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VOLTCRAFT VLP-1602

Voltcraft VLP-1602 USB Laboratory Power Supply User Manual

Model: VLP-1602

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Voltcraft VLP-1602 USB Laboratory Power Supply. The VLP-1602 is a versatile, adjustable power supply designed for laboratory and development applications, offering precise control over voltage and current.

Key features include:

- Electronic linear regulation for stable output without ripple.
- Three independent outputs.
- Overvoltage Protection (OVP).
- Integrated USB test and development socket for stressing connected USB devices.
- Adjustable voltage from 0 to 60 V and current from 0.01 to 1.5 A.

2. SAFETY INFORMATION

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Electrical Safety:** Always connect the power supply to a grounded outlet. Do not operate the device with damaged power cords or if the casing is open.
- **Ventilation:** Ensure adequate ventilation around the unit. Do not block ventilation openings.
- **Environment:** Use the device in a dry environment, away from moisture, dust, and direct sunlight.
- **Overload Protection:** Do not exceed the specified voltage and current ratings. The device includes Overvoltage Protection (OVP).
- **Servicing:** Refer all servicing to qualified personnel. Do not attempt to repair the unit yourself.
- **Children:** Keep the device out of reach of children.

3. SETUP

3.1 Unpacking and Inspection

Carefully remove the power supply from its packaging. Inspect the unit for any signs of damage that may have occurred during transit. If any damage is found, do not operate the device and contact your supplier.

3.2 Connecting to Power

1. Ensure the power switch on the front panel is in the "OFF" position.
2. Connect the provided power cord to the AC inlet on the rear panel of the power supply.
3. Plug the other end of the power cord into a standard 230V AC, 50Hz grounded electrical outlet.

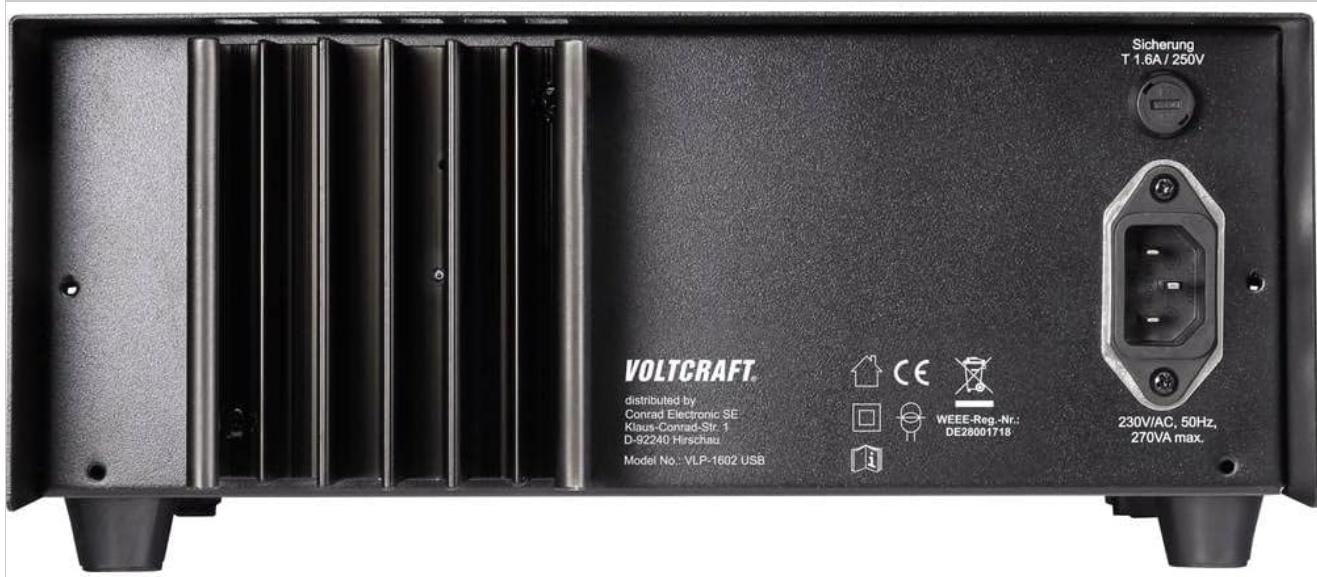


Figure 1: Rear Panel Connections. This image displays the rear panel of the VLP-1602, highlighting the AC power input, fuse compartment, and heat sink for proper ventilation.

3.3 Initial Power On

After connecting the power cord, switch the power supply ON using the main power switch on the front panel. The display should illuminate, indicating the device is ready for operation.

4. OPERATING INSTRUCTIONS

4.1 Front Panel Overview



Figure 2: Front Panel Controls and Displays. This image shows the main display for voltage and current, control knobs for adjustment, and the various output terminals (Output A, Output B-USB).

The front panel features digital displays for voltage and current, control knobs for precise adjustment, and multiple output terminals.

4.2 Adjusting Voltage and Current (Output A)

1. Connect your load to the main output terminals (Output A). Use the red terminal for positive (+) and the black terminal for negative (-). The yellow terminal is for ground.
2. Turn the "VOLT" knob to set the desired output voltage. The digital display will show the set voltage.
3. Turn the "AMPERE" knob to set the desired current limit. This acts as a current limiter to protect your circuit.
4. The "C-LIMIT" indicator will illuminate if the current limit is reached.
5. The "OVP" (Overvoltage Protection) indicator will illuminate if an overvoltage condition occurs.



Figure 3: Adjusting Output Parameters. This image illustrates the user interacting with the control knobs on the front panel to adjust voltage or current settings.

4.3 Using the USB Outputs (Output B-USB)

The VLP-1602 includes dedicated USB outputs for testing and development purposes. These outputs can be used to stress connected USB devices.

- Connect your USB device to one of the USB-B1 or USB-B2 ports.
- Use the "MODE" switch to select the desired USB output mode (e.g., 4.8-5.2V, 4.5-4.7V, Normal).
- The "ADJ" knob allows for fine adjustment of the USB output voltage within the selected mode.
- Refer to the labels near the USB ports for specific voltage and current ratings (e.g., USB-B1: 5V/2A, USB-B2: 12V/0.5A).

5. MAINTENANCE

5.1 Cleaning

To clean the exterior of the power supply, use a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and unplugged before cleaning.

5.2 Fuse Replacement

If the power supply does not turn on, check the fuse located on the rear panel near the AC inlet.

1. Disconnect the power cord from the AC outlet.
2. Use a flat-head screwdriver to open the fuse holder.
3. Replace the blown fuse with a new fuse of the same type and rating (T 1.6A / 250V).
4. Close the fuse holder securely.

Warning: Always replace fuses with the specified type and rating to prevent damage to the unit or risk of fire.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	No power from outlet, power cord disconnected, blown fuse.	Check power outlet, ensure power cord is securely connected, replace fuse (see Section 5.2).

Problem	Possible Cause	Solution
No output voltage/current.	Output terminals not connected, voltage/current knobs set to zero, OVP/OCP triggered.	Ensure load is properly connected, adjust voltage/current knobs, check for OVP/OCP indicators and reset if necessary.
Output voltage/current is unstable.	Poor connection, faulty load, internal issue.	Check all connections, test with a different load. If problem persists, contact support.
Overvoltage Protection (OVP) indicator is on.	Output voltage exceeded a safe limit.	Reduce the set voltage or check the load for issues. Power cycle the unit to reset OVP.

7. SPECIFICATIONS

Parameter	Value
Model Number	VLP-1602
Manufacturer	VOLTCRAFT
Output Voltage (Main)	0 - 60 V
Output Current (Main)	0.01 - 1.5 A
Number of Outputs	3 (Main + 2 USB)
Output Power	123 W
Input Voltage	230 Volts
Dimensions (L x W x H)	27 x 26 x 11.5 cm
Weight	6.6 Kilograms
Special Features	High-precision multi-speed potentiometer, USB development port
Connector Type	USB

8. WARRANTY AND SUPPORT

8.1 Warranty Information

The Voltcraft VLP-1602 USB Laboratory Power Supply comes with a 1-year availability of spare parts. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or contact your retailer.

8.2 Customer Support

For technical assistance, troubleshooting, or service inquiries, please contact Voltcraft customer support or your authorized dealer. Please have your model number (VLP-1602) and purchase information ready when contacting support.

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