

YIHUA 3005D-III

YIHUA 3005D-III DC Power Supply User Manual

Model: 3005D-III

1. INTRODUCTION

The YIHUA 3005D-III is a high-precision DC power supply designed for laboratory and workbench applications. It offers adjustable output voltage from 0 to 30.0 V and current from 0 to 5.00 A, with fine resolutions for precise control. This manual provides essential information for the safe and effective operation of your device.

2. SAFETY INFORMATION

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

- **Electrical Safety:** Always connect the power supply to a grounded outlet. Do not operate in wet conditions. Ensure the power cord is undamaged.
- **Ventilation:** Ensure adequate ventilation around the unit. Do not block the cooling fan or vents.
- **Overload Protection:** The unit features short-circuit protection and overload protection (Constant Current/Constant Voltage mode) to safeguard the device and connected circuits. A buzzer provides audible feedback during protection events.
- **Temperature Management:** Active temperature management helps maintain optimal operating conditions.
- **Internal Components:** Do not attempt to open or service the unit. Refer all servicing to qualified personnel.



Figure 2.1: Rear panel illustrating the automatic cooling fan, ground wire connection, and fuse.

3. PRODUCT OVERVIEW

3.1. Front Panel

The front panel features a digital display for voltage, current, and power readings, along with digital encoder knobs for precise adjustments and output terminals.

Safety Features

Grounding & automatic cooling fan

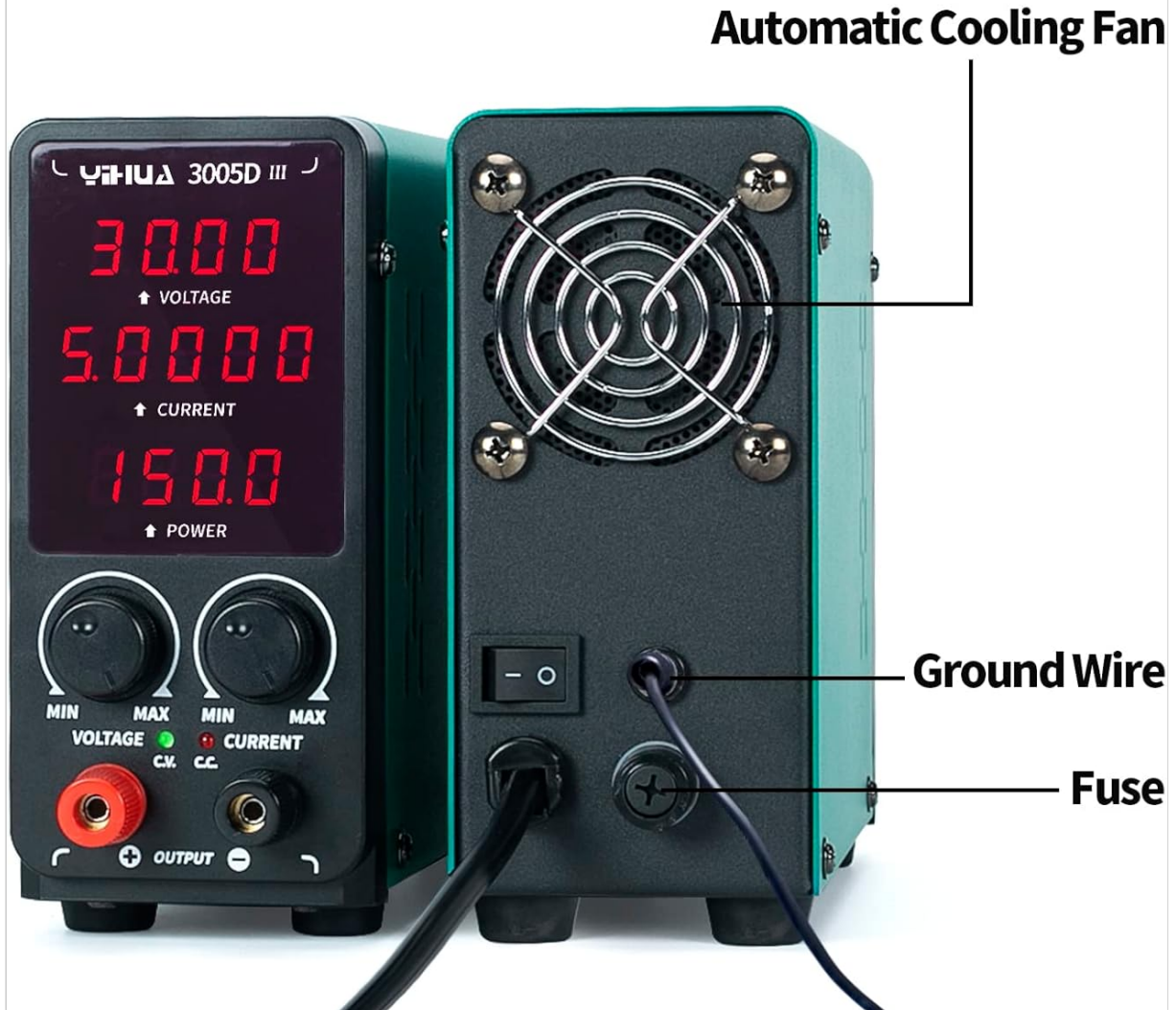


Figure 3.1: Front panel with precision digital readings. The display shows voltage resolution of 0.01V (10mV), current resolution of 0.0001A (0.1mA), and power resolution of 0.1W.

3.2. What's in the Box

- YIHUA 3005D-III DC Power Supply Unit
- Power Cord (230V UK plug)
- Test Leads (U-shape to alligator clips)



Figure 3.2: Included U-shape to alligator clip test leads for easy connection.

4. SETUP

1. **Unpacking:** Carefully remove the power supply and all accessories from the packaging. Inspect for any signs of damage.
2. **Placement:** Place the unit on a stable, level surface, ensuring sufficient space for ventilation, especially around the rear cooling fan.
3. **Power Connection:** Connect the provided power cord to the power input on the rear of the unit, then plug it into a grounded 230V AC outlet.
4. **Test Lead Connection:** Connect the test leads to the output terminals on the front panel. The red lead connects to the positive (+) terminal, and the black lead connects to the negative (-) terminal.

5. OPERATING INSTRUCTIONS

5.1. Powering On/Off

To power on the unit, flip the power switch located on the rear panel to the 'ON' position. The digital display will illuminate. To power off, flip the switch to the 'OFF' position.

5.2. Adjusting Voltage and Current

The YIHUA 3005D-III uses digital encoder knobs for precise adjustment of voltage and current. These eliminate the need for separate coarse and fine adjustment dials.

- **Voltage Adjustment:** Use the 'VOLTAGE' knob to set the desired output voltage. Turning the knob slowly adjusts in small increments (1 unit per click), while turning it quickly allows for larger increments.
- **Current Adjustment:** Use the 'CURRENT' knob to set the desired output current limit. Similar to voltage, slow turns provide fine adjustment, and quick turns provide coarse adjustment.

AUTO C.C & C.V

Automatically changes based on load property

 **Constant Voltage**
current changes
voltage does not change
C.C.

 **Constant Current**
voltage changes
current does not change
C.C.

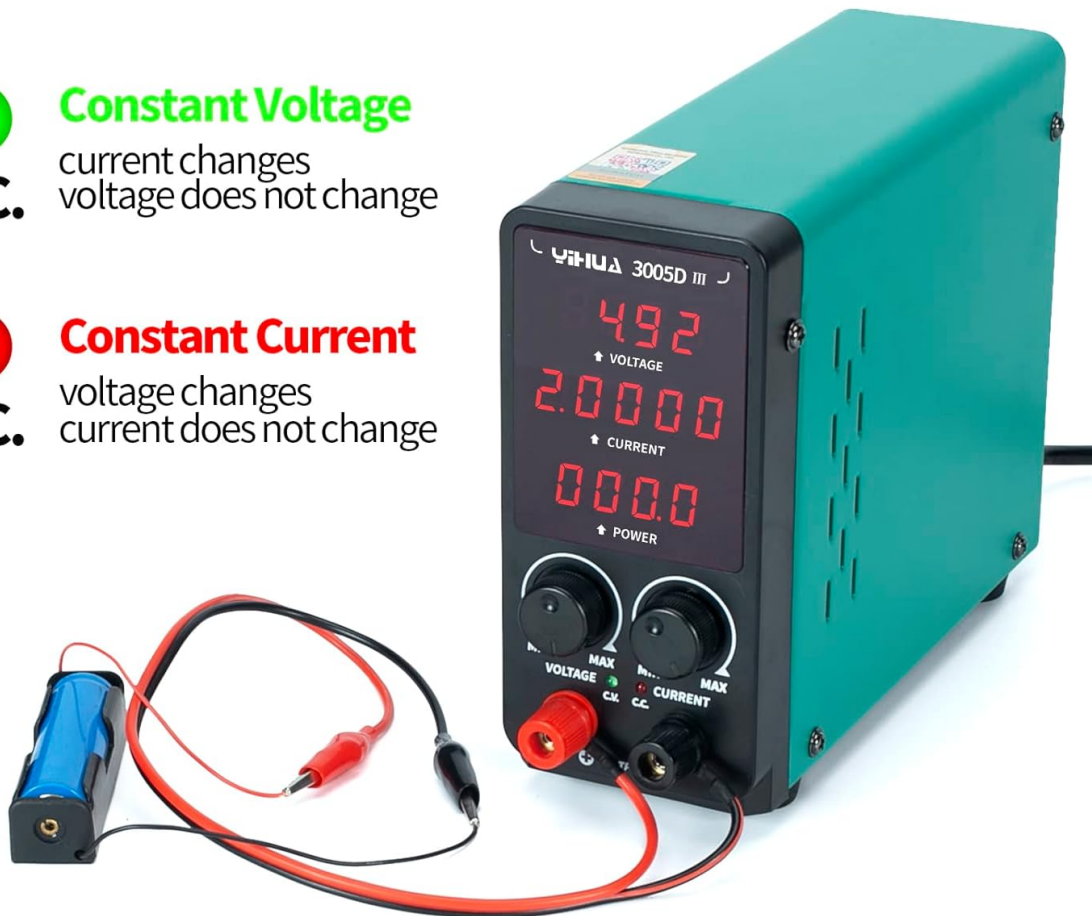


Figure 5.1: Digital encoder knob operation for precise voltage and current settings.

5.3. Constant Voltage (CV) and Constant Current (CC) Modes

The power supply automatically switches between Constant Voltage (CV) and Constant Current (CC) modes based on the load characteristics.

- **Constant Voltage (CV) Mode:** Indicated by a green LED. In this mode, the output voltage remains constant at the set value, and the current varies according to the load.
- **Constant Current (CC) Mode:** Indicated by a red LED. In this mode, the output current remains constant at the set limit, and the voltage varies according to the load. This mode activates when the load resistance is too low for the set voltage, causing the current to reach its preset limit.

U-Shape to Alligator

We included U-shape to alligator clip test leads for you to connect the terminals to your load easily

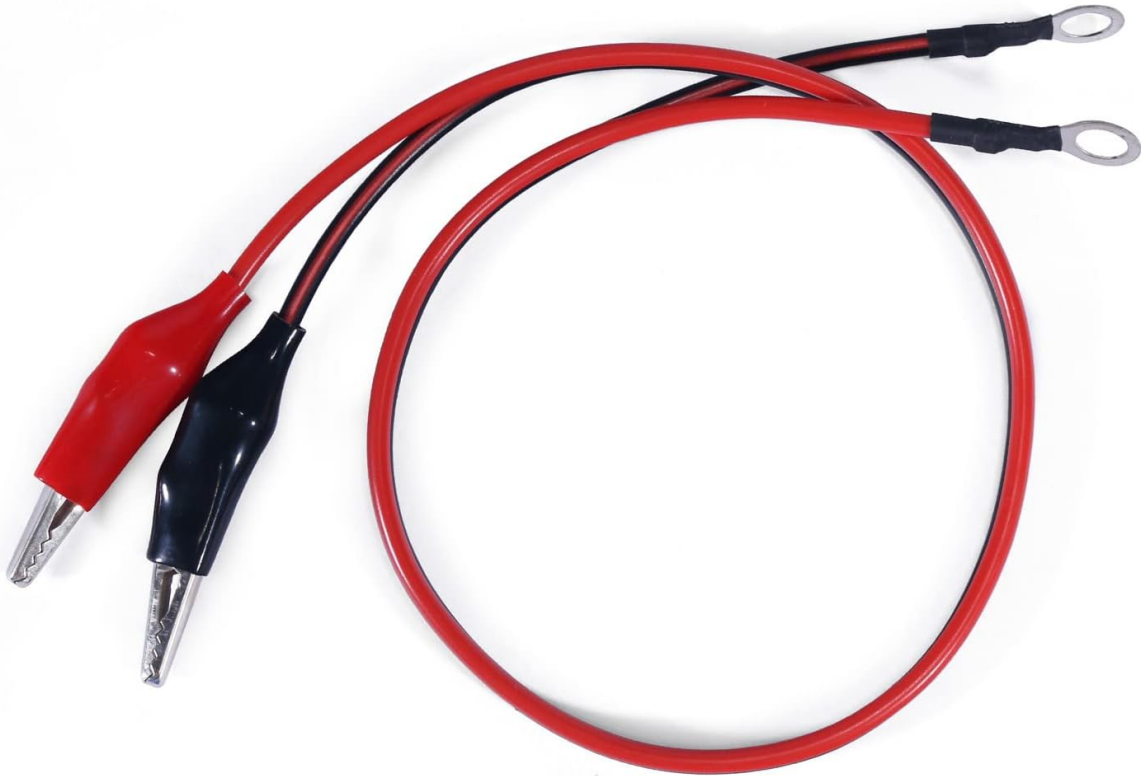


Figure 5.2: Illustration of automatic C.C. and C.V. mode switching based on load properties.

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:** Periodically check that the cooling fan and vents are free from dust and obstructions.
- **Storage:** When not in use for extended periods, store the unit in a dry, dust-free environment.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power when switched on	Power cord not connected; outlet faulty; internal fuse blown.	Check power cord connection; test outlet; contact support for fuse replacement.
Output voltage/current is zero or incorrect	Settings are too low; unit in protection mode; faulty connection.	Adjust voltage/current settings; check for short circuits in the load; verify test lead connections.

Problem	Possible Cause	Solution
Buzzer sounds continuously	Unit is in protection mode (e.g., short-circuit, overload).	Identify and resolve the fault in the connected circuit. The buzzer provides feedback when adjustments are made or when in protection mode.
Unit overheats	Blocked ventilation; excessive load.	Ensure clear airflow around the unit; reduce load if operating at maximum capacity for extended periods.

8. SPECIFICATIONS

Feature	Value
Model Name	3005D-III
Brand	YIHUA
Output Voltage	0-30.0 V
Output Current	0-5.00 A
Output Wattage	150 W (at 30V 5A)
Voltage Resolution	0.01 V (10mV)
Current Resolution	0.0001 A (0.1mA)
Power Resolution	0.1 W
Dimensions (L x W x H)	19.5 x 7 x 15.7 cm
Weight	1.67 kg
Input Voltage	230 V (UK plug)
Manufacturer	Guangzhou Yihua Electronic Equipment Co., Ltd.

Digital Encoder Knob

Our digital rotary dial helps you configure desired settings quickly, and precisely.



Figure 8.1: Physical dimensions of the YIHUA 3005D-III power supply.

9. WARRANTY AND SUPPORT

The YIHUA 3005D-III DC Power Supply comes with a **12-month UK manufacturer warranty**. For any technical assistance, questions, or suggestions, please contact our professional technical support team available 24/7 via Amazon. Spare parts and accessories are also available.