YIHUA 3005D-IV Adjustable DC Regulated Power Supply User Manual

Model: 3005D-IV

1. Introduction

The YIHUA 3005D-IV is an advanced adjustable DC regulated switching power supply designed for precision and reliability. It features a highly stable regulated voltage and high power capacity, making it suitable for a wide range of applications including scientific research, product development, laboratories, educational institutions, production lines, and electronic maintenance.

Key features include:

- Sufficient power and accurate output in a compact, lightweight design.
- Integrated USB fast charging interface supporting QC2.0 and QC3.0 protocols, with protection currents of 4A/2.5A/2A.
- Four-digit LED display for precise voltage, current, and power readings.
- Quick conversion to a 0-5V range, enhancing safety for mobile phone repair.
- Intelligent temperature-controlled fan with dust cooling holes for efficient heat dissipation.
- Low ripple and low noise design for stable output.

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.

- Always connect the power supply to a grounded outlet.
- Do not operate the device in wet or damp conditions.
- Ensure adequate ventilation around the unit to prevent overheating.
- Do not open the casing of the power supply; there are no user-serviceable parts inside.
- Disconnect the power cord before cleaning or maintenance.
- Avoid short-circuiting the output terminals. The device has protection features, but prolonged short circuits can cause damage.
- Use appropriate test leads and connectors rated for the voltage and current levels.

3. Product Overview

The YIHUA 3005D-IV is a robust and versatile DC power supply. Below are images illustrating its design and internal components, followed by a video demonstration of its features.

4. Specifications

Detailed technical specifications for the YIHUA 3005D-IV power supply:

Parameter	**Value**
Model	3005D-IV
Rated Voltage Range	220V-240V/AC, 50Hz
Rated Wattage	220W
Mainframe Dimensions (L*W*H)	200*98*154mm ±5mm
Operating Temperature	-10℃ to 40℃ (14℉ to 104℉)
Relative Humidity	＜90%
Output Voltage	DC 0-5V / 0-30V
Output Power	150W
Voltage Precision	＜0.1%+0.01V
Current Accuracy	＜0.2%+5mA
Load Stabilization	＜0.5%+3mV
Ripple Noise	Vrms＜0.2% (10Hz-1MHz)
Protection Current	0-5A
USB Output Voltage	DC 5V/9V/12V±0.2V
USB Output Power	20W

USB Voltage Precision	0.1V
USB Current Accuracy	0.4%+10mA
USB Protection Current	4A/2.5A/2A
Output Type	SINGLE
Certification	CE

5. Setup

1. **Unpacking:** Carefully remove the power supply and all accessories from the packaging. Inspect for any signs of damage.
2. **Placement:** Place the power supply on a stable, level surface with adequate clearance for ventilation. Ensure the cooling vents are not obstructed.
3. **Power Connection:** Connect the provided power cord to the AC input on the rear of the unit, then plug it into a grounded 220V-240V/AC, 50Hz power outlet.
4. **Load Connection:** Connect your device or circuit to the output terminals (red for positive, black for negative) on the front panel using appropriate test leads. Ensure the connections are secure.
5. **Initial Power On:** Press the power button on the front panel. The LED display should illuminate, showing the current voltage and current settings.

6. Operating Instructions

6.1 Adjusting Voltage and Current

The YIHUA 3005D-IV features two rotary encoder knobs for precise adjustment of output voltage and current.

- **Voltage Adjustment:** Turn the 'VOLTAGE' knob to set the desired output voltage. The four-digit display provides high precision (10mV resolution).
- **Current Adjustment:** Turn the 'CURRENT' knob to set the desired output current limit. The four-digit display provides high precision (1mA resolution).
- **Fine/Coarse Adjustment:** The encoder design allows for both fine and rapid adjustments. Rotate slowly for fine-tuning or quickly for larger changes.

6.2 Output Voltage Range Conversion (0-5V / 0-30V)

For sensitive applications like mobile phone repair, the unit offers a quick conversion feature to a lower voltage range.

- **To switch to 0-5V range:** Long press the 'VOLTAGE' knob. The display will indicate the change to the 0-5V range. This provides a safer working environment for low-voltage electronics.
- **To switch back to 0-30V range:** Long press the 'VOLTAGE' knob again.

6.3 USB Fast Charging

The integrated USB port supports fast charging protocols (QC2.0, QC3.0) for mobile devices.

- Connect your mobile device to the USB port on the front panel.
- The display will show the USB output voltage and current.
- The USB port offers multiple protections and a short circuit alarm.

6.4 Protection Features

The power supply incorporates multiple protection mechanisms:

- **Short Circuit Protection:** In case of an output short circuit, the device will provide an alert and automatically recover once the short is removed.
- **Overload Protection:** Designed for full load use, the unit can operate continuously for extended periods without damage.

7. User Tips

While no specific user reviews or Q&A were provided, here are some general tips for optimizing your experience with the YIHUA 3005D-IV:

- **Start Low:** When connecting a new circuit, always start with the voltage and current set to their minimums and gradually increase them to the desired levels.
- **Utilize 0-5V Range:** For delicate electronics or mobile phone repairs, remember to use the one-click conversion to the 0-5V range to prevent accidental overvoltage.
- **Monitor Display:** Regularly check the four-digit LED display for real-time voltage, current, and power output to ensure stable operation and prevent unexpected issues.
- **Keep Vents Clear:** Ensure the cooling vents on the chassis are always clear to allow the intelligent temperature control fan to operate effectively and prevent overheating.

8. Maintenance

Proper maintenance ensures the longevity and optimal performance of your YIHUA 3005D-IV power supply.

- **Cleaning:** Regularly wipe the exterior of the unit with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the unit is powered off and unplugged before cleaning.
- **Ventilation:** Periodically check that the cooling vents are free from dust and debris. Use compressed air to gently clear any blockages.
- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Cable Inspection:** Inspect the power cord and test leads regularly for any signs of wear, cuts, or damage. Replace damaged cables immediately.

9. Troubleshooting

If you encounter issues with your YIHUA 3005D-IV, refer to the following common problems and solutions:

- **No Power:**
- Check if the power cord is securely connected to both the unit and the power outlet.
- Verify that the power outlet is functional.
- Ensure the power switch on the front panel is in the 'ON' position.
- **No Output Voltage/Current:**
- Check if the output terminals are correctly connected to your load.
- Ensure the voltage and current knobs are adjusted to desired non-zero values.
- If the unit is in constant current (CC) mode, the current limit may be too low for the load. Increase the current limit.
- If the short circuit protection was triggered, remove the short and the unit should automatically recover.
- **Inaccurate Readings:**
- Ensure test leads are properly connected and not damaged.
- Verify that the unit is not operating beyond its specified limits.
- **Overheating:**
- Check that the cooling vents are not obstructed.
- Ensure the ambient temperature is within the specified operating range (-10℃ to 40℃).
- Reduce the load if operating continuously at maximum capacity in a warm environment.

If the problem persists after attempting these troubleshooting steps, please contact customer support.

10. Warranty and Support

For warranty information, technical support, or service inquiries, please contact the seller or manufacturer directly. Keep your purchase receipt or proof of purchase handy when contacting support.