eventek KPS-1505DF

eventek KPS-1505DF DC Power Supply

User Manual

1. Introduction

This manual provides instructions for the safe and effective operation of the eventek KPS-1505DF DC Power Supply. This adjustable power supply offers a stable output of 0-30 volts and 0-10 amperes, featuring a 4-digit LED display for precise readings and a convenient 5V/2A USB interface. It is designed for various applications including repair centers, workshops, school laboratories, and DIY electronics projects.

2. Safety Instructions

Please read and understand all safety instructions before operating the device to prevent injury or damage.

- Ensure the power supply is connected to a grounded power outlet.
- Do not operate the device in wet or damp conditions.
- Do not open the casing; there are no user-serviceable parts inside. Refer servicing to qualified personnel.
- Avoid short-circuiting the output terminals.
- Ensure proper ventilation to prevent overheating. The integrated cooling fan should not be obstructed.
- Disconnect power before making any connections or adjustments to the output terminals.

3. Product Overview

3.1 Front Panel Controls and Indicators

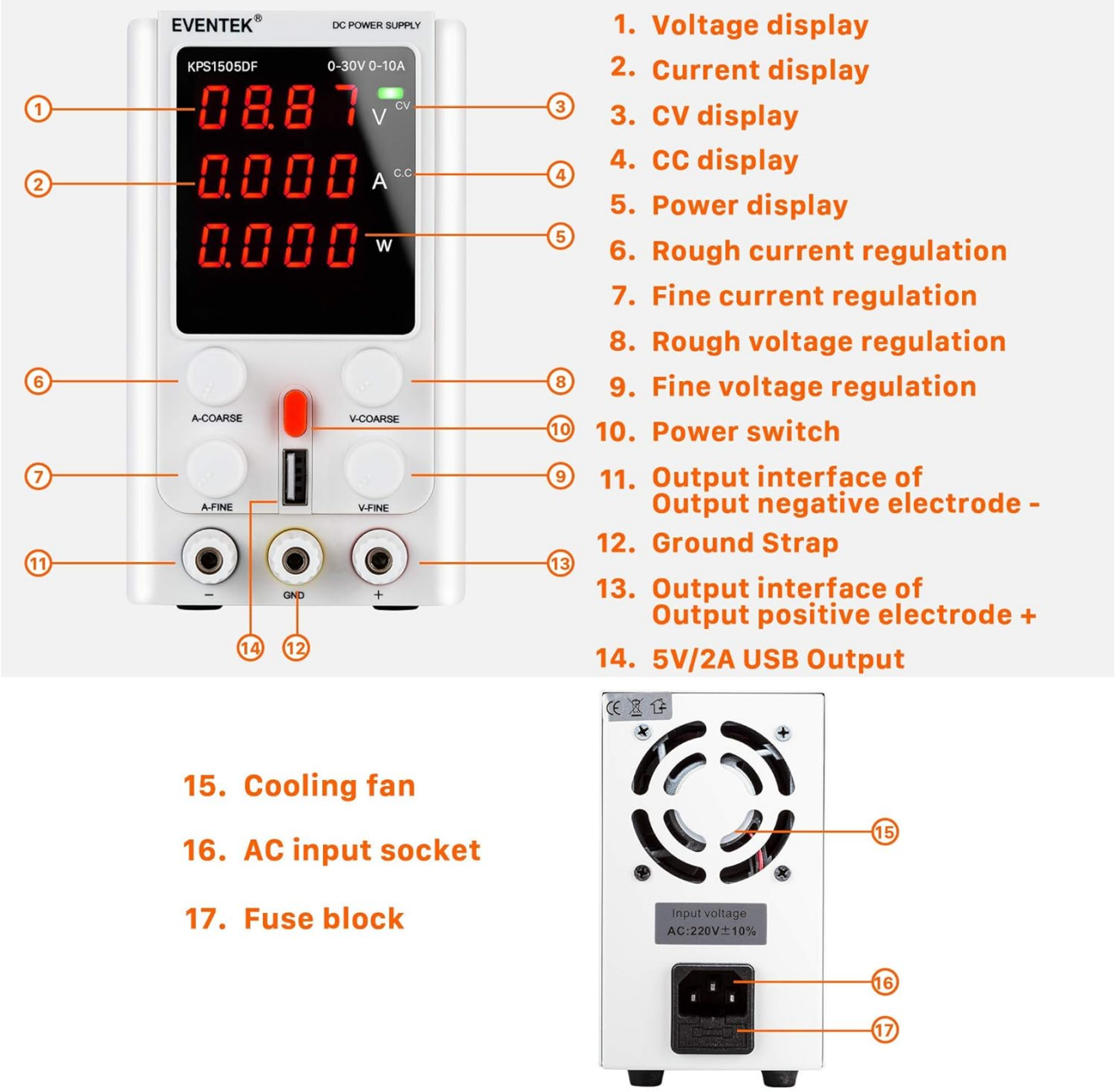

Figure 1: Front and Rear Panel Layout

The image above illustrates the various controls and indicators on the front and rear panels of the power supply. Key components include:

1. **Voltage Display:** Shows the output voltage in volts (V).
2. **Current Display:** Shows the output current in amperes (A).
3. **CV Indicator:** Lights up when the power supply is operating in Constant Voltage mode.
4. **CC Indicator:** Lights up when the power supply is operating in Constant Current mode.
5. **Power Display:** Shows the output power in watts (W).
6. **A-COARSE Knob:** Coarse adjustment for output current.
7. **A-FINE Knob:** Fine adjustment for output current.
8. **V-COARSE Knob:** Coarse adjustment for output voltage.
9. **V-FINE Knob:** Fine adjustment for output voltage.
10. **Power Switch:** Turns the unit on or off.
11. **Output Negative Terminal (-):** Black terminal for negative output connection.
12. **Ground Terminal (GND):** Yellow terminal for ground connection.
13. **Output Positive Terminal (+):** Red terminal for positive output connection.

14. **5V/2A USB Output:** USB port for charging devices or powering low-current electronics.

3.2 Rear Panel Features

The rear panel includes:

- **Cooling Fan:** Automatically activates to dissipate heat during operation.
- **AC Input Socket:** For connecting the main power cord.
- **Fuse Block:** Contains the protective fuse for the unit.

Figure 2: Internal Components and Cooling System

This image shows the internal components, highlighting the cooling fan and circuit board, which contribute to the unit's stable and safe operation through features like overheating, overcurrent, and overvoltage protection.

4. Setup

1. **Unpacking:** Carefully remove the power supply from its packaging. Inspect for any signs of damage.
2. **Placement:** Place the unit on a stable, level surface with adequate ventilation. Ensure the cooling fan on the rear panel is not obstructed.

3. **Power Connection:** Connect the provided AC power cord to the AC input socket on the rear panel and then to a grounded wall outlet.
4. **Initial Check:** Before connecting any load, turn on the power switch. The LED displays should illuminate. Adjust the voltage and current knobs to observe their functionality.

5. Operating Instructions

5.1 Setting Voltage and Current

1. **Power On:** Turn on the power supply using the power switch.
2. **Set Voltage:** Use the **V-COARSE** knob for large adjustments and the **V-FINE** knob for precise adjustments to set the desired output voltage.
3. **Set Current Limit:** To set the current limit, first short-circuit the output terminals (connect the positive and negative terminals with a short wire or alligator clip). The CC indicator will light up. Then, use the **A-COARSE** and **A-FINE** knobs to set the desired maximum output current. Remove the short circuit after setting. Alternatively, you can set the current limit with no load connected; the current display will show 0.000A, but the CC indicator will light up if the set current limit is below the potential load current.
4. **Connect Load:** Connect your device or circuit to the output terminals (positive to +, negative to -). Ensure correct polarity.
5. **Operation:** The power supply will automatically switch between Constant Voltage (CV) and Constant Current (CC) modes depending on the load. The corresponding indicator will illuminate.

Figure 3: Front Panel Display and Controls

This image highlights the 4-digit LED display for voltage, current, and power, along with the coarse and fine adjustment knobs for precise control, and the 5V/2A USB output port.

5.2 Using the 5V/2A USB Output

The dedicated 5V/2A USB port on the front panel can be used to charge compatible USB devices or power low-current electronics. Simply connect your USB device to this port. This output is independent of the main adjustable DC output.

Figure 4: USB Port in Use

This image shows a close-up of the USB port with a cable connected, demonstrating its use for charging or powering devices.

6. Maintenance

- **Cleaning:** Disconnect the power supply from the mains before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Ventilation:** Regularly check that the cooling fan and ventilation openings are free from dust and obstructions.
- **Fuse Replacement:** If the unit does not power on, check the fuse located in the fuse block on the rear panel. Replace with a fuse of the same type and rating only.
- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

Problem	Possible Cause	Solution
No power when switched on.	Power cord not connected, wall outlet faulty, or fuse blown.	Check power cord connection. Test wall outlet. Replace fuse if blown (refer to Maintenance section).
No output voltage/current.	Output terminals not connected, voltage/current set to zero, or protection activated.	Ensure load is properly connected. Adjust voltage/current knobs. Check for short circuits in the load.
Unit overheats.	Poor ventilation, obstructed fan, or excessive load.	Ensure adequate space around the unit. Clear any obstructions from the fan. Reduce load if operating continuously at maximum capacity.
Voltage/Current display flickers.	This can occur due to the high precision of the display when the output is very stable or near zero, or with very small load fluctuations.	This is often normal behavior for high-resolution displays and does not indicate a fault unless output is unstable under load.

8. Specifications

Feature	Detail

Feature	Detail
Model	KPS-1505DF
Input Voltage	230 VAC (Maximum)
Output Voltage	0-30 V (Adjustable)
Output Current	0-10 A (Adjustable)
Display	4-digit LED (Voltage, Current, Power)
Voltage Display Accuracy	0.01 V
Current Display Accuracy	0.001 A
USB Output	5 V / 2 A
Protection Features	Current limiting, Thermal, Overvoltage, Short-circuit, Overpower
Cooling Method	Air (Integrated fan)
Package Dimensions	29.7 x 20.2 x 12.5 cm
Weight	1.83 kg
Certifications	FCC Certified

Figure 5: Product Dimensions

This image provides a visual representation of the power supply's physical dimensions.

9. Warranty and Support

eventek offers 24 months of customer service and a limited warranty for this product. For any questions, technical support, or warranty claims, please contact eventek customer service at support@mokwheel.net.