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> VCHICS DPS305U DC Power Supply User Manual

## VCHICS DPS305U 30V 5A

# VCHICS DPS305U DC Power Supply User Manual

Model: DPS305U (30V 5A)

## 1. INTRODUCTION

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Thank you for purchasing the VCHICS DPS305U Variable DC Regulated Power Supply. This device is designed for laboratory, electronic repair, DIY projects, communication equipment maintenance, product lines, scientific research, and educational units. It offers high precision, low noise, and multiple safety features to ensure reliable and safe operation. Please read this manual thoroughly before use to ensure proper operation and to maximize the lifespan of your power supply.

## 2. SAFETY PRECAUTIONS

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To prevent electric shock, fire, or damage to the device, please observe the following safety guidelines:

- Always connect the power supply to a grounded outlet.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation. Do not block the cooling fan or vents.
- Do not open the casing. There are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- Before connecting or disconnecting loads, ensure the power supply is turned off.
- Avoid short-circuiting the output terminals for extended periods, although the device has short-circuit protection.
- Verify the input voltage switch (115V/230V) on the back matches your local power supply before connecting.

## 3. PACKAGE CONTENTS

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Upon opening the package, please verify that all items listed below are included and in good condition:

- 1 x VCHICS DPS305U DC Power Supply Host
- 1 x Output Power Cord (Alligator clips)
- 1 x Input Power Cord
- 1 x User Manual



Image: The VCHICS DPS305U DC Power Supply unit shown with its included output power cords (red and black with alligator clips) and input power cord.

## 4. PRODUCT FEATURES

- **Automatic Power Calculation:** Unlike other DC power supplies, the WANPTEK DPS305U automatically calculates the power value. It simultaneously displays voltage, current, and power values with a precision of 0.01V, 0.001A, and 0.001W.
- **5V / 3.6A USB Interface:** Equipped with a high-speed charging protocol identification chip, this variable power supply supports USB fast charging. It provides a 5V / 3.6A output, allowing for quick charging of mobile phones and other devices, or for powering devices under repair.
- **Short Circuit Alarm:** Designed to enhance safety and extend the lifespan of the DC power supply. When a short circuit occurs, the adjustable DC power supply unit stops output and emits an alarm. The bench power supply includes safety protections such as over-voltage, over-current, over-temperature, and overload protection.
- **Wide Application:** This adjustable power supply features an electrically controlled fan and an excellent heat sink for efficient heat dissipation. It is particularly suitable for laboratories, electronic repair DIY, communication equipment maintenance, product lines, scientific research, and educational units.
- **High Precision:** The power supply boasts a high resolution of 0.01V and 0.001A, ensuring accurate and stable output.

# Short Circuit Alarm & USB Quick-Charge Interface

- Short Circuit Alarm  
The power supply will sound an alarm when there is a short circuit, which makes the power supply safer.
- USB Quick-Charge Interface  
5V/3.6A USB Interface which can quickly charge the device to be repaired.



Image: Close-up view highlighting the Short Circuit Alarm indicator and the USB Quick-Charge Interface on the front panel of the power supply.

# Intelligent Temperature Controlled Radiator



Cooling Fan



Low Ripple



Intelligent



Safety



Image: An internal view of the power supply, illustrating the cooling fan and heat sink components responsible for intelligent temperature control and heat dissipation.

# High Precision

- Power supply has a high resolution of 0.01V and 0.001A.



Image: The power supply unit displayed alongside a digital multimeter, demonstrating its high precision output readings for voltage and current.

## 5. PRODUCT OVERVIEW AND COMPONENTS

Familiarize yourself with the various parts and controls of your VCHICS DC Power Supply:

# Product Analysis



Image: A detailed diagram of the power supply, clearly labeling its front panel controls and rear panel connections.

1. **Display Screen:** Shows Voltage (V), Current (A), and Power (W) readings.
2. **Protective Film:** A film on the display screen to prevent scratches during transport. Remove it for clearer viewing.
3. **Voltage Coarse Knob (V-COARSE):** Adjusts voltage in larger increments.
4. **Voltage Fine Knob (V-FINE):** Adjusts voltage in smaller, precise increments.
5. **Current Coarse Knob (A-COARSE):** Adjusts current limit in larger increments.
6. **Current Fine Knob (A-FINE):** Adjusts current limit in smaller, precise increments.
7. **USB Quick Charging Interface:** 5V/3.6A output for charging devices.
8. **Short Circuit Alarm Indicator:** Lights up and unit alarms when a short circuit is detected.
9. **Power On/Off Switch:** Turns the unit on or off.
10. **GND Terminal:** Ground terminal.
11. **Positive Terminal (+):** Red output terminal for positive connection.
12. **Negative Terminal (-):** Black output terminal for negative connection.
13. **Cooling Fan:** Automatically activates to dissipate heat.

14. **230V/115V±10% Switch:** Voltage selection switch for input power. Ensure this matches your local voltage.
15. **AC Power Input:** Connects the input power cord.
16. **Fuse Box:** Contains the protective fuse.

## 6. SETUP

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1. **Unpacking:** Carefully remove the power supply from its packaging.
2. **Voltage Selection:** Locate the 230V/115V switch on the rear panel. Ensure it is set to the correct voltage for your region (e.g., 115V for North America, 230V for Europe/Asia). **Incorrect voltage selection can damage the unit.**
3. **Power Connection:** Connect the provided input power cord to the AC Power Input on the rear of the unit and then to a grounded wall outlet.
4. **Output Connection:**
  - Connect the red output power cord (alligator clip) to the Positive Terminal (+).
  - Connect the black output power cord (alligator clip) to the Negative Terminal (-).
  - If grounding is required for your application, connect a separate ground wire to the GND terminal.
5. **Initial Check:** Before connecting any load, ensure all knobs (V-COARSE, V-FINE, A-COARSE, A-FINE) are turned fully counter-clockwise to their minimum settings.

## 7. OPERATING INSTRUCTIONS

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### 7.1 Basic Operation

1. **Power On:** Flip the Power On/Off switch to the "ON" position. The display will light up.
2. **Adjusting Voltage (Constant Voltage Mode - CV):**
  - Turn the V-COARSE knob clockwise to set the approximate desired voltage.
  - Use the V-FINE knob to precisely adjust the voltage to the exact desired value.
  - The "C.V" indicator on the display will light up when the unit is operating in Constant Voltage mode.
3. **Adjusting Current Limit (Constant Current Mode - CC):**
  - To set the current limit, first short-circuit the output terminals (connect the red and black alligator clips together). The "C.C" indicator will light up.
  - Turn the A-COARSE knob clockwise to set the approximate desired current limit.
  - Use the A-FINE knob to precisely adjust the current limit.
  - Remove the short circuit from the output terminals. The unit will return to Constant Voltage mode if no load is connected or if the load draws less current than the set limit.
  - The "C.C" indicator will light up when the unit is operating in Constant Current mode (i.e., the load is drawing the maximum set current).
4. **Connecting Load:** After setting the desired voltage and current limits, connect your device or circuit to the output terminals. Ensure correct polarity.
5. **Monitoring:** Observe the display for real-time voltage, current, and power readings.

### 7.2 USB Quick Charging Interface

The 5V/3.6A USB port on the front panel can be used to quickly charge compatible devices. Simply connect your device's USB cable to this port. This output is independent of the main DC output settings.

## 8. MAINTENANCE

- **Cleaning:** Disconnect the power supply from the main power outlet before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure the cooling fan and vents are free from dust and obstructions. Periodically check for dust buildup and gently clean with compressed air if necessary.
- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Fuse Replacement:** If the unit does not power on, check the fuse located in the fuse box on the rear panel. Replace it only with a fuse of the same type and rating. Refer to the specifications for fuse details.

## 9. TROUBLESHOOTING

Problem	Possible Cause	Solution
Unit does not power on.	No power from outlet; Power cord not connected; Blown fuse; Power switch off.	Check outlet with another device; Ensure power cord is securely connected; Replace fuse (refer to Maintenance); Flip power switch to ON.
No output voltage/current.	Output terminals not connected; Voltage/Current knobs set to minimum; Overload/Short circuit protection activated.	Ensure load is properly connected; Adjust voltage/current knobs clockwise; Check for short circuit in load, reduce load, or increase current limit.
Short Circuit Alarm activates.	Short circuit in the connected load or output cables.	Immediately disconnect the load. Identify and resolve the short circuit in your circuit/cables. Reconnect after resolving.
Display is blurry or unclear.	Protective film still on the display.	Carefully peel off the protective film from the display screen.
Unit gets excessively hot.	Blocked ventilation; Overload.	Ensure cooling fan and vents are clear; Reduce load or operating time.

## 10. SPECIFICATIONS

Feature	Detail
Model	DPS305U
Brand	VCHICS
Output Voltage	0-30V (Adjustable)
Output Current	0-5A (Adjustable)
Output Power	150W (Max)
Voltage Display Accuracy	0.01V
Current Display Accuracy	0.001A

Feature	Detail
Power Display Accuracy	0.001W
USB Output	5V / 3.6A
Cooling Method	Air Cooling (Intelligent Fan)
Product Weight	Approx. 2 kg (4.4 lbs)
Input Voltage Switch	115V/230V $\pm$ 10% (selectable)

## Product Specification

- Compact and Lightweight  
Easy to Work & Save More Space on your Workbench

Switching Power Supply



Linear Power Supply

VS



Standard Weight: 3.5lb

11.7lb

Image: A visual comparison illustrating the compact and lightweight design of the switching power supply (DPS3010U model shown) compared to a traditional linear power supply, highlighting its space-saving benefits.

## 11. WARRANTY AND SUPPORT

VCHICS products are manufactured to high quality standards. This product comes with a standard manufacturer's warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the

warranty card included in your package or contact your point of purchase.

For technical support, troubleshooting assistance, or warranty claims, please contact VCHICS customer service through the retailer where you purchased the product.

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