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Yitranic JPRM305

Yitranic JPRM305 DC Power Supply User Manual

Model: JPRM305 (0-30V / 0-5A)

1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your Yitranic JPRM305 DC Power Supply. This compact and high-precision switching power supply offers variable output from 0-30V and 0-5A, featuring a 4-digit LED display for accurate readings, an 18W USB fast charging port, and multiple protection mechanisms. It is designed for a wide range of applications, including electronic research and development, automotive electronics, university education, repair work, industrial automation, charging tests, and DIY projects.



Figure 1: Yitranic JPRM305 DC Power Supply, showcasing its compact design and clear LED display.

2. Safety Instructions

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may

result in electric shock, fire, or damage to the product.

- Always connect the ground terminal to a proper earth ground.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation to prevent overheating. Do not block the ventilation openings.
- Do not open the casing; refer all servicing to qualified personnel.
- Verify voltage and current settings before connecting to a load to prevent damage to the connected device.
- Use appropriate test leads and connectors rated for the intended voltage and current.
- The device features over-voltage, over-current, overload, reverse connection, and over-temperature protection. In case of a fault, the output will be immediately cut off.

3. Product Overview

3.1 Front Panel



Figure 2: Detailed view of the power supply's front panel controls and display.

1. **4-Digit LED Display:** Shows real-time voltage, current, and power output with high precision.
2. **Voltage Adjustment Knob:** Used to set the output voltage. Press to switch between coarse and fine adjustment.
3. **Current Adjustment Knob:** Used to set the output current limit. Press to switch between coarse and fine

adjustment.

4. **Output Enable/Disable Button:** Activates or deactivates the power output.
5. **Power Button:** Turns the unit on or off.
6. **QC3.0 USB Port (18W):** Provides fast charging for compatible USB devices.
7. **Output Terminals:** Red for positive (+), Black for negative (-). Connect test leads here.

3.2 Rear Panel

The rear panel typically includes the AC power input socket, a cooling fan for thermal management, and a fuse holder for circuit protection. Ensure adequate clearance around the fan for proper airflow.

4. Setup

1. **Unpacking:** Carefully unpack the power supply and inspect it for any signs of damage during transit. Retain the packaging for future storage or shipping.
2. **Power Connection:** Connect the provided AC power cable to the AC input socket on the rear panel of the power supply. Plug the other end into a standard grounded power outlet.
3. **Load Connection:** Connect the red (positive) test lead to the red output terminal and the black (negative) test lead to the black output terminal on the front panel. Connect the other ends of the test leads to your load, ensuring correct polarity.

5. Operating Instructions

5.1 Power On/Off

Press the power button on the front panel to turn the unit on or off. The LED display will illuminate upon power-on.

5.2 Voltage and Current Adjustment

Before enabling the output, adjust the desired voltage and current limits:

- **Voltage Adjustment:** Rotate the **Voltage Adjustment Knob** to set the desired output voltage. Press the knob to toggle between coarse (large increments) and fine (small increments) adjustment modes.
- **Current Adjustment:** Rotate the **Current Adjustment Knob** to set the maximum output current limit. Press the knob to toggle between coarse and fine adjustment modes.

5.3 Output Enable/Disable (Dual Switch Logic)

For safety and to prevent damage from hot-plugging, the power supply uses a dual-switch logic. After setting the voltage and current, press the **Output Enable/Disable Button** to activate the power output to your connected load. Press it again to disable the output.



Figure 3: Illustration of the dual switch logic for output control and the memory function.

5.4 Memory Function

The power supply automatically saves the last used voltage and current settings. These settings will be recalled automatically upon the next power-up, streamlining repetitive tasks and tests.

5.5 Key Lock Function

To prevent accidental changes to the voltage and current settings during operation, press and hold the**Current Adjustment Knob** for a few seconds to activate the key lock. Repeat the action to deactivate the lock.

5.6 USB Charging Port Usage

The integrated QC3.0 18W USB port allows you to charge compatible smartphones, tablets, or other USB-powered devices simultaneously while the main power supply is in operation. This helps keep your workspace tidy by reducing the need for additional chargers.

5.7 CC/CV Automatic Switching

The power supply automatically switches between Constant Voltage (CV) and Constant Current (CC) modes. When the load resistance is high, the unit operates in CV mode, maintaining the set voltage. When the load resistance decreases and the current reaches the set limit, the unit automatically switches to CC mode, maintaining the set current to protect the load.

6. Maintenance

6.1 Cleaning

Use a soft, dry cloth to clean the exterior of the power supply. Do not use abrasive cleaners, solvents, or any liquids that could seep into the unit.

6.2 Storage

When not in use for extended periods, store the unit in a cool, dry place away from direct sunlight, excessive dust, and

corrosive gases. It is recommended to use the original packaging for storage.

6.3 Calibration

For applications requiring high precision, periodic calibration by qualified personnel is recommended to ensure the continued accuracy of the voltage and current outputs.

7. Troubleshooting

This section addresses common issues you might encounter. If the problem persists, please contact customer support.

Problem	Possible Cause	Solution
Voltage or Current cannot be adjusted.	1. Set value has reached its maximum (e.g., 32V / 5.1A). 2. Output lock function is active.	1. Turn the respective knob counter-clockwise to decrease the value. 2. Press and hold the Current Adjustment Knob to unlock the settings.
No output from terminals.	1. Power supply is off. 2. Output is disabled. 3. Protection function triggered. 4. Loose connections.	1. Press the power button to turn on. 2. Press the Output Enable/Disable Button. 3. Check for short circuits or overloads; remove fault and restart. 4. Ensure all cables are securely connected.
Display is dim or flickering.	Unstable input power or internal fault.	Ensure stable AC input power. If the issue persists, contact customer support.

8. Specifications

Feature	Specification
Model	JPRM305
Output Voltage	0-30V DC (Adjustable)
Output Current	0-5A DC (Adjustable)
Output Power	150W (Max)
Display	4-digit LED (0.01V / 0.001A resolution)
USB Output	QC3.0 18W
Input Voltage	AC 100-240V (Typical, check product label for exact range)
Dimensions (L x W x H)	195 x 102 x 80 mm
Weight	0.8 kg
Protection Features	Over-Voltage Protection (OVP), Over-Current Protection (OCP), Overload Protection (OPP), Reverse Connection Protection, Over-Temperature Protection (OTP)

Feature	Specification
Included Components	DC Power Supply Unit, Power Cable, Instruction Manual

9. Warranty and Support

9.1 Warranty Information

This Yitranic product comes with a standard manufacturer's warranty. Please refer to the warranty card included in the packaging for specific terms, conditions, and duration of coverage. Keep your proof of purchase for warranty claims.

9.2 Customer Support

For technical assistance, troubleshooting not covered in this manual, or service inquiries, please contact Yitranic customer support through the retailer where you purchased the product or visit the official Yitranic website for contact details.

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