

## **LED Power Supplies with Dimming Knobs**

Part numbers: **Adapter-60-12D-NA, Driver-60-12D-NA,  
Adapter-96-24D-NA, Driver-96-24D-NA**

Environmental Lights developed this series of power supplies with an integrated dimming control to fill the need for streamlined and UL listed dimming power supplies. Many applications call for a dimming level to be set and rarely adjusted. In these scenarios, external controllers or dimmers add unnecessary cost and complexity. Adapters and drivers with dimming knobs from Environmental Lights feature a single knob that controls the 670Hz PWM output from completely off to 100% brightness. They are available in 12VDC 60W or 24VDC 96W sizes, which are at the limit for UL Class 2 wiring. Either size can be ordered as an adapter with integrated North American plug and barrel connector output, or as a driver with bare-wire connections and integrated wiring compartments.

### **Features**

- Built-in dimmer allows for precise brightness control without additional hardware.
- 12 or 24 Volt PWM output for driving LEDs.
- 60 Watt output rating for 12V models.
- 96 Watt output rating for 24V models.
- UL Listed Class 2.
- Adapter models feature a plastic housing with built-in North American plug input and barrel connector output.
- Driver models feature a metal housing with integrated wiring box and bare wire connections.
- Adapters accept 100-240V AC input at 50-60Hz.
- Drivers accept 120V AC input at 50-60Hz.
- 670Hz PWM output.
- Overload, overcurrent, short-circuit and over-voltage protection.
- 1-year warranty.

## Specifications

Part Number	<b>Adapter-60-12D-NA</b>
Dimensions	9.625" x 2.52" x 1.57"
	244mm x 64mm x 40mm
Input Voltage	100-240V AC
Output Voltage	12V DC
Max. Current Load	5A
Max. Output Power	60W
PWM Frequency	670Hz
Compatible Dimmer	Integrated Dimming Knob



Part Number	<b>Driver-60-12D-NA</b>
Dimensions	11.2" x 2.52" x 1.5"
	284mm x 64mm x 38mm
Input Voltage	120V AC
Output Voltage	12V DC
Max. Current Load	5A
Max. Output Power	60W
PWM Frequency	670Hz
Compatible Dimmer	Integrated Dimming Knob



Part Number	<b>Adapter-96-24D-NA</b>
Dimensions	9.625" x 2.52" x 1.57"
	244mm x 64mm x 40mm
Input Voltage	100-240V AC
Output Voltage	24V DC
Max. Current Load	4A
Max. Output Power	96W
PWM Frequency	670Hz
Compatible Dimmer	Integrated Dimming Knob



Part Number	<b>Driver-96-24D-NA</b>
Dimensions	11.2" x 2.52" x 1.5"
	284mm x 64mm x 38mm
Input Voltage	120V AC
Output Voltage	24V DC
Max. Current Load	4A
Max. Output Power	96W
PWM Frequency	670Hz
Compatible Dimmer	Integrated Dimming Knob



## **MOUNTING AND INSTALLATION INSTRUCTIONS**

**WARNING:** The drivers specified here must be installed by a qualified electrician in accordance with the National Electrical Code (NEC) and local building codes. Failure to do so voids the warranty and may result in serious injury or permanent damage to the unit.

For connection, use 12-22 AWG copper wires insulated for a minimum of 90°C rated for 600 V. Use wire connectors suitable for the number and size conductors being connected and applied in accordance with the manufacturer's instructions. There must be at least 20 amp supply side branch current. A disconnect device shall be located in the field wiring.

## **IMPORTANT SAFETY INSTRUCTIONS**

When using electrical products, basic precautions should be practiced including the following:

1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. Read and follow all instructions that are on the product or provided with the product.
3. Reference the National Code, ANSI/NFPA 70, specifically for the installation of wiring and clearances from power and lighting conductors.
4. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
5. **WARNING:** Risk of fire. Installation involves special wiring methods to run wiring through a building structure. Consult a qualified electrician.
6. **WARNING:** Risk of electric shock. Mount the unit at a greater height than 1 foot from the ground surface.

## **Troubleshooting**

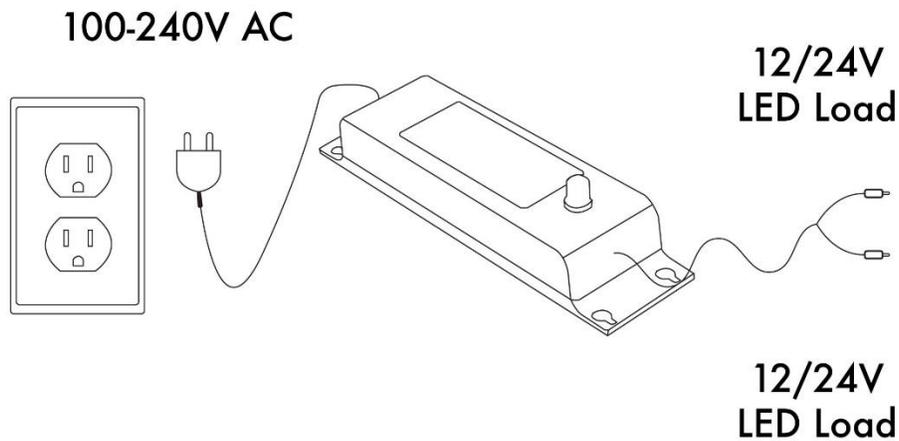
**Wiring should be done by qualified people only. "Qualified" means, among other things, knowing what safety precautions to take to avoid injury.** If you experience issues, double check all wiring and make sure your connections are secure. This goes for both the power supply and the load. If possible, substitute a known good power supply or LED load. This will help identify any defective parts in the unlikely event that you received one. Call Environmental Lights if you are still having trouble and need assistance.

SAVE THESE INSTRUCTIONS-This manual contains important safety and operating instructions for power units.

## Using Adapters with Dimming Knobs

Both **Adapter-60-12D-NA** and **Adapter-96-24D-NA** have integrated dimming circuits with an external control knob. They should not be used with any additional dimming hardware. No wiring is necessary with these adapters. Simply insert the North American plug into a North American outlet with 100-240V AC and plug the barrel connector into the LED lights. From OFF, rotate the dimming knob clockwise until it clicks. This click indicates the output turning on. Continue turning the knob to increase brightness. Turn the lights off by rotating the knob counter-clockwise until it clicks, which indicates the LEDs are completely off.

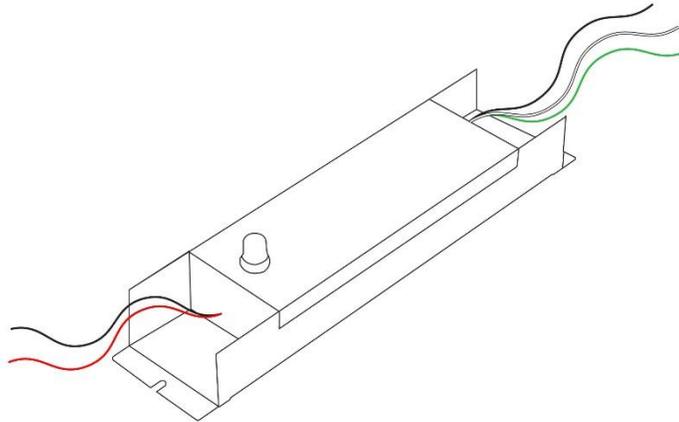
# 12V & 24V Adapters



## Using Drivers with Dimming Knobs

Both **Driver-60-12D-NA** and **Driver-96-24D-NA** have integrated dimming circuits with an external control knob. They should not be used with any additional dimming hardware. Follow the wiring steps listed below:

# 12V & 24V Drivers



AC INPUT		DC OUTPUT	
	Line		- LED Load
	Neutral		+ 12/24 VDC
	Ground		

### Wiring:

1. Turn off power at the building's breaker for safety.
2. Remove the covers from both ends of the driver.
3. Remove the appropriate knockouts on each end of the driver.
4. Wire the primary side to the building wiring. Black is line (120V AC), white is neutral and green is earth ground.
5. Wire the secondary side to the LED lights. Red is positive and black is ground. **Always make sure the power supply is the correct voltage for the LEDs you are using before turning on the power.** Applying the incorrect voltage can permanently damage the LEDs.
6. Secure the covers back onto each end of the driver.
7. Once all connections are secure, turn the building circuit breaker back on and test.

### Operation:

From OFF, rotate the dimming knob clockwise until it clicks. This click indicates the output turning on. Continue turning the knob to increase brightness. Turn the lights off by rotating the knob counter-clockwise until it clicks, which indicates the LEDs are completely off.