

VOLTCRAFT PPS-16005 HCS-3202

VOLTCRAFT PPS-16005 Laboratory Power Supply User Manual

Model: PPS-16005 HCS-3202

1. INTRODUCTION

The VOLTCRAFT PPS-16005 is a versatile laboratory power supply designed to provide a potential-free DC voltage source for various low-voltage applications. It features adjustable voltage and current outputs, precise digital controls, and programmable memory functions. This manual provides essential information for the safe and efficient operation of your device.

Key Features:

- Adjustable Output Voltage: 1 V/DC to 36 V/DC
- Adjustable Output Current: 0 A to 10 A
- Total Power Output: 360 W
- Dual Output Capability (Front: max 5A, Rear: full rated power)
- Digital Rotary Knobs for Coarse and Fine Adjustment
- Clear Digital Display for Voltage and Current
- Three Freely Programmable Memory Presets
- USB Port for Remote Control and Programmable Duty Cycle Operation
- Software Control for up to 20 programmable voltage/current sets

2. SAFETY INSTRUCTIONS

Always observe the following safety precautions to prevent injury or damage to the device:

- Ensure the power supply is connected to a grounded 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.
- Ensure proper ventilation around the unit to prevent overheating.
- Do not exceed the maximum voltage and current ratings.
- Disconnect power before making or changing connections.

- Use appropriate safety leads and connectors.

3. PACKAGE CONTENTS

Please check the package for the following items:

- VOLTcraft PPS-16005 Laboratory Power Supply
- Power Cord
- USB Cable
- Software CD (or download link)
- User Manual (this document)

4. PRODUCT LAYOUT AND COMPONENTS

4.1 Front Panel

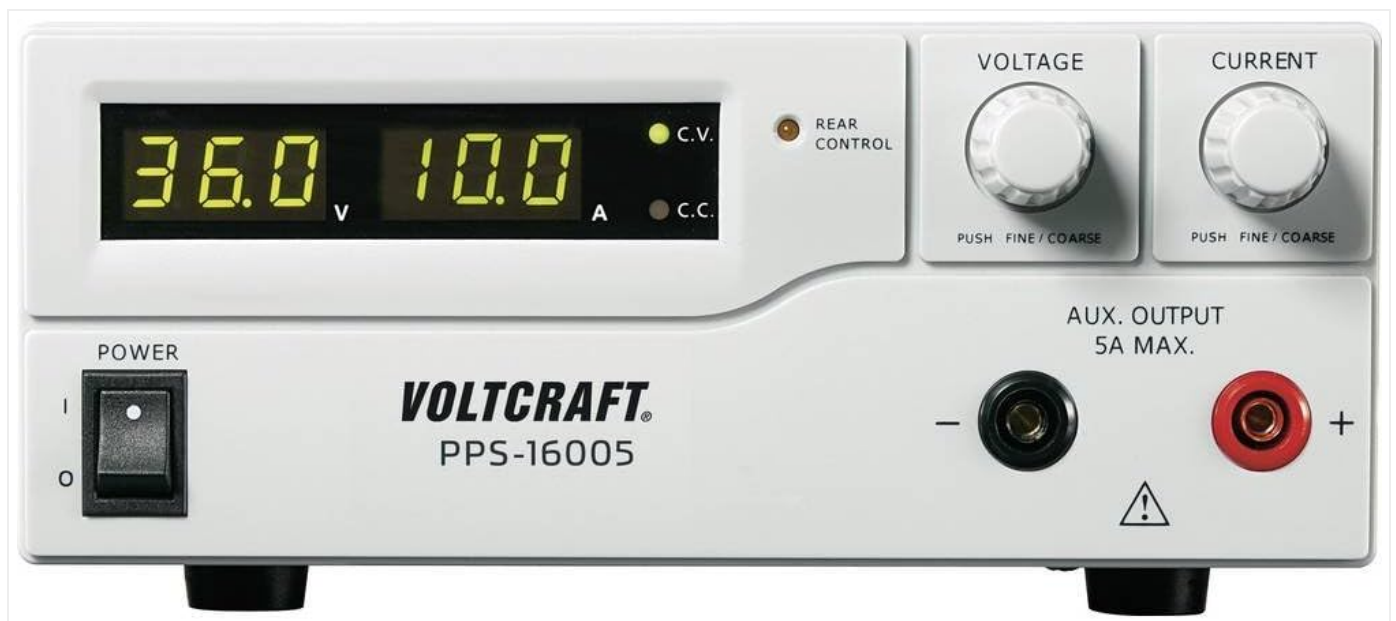


Figure 4.1: Front view of the PPS-16005 power supply, showing the digital display, voltage and current adjustment knobs, power switch, and auxiliary output terminals.

1. **Digital Display:** Shows current voltage (V) and current (A) output values. Includes C.V. (Constant Voltage) and C.C. (Constant Current) indicators.
2. **Voltage Adjustment Knob:** Used to set the output voltage. Push for coarse adjustment, rotate for fine adjustment.
3. **Current Adjustment Knob:** Used to set the output current limit. Push for coarse adjustment, rotate for fine adjustment.
4. **Power Switch:** Toggles the main power to the unit.
5. **Auxiliary Output (5A Max):** Front 4mm safety sockets for output up to 5A.
6. **Rear Control Indicator:** Indicates when remote control is active.

4.2 Rear Panel



Figure 4.2: Rear view of the PPS-16005 power supply, showing the main output terminals, USB port, remote control port, and cooling fan.

1. **Main Output Terminals:** High-current screw terminals for full rated power output (up to 10A).
2. **USB Port:** For connecting to a computer for remote control and programming.
3. **Remote Control Port:** For external remote control.
4. **Mode Switch:** Selects between Normal, Preset, and Remote Control modes.
5. **Recall Buttons (P1, P2, P3):** Used to recall stored memory presets.
6. **Cooling Fan:** Ensures proper thermal management.
7. **AC Power Inlet:** For connecting the power cord.

5. SETUP

1. **Placement:** Place the power supply on a stable, level surface with adequate ventilation. Ensure no objects block the cooling fan on the rear panel.
2. **Power Connection:** Connect the supplied power cord to the AC Power Inlet on the rear panel and then to a grounded wall outlet.
3. **Initial Power On:** Flip the Power Switch on the front panel to the 'I' (On) position. The digital display should illuminate.
4. **Output Connection:**
 - For loads up to 5A, use the 4mm safety sockets on the front panel.
 - For loads requiring full rated power (up to 10A), use the high-current screw terminals on the rear panel.

Important: Always ensure the power supply is off before connecting or disconnecting any load.

6. OPERATING INSTRUCTIONS

6.1 Manual Operation (Normal Mode)

1. Ensure the Mode Switch on the rear panel is set to "Normal".
2. **Setting Voltage:** Rotate the Voltage Adjustment Knob to set the desired output voltage. Push the knob for coarse adjustment (larger steps), and rotate without pushing for fine adjustment (smaller steps).
3. **Setting Current Limit:** Rotate the Current Adjustment Knob to set the desired maximum output current. This acts

as a current limit. Push the knob for coarse adjustment, rotate without pushing for fine adjustment. The C.C. indicator will illuminate when the current limit is reached.

4. **Connecting Load:** Once voltage and current limits are set, connect your device to the appropriate output terminals.
5. **Monitoring Output:** The digital display will show the actual output voltage and current. The C.V. indicator illuminates when operating in Constant Voltage mode, and C.C. illuminates when operating in Constant Current mode (i.e., current limit is active).

6.2 Using Memory Presets

The PPS-16005 allows you to store and recall three different voltage and current settings.

1. Storing a Preset:

- Set the desired voltage and current using the respective knobs.
- Press and hold one of the Recall Buttons (P1, P2, or P3) on the rear panel for approximately 3 seconds until a confirmation beep or display change indicates the setting has been saved.

2. Recalling a Preset:

- Ensure the Mode Switch is set to "Preset".
- Briefly press the desired Recall Button (P1, P2, or P3). The stored voltage and current values will be loaded and applied to the output.

6.3 Remote Control via USB

The power supply can be controlled remotely via a USB connection to a computer using the provided software.

1. **Software Installation:** Install the control software from the provided CD or download it from the VOLTcraft website. Follow the on-screen instructions.
2. **Connect USB:** Connect the USB cable from the power supply's USB port to your computer.
3. **Set Mode:** Set the Mode Switch on the rear panel to "Remote Ctrl". The "Rear Control" indicator on the front panel will illuminate.
4. **Software Operation:** Launch the software on your computer. You can now set voltage, current, and program duty cycles (up to 20 sets, repeatable up to 999 times) directly from your computer interface. Refer to the software's help documentation for detailed instructions on its features.

7. 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 debris. Use compressed air to clear blockages 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.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No power/display off	Power cord disconnected, power switch off, no mains power.	Check power cord connection, ensure power switch is 'On', check wall outlet.
No output voltage/current	Output terminals not connected, voltage/current set to zero, overload protection activated.	Ensure load is properly connected. Adjust voltage/current knobs. Check for short circuits in the load.
C.C. indicator is on constantly	Output current has reached the set current limit.	This is normal operation. If unintended, increase the current limit or reduce the load.
Unit overheats	Blocked ventilation, excessive load.	Ensure fan and vents are clear. Reduce load or operate within specified limits.
Remote control not working	Incorrect mode setting, USB cable issue, software not running.	Set Mode Switch to "Remote Ctrl". Check USB cable. Ensure software is installed and running correctly.

9. SPECIFICATIONS

Parameter	Value
Brand	VOLTCRAFT
Model Number	PPS-16005 HCS-3202
Output Voltage Range	1 - 36 V/DC
Output Current Range	0 - 10 A
Power Output	360 Watts
Number of Outputs	2 (Front: max 5A, Rear: full power)
Cooling Method	Air (Fan)
Dimensions (L x W x H)	20.8 x 20 x 8 cm
Weight	2.4 Kilograms
Connectivity	USB
Special Features	USB port for remote operation, Programmable presets

10. WARRANTY AND SUPPORT

Warranty: This product comes with a 1-year warranty for spare parts availability.

Return Policy: Standard 30-day return policy applies for refunds/replacements when purchased from Amazon.

For technical support, troubleshooting assistance, or warranty claims, please contact VOLTCRAFT customer service or visit their official website. Contact information can typically be found on the product packaging or the VOLTCRAFT website.

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