

VOLTCRAFT VC-8146845

VOLTCRAFT VLP-1303 USB Adjustable Laboratory Power Supply

MODEL: VC-8146845

Brand: VOLTCRAFT

1. Introduction

The VOLTCRAFT VLP-1303 USB is a linear regulated laboratory power supply designed for precise and stable voltage and current output. It features an additional USB output for development, quality control, and charging. This robust device is suitable for various laboratory applications, offering short-circuit resistance, overvoltage protection, and temperature cut-off. Its silent cooling system ensures reliable operation.

2. Safety Instructions

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in injury or damage to the device.

2.1 General Safety

- This device is intended for indoor use only.
- Ensure adequate ventilation around the unit. Do not block ventilation openings.
- Do not expose the device to moisture, rain, or extreme temperatures.
- Avoid strong vibrations or mechanical shocks.
- Do not open the device casing. Repairs should only be performed by qualified personnel.

2.2 Electrical Safety

- Connect the device only to a properly grounded power outlet with the correct voltage.
- Do not operate the device with wet hands.
- Always disconnect the power cord before cleaning or servicing the unit.
- Ensure that the output terminals are not short-circuited during operation, unless specifically testing short-circuit protection.

3. Product Overview

The VOLTcraft VLP-1303 USB features a user-friendly design with clear controls and indicators.

3.1 Front Panel



Figure 1: Front view of the VLP-1303 USB. This image displays the main digital readouts for voltage and current, the rotary knobs for precise adjustment, the main output terminals (red, blue, yellow), and the two USB output ports (USB-B1 and USB-B2) on the right side.

- **Digital Display:** Shows real-time voltage (V) and current (A) output.
- **VOLT Knob:** Adjusts the output voltage (0-30V). Features a 10-turn potentiometer for fine adjustment.
- **AMPERE Knob:** Adjusts the output current limit (0.01-3A).
- **OVP ADJ:** Overvoltage Protection adjustment.
- **Output Terminals:** Main output for connecting loads (red for positive, blue for negative, yellow for ground).
- **USB-B1 (Test & Development Port):** Adjustable voltage (3.9V-6.2V) and current limiting for testing USB devices.
- **USB-B2 (Quick Charge 2.0 Port):** Independent charging port.

3.2 Rear Panel



Figure 2: Rear view of the VLP-1303 USB. This image shows the large passive heat sinks for cooling, the AC power input socket,

and the fuse holder. Product information and certifications are also visible.

- **AC Power Input:** For connecting the main power cord.
- **Fuse Holder:** Contains the main protective fuse.
- **Cooling Fins:** Oversized passive heat sinks for efficient and silent cooling.

3.3 Key Features

- Linear regulation for stable voltage harmonics.
- Three outputs: Main adjustable output, USB test/development port, Quick Charge 2.0 port.
- Overvoltage Protection (OVP) and short-circuit resistance.
- Temperature cut-off for enhanced safety.
- Adjustable current limiter for USB test port.
- Precise 10-turn potentiometer for voltage adjustment.
- Silent cooling system with passive heat sinks.

4. Setup

Follow these steps to set up your VOLTcraft VLP-1303 USB power supply.



Figure 3: Side view of the VLP-1303 USB with extended feet. The power supply can be tilted for better viewing and access to

controls by extending its front feet, ensuring stability during operation.

1. **Unpacking:** Carefully remove the power supply from its packaging. Retain the packaging for future transport or storage.
2. **Placement:** Place the unit on a stable, flat, and non-conductive surface. Ensure there is sufficient space around the unit for proper air circulation, especially around the rear cooling fins. You may extend the front feet for a tilted viewing angle.
3. **Power Connection:** Connect the supplied AC power cord to the power input socket on the rear panel of the power supply and then to a suitable grounded wall outlet.
4. **Initial Power On:** Flip the main power switch on the front panel to the 'ON' position. The digital display should illuminate.

5. Operating Instructions

This section details the operation of the main output and the USB ports.



Figure 4: Hand adjusting USB output settings. This image illustrates a user interacting with the controls for the USB test and development port, including the mode selection and voltage/current adjustment knobs for precise control over the USB output.

5.1 Main Output (0-30V, 0.01-3A)

1. **Setting Voltage:** Turn the **VOLT** knob to adjust the desired output voltage. The 10-turn potentiometer allows for very fine adjustments. Observe the voltage reading on the digital display.
2. **Setting Current Limit:** Turn the **AMPERE** knob to set the maximum current limit. This protects your connected device from drawing excessive current. The 'C-LIMIT' indicator will light up when the current limit is reached.
3. **Connecting Load:** Connect your device to the main output terminals. Ensure correct polarity (red for positive, blue for negative). The yellow terminal is for ground.
4. **Overvoltage Protection (OVP):** The OVP function protects your load from excessive voltage. Adjust the OVP level using the **OVP ADJ** control. If the output voltage exceeds this set level, the power supply will shut down the output.

5.2 USB Test and Development Port (USB-B1)

This port is designed for testing USB devices and simulating various USB power conditions.

- **Voltage Adjustment:** The voltage of USB-B1 can be continuously adjusted from 3.9V to 6.2V. A detent at 5.1V assists in setting standard USB voltage.
- **Current Limiter:** A freely adjustable current limiter allows you to simulate a USB port providing less than 500mA,

useful for testing device behavior under low current conditions.

- **Undervoltage/Overvoltage:** Specific undervoltage and overvoltage settings can be configured for this port to test device resilience.

5.3 Quick Charge 2.0 Port (USB-B2)

The USB-B2 port provides Quick Charge 2.0 functionality, independent of the main output and the USB-B1 test port. Use this for fast charging compatible devices.

6. Maintenance

Proper maintenance ensures the longevity and reliable operation of your power supply.

- **Cleaning:** Disconnect the power supply from the mains before cleaning. Use a dry, soft cloth to wipe the casing. Do not use abrasive cleaners, solvents, or harsh chemicals.
- **Ventilation:** Periodically check that the ventilation openings and cooling fins on the rear are free from dust and debris. Use compressed air if necessary to clear blockages.
- **Storage:** When not in use for extended periods, store the power supply in a dry, dust-free environment, away from direct sunlight and extreme temperatures.
- **Fuse Replacement:** If the unit does not power on, check the fuse located in the fuse holder on the rear panel. Replace it only with a fuse of the same type and rating (e.g., T 1.6A / 250V).

7. Troubleshooting

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
Unit does not power on.	No power from outlet; Power cord loose; Blown fuse.	Check wall outlet; Ensure power cord is securely connected; Replace fuse with correct type and rating.
No output voltage/current.	Output terminals not connected; Voltage/current knobs set to zero; OVP triggered; Overload/Short circuit.	Connect load correctly; Adjust voltage/current knobs; Check OVP setting; Reduce load or remove short circuit.
Current limit (C-LIMIT) indicator is on.	Load is drawing more current than set limit; Short circuit in load.	Increase current limit setting; Check load for short circuits or excessive current draw.
USB-B1 port not working as expected.	Incorrect voltage/current settings for USB-B1.	Verify voltage (3.9V-6.2V) and current limiter settings for USB-B1.

8. Specifications


Parameter	Value
Brand	VOLTCRAFT
Model Number	VC-8146845
Color	Black
Weight	6.6 Kilograms
Connector Type	USB Type A, USB Type C
Amperage	3 A
Form Factor	Brick
Dimensions (LxWxH)	27 x 26 x 11.5 centimeters
Maximum Power	123 Watt
Output Voltage	30 Volts
Output Power	123 W


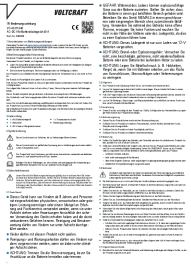

9. Warranty and Support

For warranty information or technical support, please refer to the documentation provided with your purchase or contact your retailer or the manufacturer directly. Keep your proof of purchase for warranty claims.

© 2023 VOLTCRAFT. All rights reserved.

Related Documents

	<p>Power Supply PC Monitor Software Installation and Operation Guide</p> <p>Learn how to install the driver and operate the Power Supply PC Monitor software. This guide covers connection setup, interface features, and parameter settings for your lab power supply.</p>
---	---

	<p>Voltcraft VSP Labornetzgerät Bedienungsanleitung</p> <p>Diese Bedienungsanleitung enthält wichtige Hinweise zur Inbetriebnahme, Handhabung und technischen Daten der Voltcraft VSP Labornetzgeräte.</p>
	<p>Voltcraft VC-40.01.040 40A AC/DC Car Battery Charger User Manual</p> <p>User manual for the Voltcraft VC-40.01.040 AC/DC Car Battery Charger. Provides detailed information on safe operation, charging modes, technical specifications, and troubleshooting for this 40A intelligent battery charger.</p>
	<p>VOLTcraft SPS-3000/R-N Power Adapter for Raspberry Pi - User Manual</p> <p>Comprehensive user manual for the VOLTcraft SPS-3000/R-N power adapter, providing essential information on intended use, safety instructions, operation, care, disposal, and technical specifications for Raspberry Pi and other USB devices.</p>