

SEAFRONT LW-K3010D

SEAFRONT LW-K3010D 30V/10A DC Switching Power Supply User Manual

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient operation of the SEAFRONT LW-K3010D DC Switching Power Supply. This unit is a high-precision, regulated desktop power supply designed for various applications requiring a stable and efficient DC power source. It can function as either a constant voltage (CV) or constant current (CC) power supply, making it suitable for tasks such as battery charging, PCB production, LED product testing, DC fan electroplating, electrolysis, electronic component aging, and general laboratory use.

The LW-K3010D features a 4-digit digital display for precise readings of voltage and current, along with adjustable controls for fine-tuning output parameters. Please read this manual thoroughly before use to ensure proper setup and operation.

2. PRODUCT FEATURES

- Professional regulated DC switching power supply.
- Efficient and stable performance.
- Operates as a constant voltage or constant current power supply.
- Integrated protection circuit for enhanced safety.
- 4-digit high-precision digital display for voltage and current.
- Adjustable voltage output from 0-30V.
- Adjustable current output from 0-10A.

3. SAFETY INFORMATION

- Always connect the power supply to a grounded outlet.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation to prevent overheating.

- Do not open the casing; there are no user-serviceable parts inside. Refer servicing to qualified personnel.
- Before connecting or disconnecting loads, ensure the power supply is turned off or the output is disabled.
- Avoid short-circuiting the output terminals.

4. PACKAGE CONTENTS

Upon unpacking, please verify that all items listed below are present and in good condition:

- 1 x SEAFRONT LW-K3010D DC Switching Power Supply
- 1 x Power Cord (EU Stecker 220V)
- 1 x User Manual



Image: The SEAFRONT LW-K3010D power supply unit shown alongside its included EU power cord.

5. PRODUCT DIAGRAM AND COMPONENTS

Familiarize yourself with the various parts and controls of your power supply:



Image: Front panel of the LW-K3010D with labels for Voltage Display, Current Display, Voltage Indicator, Voltage Settings knob, Current Indicator, Current Setting knob, Power Switch, Earth Output (GND), Negative Output (-), and Positive Output (+).

- **Voltage Display:** Shows the output voltage in Volts (V).
- **Current Display:** Shows the output current in Amperes (A).
- **Voltage Indicator:** LED indicating constant voltage mode.
- **Voltage Settings:** Knob to adjust the output voltage.
- **Current Indicator:** LED indicating constant current mode.
- **Current Setting:** Knob to adjust the output current limit.
- **On/Off Switch:** Main power switch for the unit.
- **Output Terminals:** Negative (-), Earth (GND), and Positive (+) terminals for connecting loads.



Image: Rear panel of the LW-K3010D showing the cooling fan, serial number, voltage selector switch (220V), and AC power input socket.

6. SETUP

1. **Placement:** Place the power supply on a stable, level surface with adequate ventilation. Ensure that the air intake and exhaust vents (located on the sides and rear) are not obstructed.
2. **Voltage Selection:** Check the voltage selector switch on the rear panel. Ensure it matches your local mains voltage (e.g., 220V for EU). **Caution:** Incorrect voltage selection can damage the unit.
3. **Power Connection:** Connect the provided power cord to the AC power input socket on the rear panel of the power supply and then to a grounded wall outlet.
4. **Initial Knob Settings:** Before turning on the unit, rotate the Voltage and Current setting knobs fully counter-

clockwise to their minimum positions.

7. OPERATING INSTRUCTIONS

1. **Power On:** Press the On/Off switch on the front panel. The digital displays will illuminate, showing the current voltage and current settings.
2. **Setting Voltage:** Rotate the Voltage setting knob clockwise to increase the output voltage to the desired level. Observe the Voltage Display for the precise reading.
3. **Setting Current Limit:** Rotate the Current setting knob clockwise to set the maximum current limit. This acts as a protective measure for your connected load. If the load attempts to draw more current than this set limit, the power supply will enter constant current (CC) mode, and the Current Indicator LED will light up.
4. **Connecting Load:** Connect your device or circuit to the output terminals. The positive (+) terminal is typically red, the negative (-) terminal is black, and the ground (GND) terminal is yellow. Ensure correct polarity.
5. **Operation:** The power supply will now deliver the set voltage and current to your load. The displays will show the actual voltage and current being drawn.
6. **Power Off:** Before disconnecting the load, turn the Voltage and Current knobs fully counter-clockwise to their minimum positions, then press the On/Off switch to power off the unit.

8. MAINTENANCE

- **Cleaning:** Regularly clean the exterior of the power supply with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure that the ventilation openings are free from dust and debris to maintain proper airflow and prevent overheating.
- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.
- **No User Serviceable Parts:** Do not attempt to open or repair the unit yourself. Refer all servicing to qualified service personnel.

9. TROUBLESHOOTING

If you encounter issues with your power supply, refer to the following common problems and solutions:

- **No Power:**
 - Check if the power cord is securely connected to both the unit and the wall outlet.
 - Verify that the wall outlet is functional.
 - Ensure the On/Off switch is pressed.
 - Confirm the voltage selector switch on the rear is set correctly for your region.
- **No Output Voltage/Current:**
 - Ensure the Voltage and Current setting knobs are rotated clockwise from their minimum positions.
 - Check if the load is properly connected to the output terminals with correct polarity.
 - If the Current Indicator LED is on, the unit is in constant current mode, meaning the load is drawing the maximum set current. Increase the current limit if necessary, or check your load for excessive current draw.
- **Overheating:**

- Ensure adequate ventilation around the unit. Clear any obstructions from the air vents.
- Reduce the load if it is operating at its maximum capacity for extended periods in a high ambient temperature.

If the problem persists after attempting these solutions, please contact SEAFRONT customer support for assistance.

10. SPECIFICATIONS

Parameter	Value
Model	LW-K3010D
Input Voltage	100-240V AC, 50Hz-60Hz
Output Voltage	0-30V DC
Output Current	0-10A DC
Voltage Accuracy	0.01V
Current Accuracy	0.01A
Display Type	4-digit high-precision LED display
Efficiency	> 85%
Operating Environment	-10°C to +60°C / 30% RH to 90% RH
Load Regulation (Voltage)	50mV (10% - 100% load)
Line Regulation (Voltage)	20mV (200-240 Vac)
Ripple and Noise (pp)	50mV
Product Dimensions (LxWxH)	22 x 7 x 16 cm
Product Weight	1.3 kg
Cooling Method	Atmosphere (Fan-cooled)

11. WARRANTY AND SUPPORT

SEAFRONT products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the contact details provided with your purchase or visit the official SEAFRONT website. Please have your model number (LW-K3010D) and purchase date available when contacting support.

