 120W (5A) output capacity of this power supply. Overloading will cause the unit to fail and may pose a fire hazard. Always calculate your total LED load before connecting.
- **Indoor Use Only:** This unit is NON-waterproof and designed for indoor dry locations only. Do not expose to moisture or water.
- **Ventilation:** Ensure adequate ventilation around the driver to prevent overheating.
- **Compatibility:** Use only with compatible 24V DC LED lighting products.

4. SPECIFICATIONS

Feature	Detail
Output Voltage	24V DC
Output Current	5A (Max)
Output Power	120W (Max)
Input Voltage	100V-130V AC, 50/60Hz
Dimming Type	TRIAC (Forward and Reverse Phase)
Dimensions (L x W x H)	267mm x 61mm x 39mm (10.5" x 2.4" x 1.54")
Operating Ambient Temp	-20°C to +45°C
Protection Features	Short Circuit, Over Current, Over Loading, Over Temperature
Enclosure	Aluminum Housing
Environment	Indoor Dry Location Only

Outline Dimension

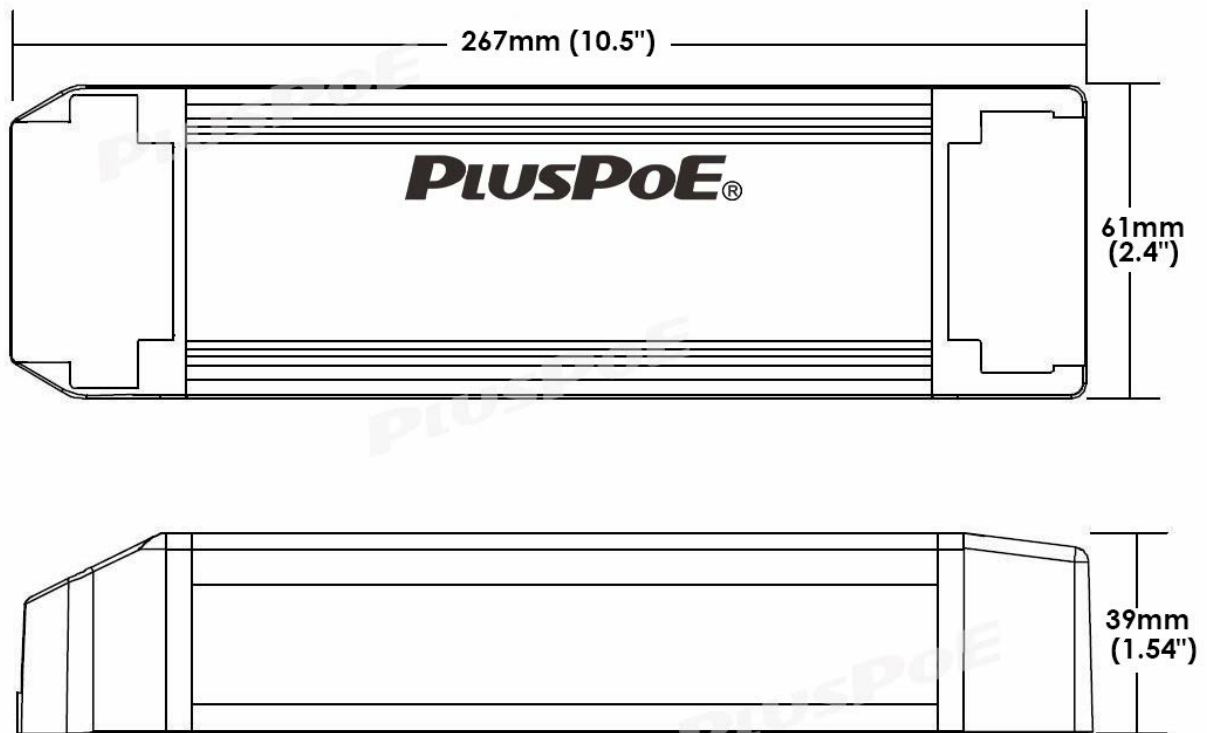


Image 4.1: Outline Dimensions. This diagram provides the precise measurements of the LED driver unit: 267mm (10.5 inches) in length, 61mm (2.4 inches) in width, and 39mm (1.54 inches) in height.

5. WHAT'S IN THE BOX

Your package should contain the following item:

- 1x PLUSPOE 24V 120W Triac Dimmable LED Driver

Note: Power cables are not included and must be supplied separately.

6. INSTALLATION AND WIRING

Important: Ensure all power is disconnected at the circuit breaker before beginning installation. Improper wiring can cause damage to the unit, connected lights, or pose an electrical hazard.

1. **Mounting:** Securely mount the LED driver in a dry, well-ventilated indoor location. Ensure there is sufficient space around the unit for heat dissipation.
2. **AC Input Wiring:**
 - Connect the **Live (L)** wire from your 110V AC power source (and dimmer switch, if used) to the 'L' terminal on the driver's AC INPUT side.
 - Connect the **Neutral (N)** wire from your 110V AC power source to the 'N' terminal on the driver's AC INPUT side.
 - Connect the **Ground (GND)** wire from your electrical system to the 'GND' terminal on the driver's AC INPUT side.
3. **DC Output Wiring:**
 - Connect the **Positive (+)** wire from your 24V LED lights to the '+' terminal on the driver's DC OUTPUT side.
 - Connect the **Negative (-)** wire from your 24V LED lights to the '-' terminal on the driver's DC OUTPUT side.
 - Ensure all connections are tight and secure within the terminal blocks.
4. **Load Calculation:** Verify that the total wattage of your connected 24V LED lights does not exceed 120W.
5. **Power On:** Once all connections are verified and secure, restore power at the circuit breaker.

WIRING DIAGRAM

Constant 24volt Max 120watt

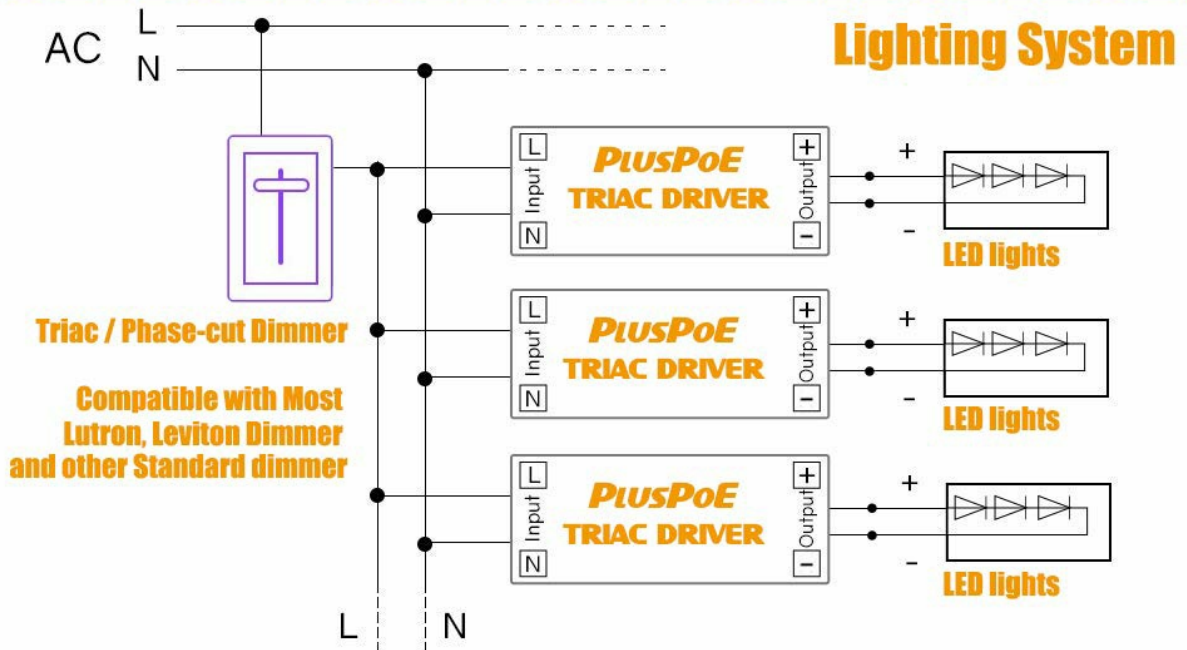
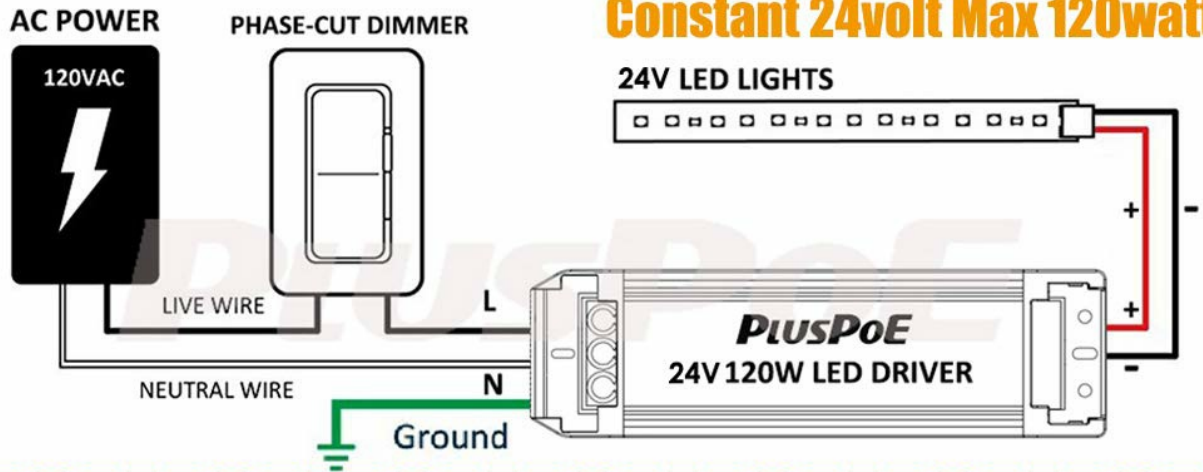


Image 6.1: Wiring Diagram. This diagram illustrates the correct electrical connections for the LED driver, showing AC power input (Live, Neutral, Ground) and DC output to 24V LED lights. It also depicts how a phase-cut dimmer integrates into the AC input line.

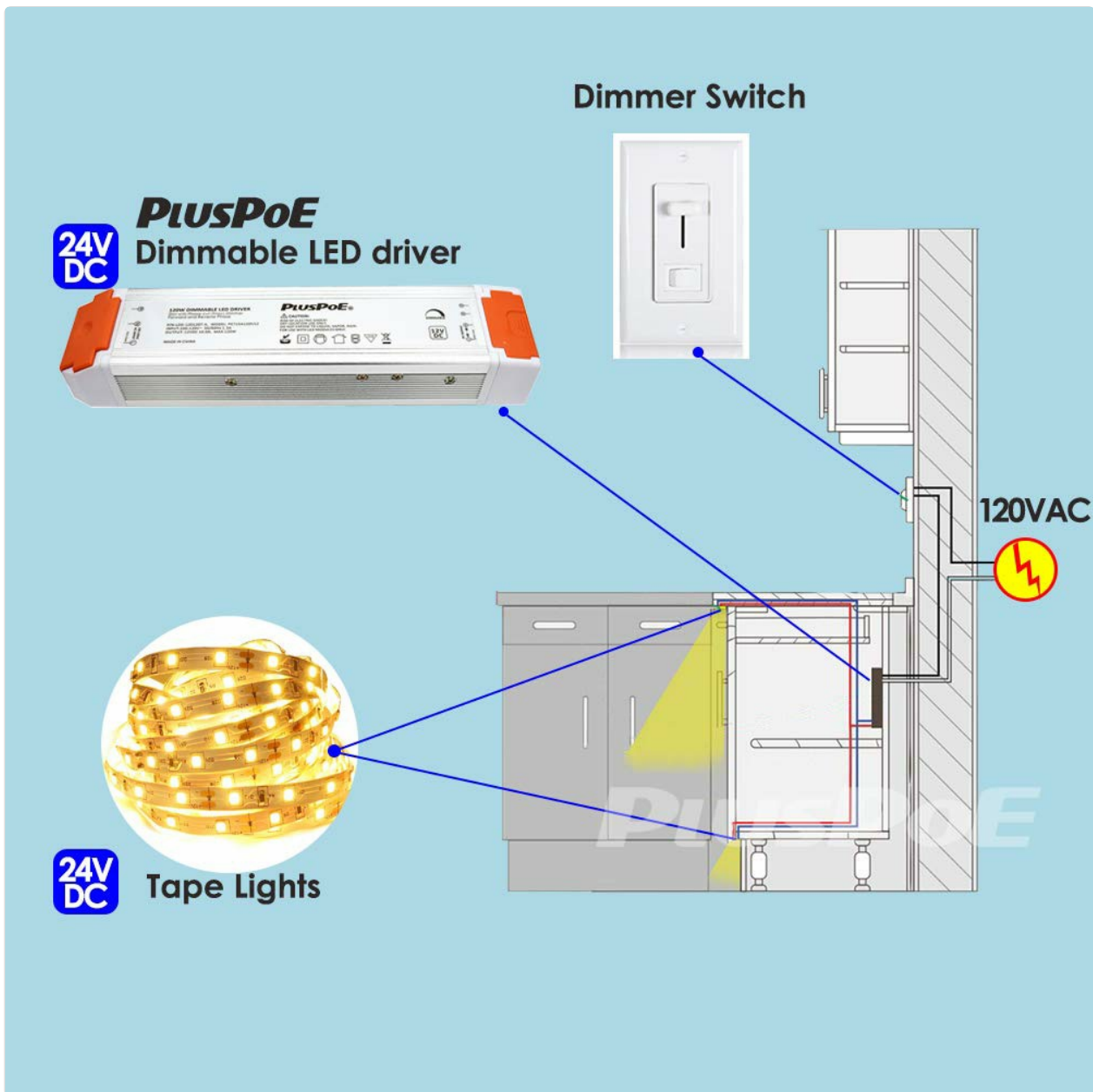


Image 6.2: Dimmer Switch Connection Example. This image provides a visual example of how the dimmable LED driver connects to a dimmer switch and then to 24V tape lights, typically for under-cabinet lighting applications.

7. OPERATION

The PLUSPOE 24V 120W Dimmable LED Driver is designed for simple operation once correctly installed.

- **Power On/Off:** Control the power to your LED lights using the wall switch connected to the AC input of the driver.
- **Dimming:** If a compatible TRIAC wall dimmer is installed, you can adjust the brightness of your connected 24V LED lights from 0% to 100%. The driver is designed to provide smooth, flicker-free dimming.



Image 7.1: 0-100% Dimming Capability. This image highlights the driver's ability to provide smooth and flicker-free dimming across the entire range, from off to full brightness.

8. APPLICATIONS

This 24V Dimmable LED Driver is suitable for a wide range of 24V LED lighting applications, including but not limited to:

- LED Strip Lights
- LED Puck Lights
- LED Module Lights
- Under-cabinet Lighting
- Cove Lighting
- Accent Lighting

Application for Most 24V Lights

Output Constant 24vdc, Suitable for LED Strips, LED Display LED Bulbs, Cabinet Kitchen lights, Spot lights, MR16 and Other 24V LED lights

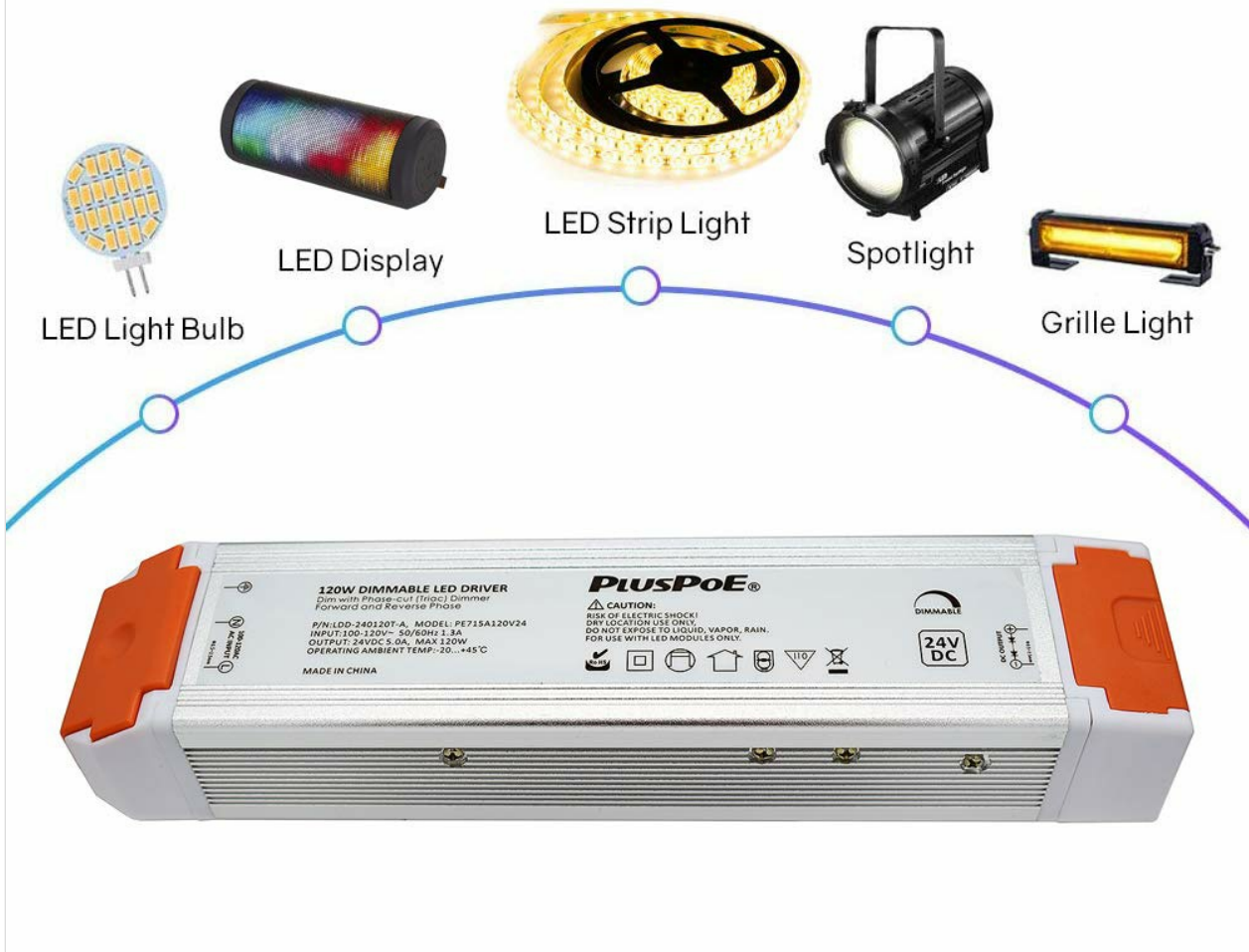


Image 8.1: Application Examples. This image displays various 24V LED lighting products that can be powered by this driver, such as LED light bulbs, LED displays, LED strip lights, spotlights, and grille lights.

9. MAINTENANCE

The PLUSPOE 24V 120W Dimmable LED Driver requires minimal maintenance.

- **Cleaning:** Ensure the unit is powered off and disconnected before cleaning. Use a dry, soft cloth to wipe the exterior. Do not use liquid cleaners or solvents.
- **Inspection:** Periodically check wiring connections to ensure they remain secure. Inspect the unit for any signs of physical damage or overheating.
- **Ventilation:** Ensure that the area around the driver remains clear of obstructions to allow for proper airflow and cooling.

10. TROUBLESHOOTING

If you encounter issues with your LED driver, consider the following:

- **No Light Output:**

- Check if the AC power supply is active.
 - Verify all wiring connections (AC input and DC output) are correct and secure.
 - Ensure the total wattage of connected LED lights does not exceed 120W.
 - Confirm the LED lights themselves are functional and rated for 24V DC.
- **Flickering or Inconsistent Dimming:**
 - Ensure your wall dimmer is a compatible TRIAC dimmer.
 - Check for loose wiring connections.
 - Verify the total load is within the driver's capacity and not too low for the dimmer (though this driver requires no minimum load, some dimmers might).
- **Buzzing or Humming Noise:**
 - This driver is designed to be quiet. If noise occurs, ensure all connections are tight.
 - Some dimmers can introduce noise; try a different compatible dimmer if possible.
- **Overheating:**
 - Immediately disconnect power.
 - Check for overloading (total wattage exceeding 120W).
 - Ensure adequate ventilation around the unit.

If you continue to experience issues after following these steps, please contact customer support.

11. CUSTOMER SUPPORT

For any installation issues, technical questions, or support needs, please contact PLUSPOE customer service via email. Refer to your product packaging or the retailer's website for specific contact information.