

ERP Power ESS030W-0900-27

ERP Power ESS030W-0900-27 CC LED Power Supply User Manual

Model: ESS030W-0900-27

1. INTRODUCTION

This manual provides essential instructions for the safe installation, operation, and maintenance of the ERP Power ESS030W-0900-27 Constant Current (CC) LED Power Supply. This device is designed to provide a stable 900 mA output current within a 20-27 V range for compatible LED lighting applications, featuring versatile dimming capabilities and a wide input voltage range.

2. SAFETY INFORMATION

WARNING: Risk of electric shock. Installation and servicing should only be performed by qualified personnel. Disconnect power before installation or maintenance.

- Ensure the input voltage (120-277 Vac) is within the specified range for the power supply.
- Do not exceed the maximum output power of 24.3 W.
- Connect the LED load correctly to the output terminals, observing polarity. This is a constant current driver; ensure your LEDs are compatible.
- Do not operate the power supply with damaged wiring or casing.
- Ensure proper ventilation around the unit to prevent overheating.
- This product is intended for indoor use unless otherwise specified by its IP rating (not provided in current data).

3. PRODUCT OVERVIEW

The ERP Power ESS030W-0900-27 is a high-efficiency constant current LED driver housed in a rectangular ESS plastic case. It offers flexible dimming options, including Forward Phase, Reverse Phase, and 0-10V control, allowing for a dimming range of 1-100%. Its compact design and robust features make it suitable for various LED lighting applications.



Image showing the compact rectangular design of the ERP Power ESS030W-0900-27 LED Power Supply.

4. SETUP AND INSTALLATION

Before beginning installation, ensure all power is disconnected at the circuit breaker.

4.1 Wiring Connections

1. **AC Input (Line/Neutral):** Connect the AC input wires from your mains power supply to the designated input terminals on the driver. This unit accepts 120-277 Vac. Ensure proper grounding if applicable.
2. **DC Output (LED+ / LED-):** Connect the positive (LED+) and negative (LED-) output terminals of the power supply to your LED load. Observe correct polarity. This is a constant current driver, so ensure your LED array is configured to operate within the 20-27 V range at 900 mA.
3. **Dimming Control:**
 - **Phase Dimming (Forward/Reverse):** If using a phase-cut dimmer, connect the dimmer output to the AC input of the power supply. Ensure the dimmer is compatible with LED drivers and supports the specified phase types.
 - **0-10V Dimming:** Connect the 0-10V dimmer control wires to the dedicated dimming terminals on the power supply (typically labeled DIM+ and DIM-). Ensure the 0-10V control signal is correctly wired.

After all connections are made, secure the power supply in a suitable location, ensuring adequate airflow for cooling. Restore power to the circuit.

5. OPERATING INSTRUCTIONS

Once properly installed and powered, the ERP Power ESS030W-0900-27 will provide constant current to the connected LED load.

5.1 Dimming Functionality

- **Phase Dimming:** When connected to a compatible Forward or Reverse Phase dimmer, the light output of the LEDs will adjust according to the dimmer's setting. The dimming range is 1-100%.
- **0-10V Dimming:** With a 0-10V dimmer connected, a 10V signal typically corresponds to 100% light output, while a 0V signal corresponds to 1% (minimum) light output. Adjust the 0-10V controller to achieve the desired brightness.

The power supply is designed for smooth and flicker-free dimming across its specified range.

6. MAINTENANCE

The ERP Power ESS030W-0900-27 LED Power Supply is designed for long-term, reliable operation with minimal maintenance.

- **Cleaning:** Ensure the unit is free from dust and debris. If cleaning is necessary, disconnect power and use a dry, soft cloth. Do not use liquid cleaners.
- **Inspection:** Periodically inspect the wiring for any signs of damage, fraying, or loose connections. Address any issues promptly after disconnecting power.

- **Environment:** Ensure the operating environment remains within the specified temperature and humidity ranges (refer to specifications). Avoid exposing the unit to excessive moisture or extreme temperatures.

7. TROUBLESHOOTING

If you encounter issues with your LED power supply, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No light output from LEDs	No AC input power Incorrect wiring (AC or DC) Faulty LED load Overload/Short circuit protection activated	Check circuit breaker and power connections. Verify all wiring connections (input, output, polarity). Test LED load with a known good power source. Disconnect load, cycle power, and re-connect. Ensure load is within specifications.
LEDs flicker or dim erratically	Incompatible dimmer Loose dimming control wires Dimmer not set correctly	Ensure dimmer is compatible with LED drivers and the specific dimming type (phase or 0-10V). Check dimming wire connections for secure contact. Adjust dimmer settings.
LEDs are too dim or too bright (not dimming)	Dimming control not connected or faulty Incorrect dimming type selected/wired	Verify dimming control wiring and functionality. Ensure the correct dimming method (phase or 0-10V) is being used and wired accordingly.

If problems persist after following these steps, contact ERP Power customer support or a qualified electrician.

8. SPECIFICATIONS

Feature	Detail
Model Number	ESS030W-0900-27
Input Voltage	120-277 Vac
Output Type	Constant Current (CC)
Output Current (Iout)	900 mA
Output Voltage Range (Vout)	20-27 V
Maximum Output Power	24.3 W
Efficiency	87%
Dimming Capabilities	Forward Phase, Reverse Phase, 0-10V
Dimming Range	1-100%
Case Type	Rectangular ESS Plastic Case
Package Dimensions	4 x 3 x 2 inches
Item Weight	3.2 ounces

Feature	Detail
Manufacturer	ERP Power
UPC	766871044290

9. WARRANTY AND SUPPORT

This ERP Power product is covered by the manufacturer's standard warranty. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or visit the official ERP Power website. For technical support, troubleshooting assistance beyond this manual, or warranty claims, please contact ERP Power customer service directly.

Manufacturer: ERP Power