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YITRANIC 305MS

YITRANIC DC Laboratory Power Supply 305MS User Manual

Model: 305MS | Brand: YITRANIC

1. Introduction

This manual provides essential information for the safe and efficient operation of your YITRANIC DC Laboratory Power Supply Model 305MS. Please read these instructions carefully before use and retain them for future reference. This device offers precise regulation of voltage from 0 to 30 V and current from 0 to 5 A, featuring a 4-digit LED display and an integrated USB port.

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.
- Avoid blocking ventilation openings to prevent overheating.
- Do not open the casing; there are no user-serviceable parts inside. Refer servicing to qualified personnel.
- The device includes overvoltage and overheat protection. However, always monitor your setup to prevent damage to connected circuits.
- Disconnect power before making or changing connections to the output terminals.

3. Product Overview

Front and Rear Panel Components

Familiarize yourself with the components and controls of your power supply:

Product Details

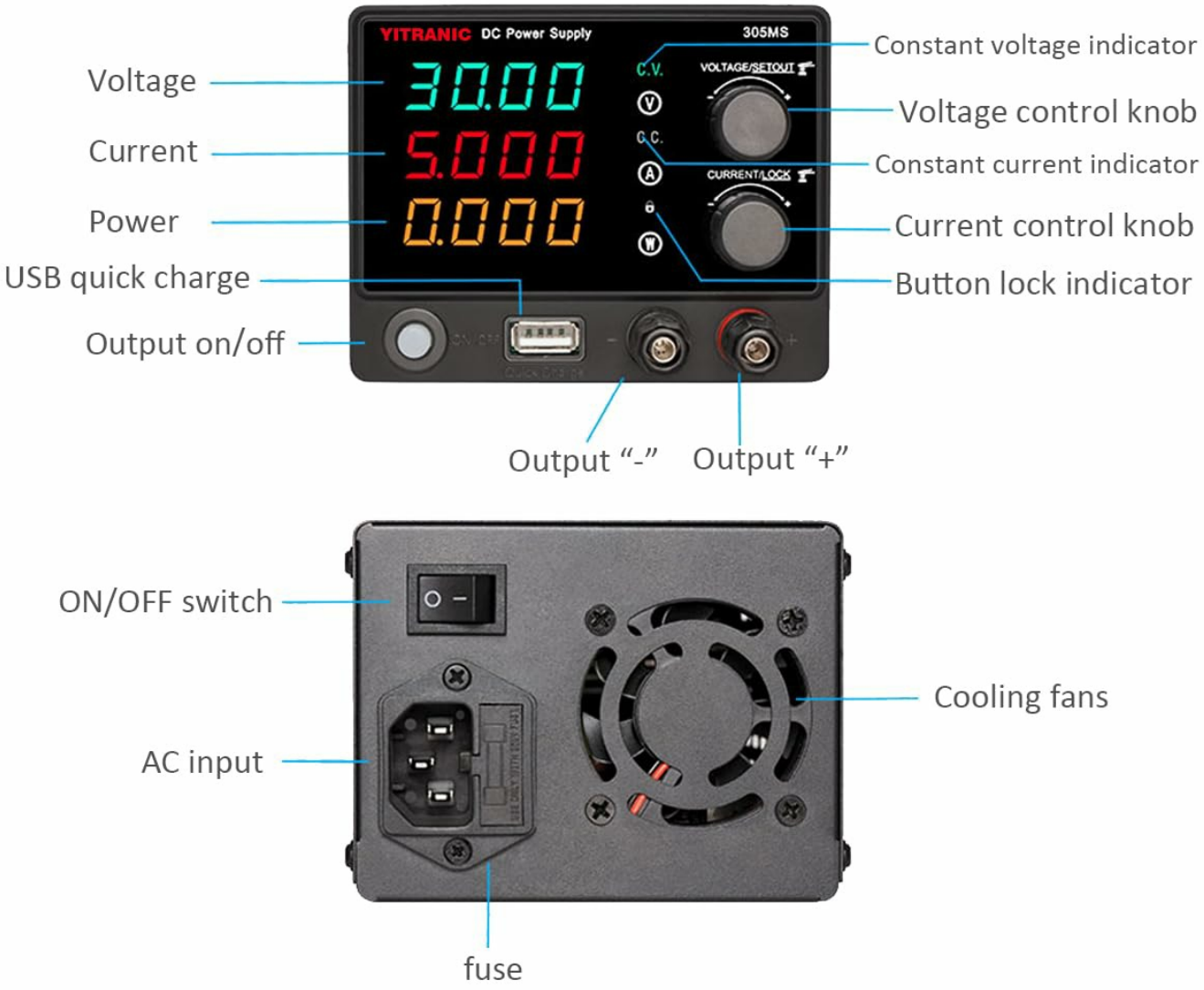


Image 3.1: Front and Rear Panel Layout. This image illustrates the various controls and connection points on the YITRANIC 305MS DC Power Supply, including the LED display, control knobs, USB port, output terminals, power switch, AC input, and cooling fans.

- **LED Display:** Shows real-time voltage, current, and power output.
- **Voltage Control Knob (VOLTAGE/SETOUT):** Adjusts output voltage. Press briefly to select digit, turn to adjust.
- **Constant Voltage (CV) Indicator:** Lights up when the power supply is operating in constant voltage mode.
- **Constant Current (CC) Indicator:** Lights up when the power supply is operating in constant current mode.
- **Current Control Knob (CURRENT/LOCK):** Adjusts output current. Press briefly to select digit, turn to adjust. Long press to lock/unlock output.
- **Button Lock Indicator:** Indicates when the output is locked.
- **Output ON/OFF Button:** Toggles the power output to the terminals.
- **USB Quick Charge Port:** Provides power for charging compatible devices.
- **Output Terminals (+ and -):** Connect your load here.
- **ON/OFF Switch (Rear):** Main power switch for the unit.

- **AC Input:** Connect the provided power cable here.
- **Cooling Fans:** Ensure proper ventilation during operation.

Included Components

- YITRANIC DC Laboratory Power Supply (Model 305MS)
- Power Cable
- Output Test Leads (with alligator clips)
- User Manual



Image 3.2: Power Supply with Included Accessories. This image displays the YITRANIC 305MS DC Power Supply alongside its power cable and a set of output test leads, ready for 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 adequate ventilation around the device. Do not place it near heat sources or in direct sunlight.
3. **Power Connection:** Connect the provided power cable to the AC input port on the rear panel of the power supply and then to a grounded wall outlet.
4. **Load Connection:** Ensure the power supply is OFF (rear switch) and the output is OFF (front button) before connecting your load. Connect the positive (+) terminal of your load to the red output terminal and the negative (-) terminal of your load to the black output terminal using the provided test leads or appropriate cables.

5. Operating Instructions

5.1 Powering On/Off

- To power on the unit, flip the main ON/OFF switch on the rear panel to the 'ON' position. The LED display will illuminate.
- To power off the unit, flip the main ON/OFF switch on the rear panel to the 'OFF' position.

5.2 Adjusting Voltage and Current

The YITRANIC 305MS allows for precise digital adjustment of voltage and current:



Image 5.1: Precision and Versatility in Adjustment. This diagram illustrates the three main functions of the control knobs: pressing to switch digits for fine adjustment, long-pressing to lock/unlock current, and turning to adjust values.

1. **Voltage Adjustment:**
    - Ensure the output is OFF (front button).
    - Briefly press the **VOLTAGE/SETOUT** knob. The digits on the voltage display will begin to blink, indicating that a digit position is selected.
    - Turn the **VOLTAGE/SETOUT** knob clockwise to increase the value or counter-clockwise to decrease it. Press the knob again to move to the next digit position for fine adjustment.
    - Once the desired voltage is set, wait a few seconds for the blinking to stop, or press the knob until no digits are blinking.
2. **Current Adjustment:**
    - Ensure the output is OFF (front button).
    - Briefly press the **CURRENT/LOCK** knob. The digits on the current display will begin to blink.
    - Turn the **CURRENT/LOCK** knob clockwise to increase the value or counter-clockwise to decrease it. Press the knob again to move to the next digit position.
    - Once the desired current limit is set, wait a few seconds for the blinking to stop, or press the knob until no digits are blinking.

3. **Activating Output:** After setting voltage and current, press the front **Output ON/OFF** button to enable power output to the terminals. The corresponding CV or CC indicator will light up.

5.3 Output Lock Function

To prevent accidental changes to the current setting during operation:

- While the output is active, a long press (hold for 2-3 seconds) on the **CURRENT/LOCK** knob will lock the current setting. The Button Lock Indicator will illuminate.
- To unlock, long press the **CURRENT/LOCK** knob again.

5.4 Saving Presets and Autostart

The power supply allows for saving preset voltage and current values and activating an autostart function:



Image 5.2: Saving Presets and Autostart Function. This image illustrates how a long press on the voltage knob can either save preset current and voltage values or activate the autostart function, depending on the context.

- **Saving Presets:** With the output OFF, set your desired voltage and current. Then, long press the **VOLTAGE/SETOUT** knob. The settings will be saved.

- **Activating Autostart:** If the autostart function is enabled, the power supply will automatically output the saved preset values when powered on. Consult the device's specific firmware behavior for details on enabling/disabling autostart.

5.5 Using the USB Port



Image 5.3: USB Quick Charge Port in Use. This image shows a smartphone being charged via the integrated USB quick charge port on the YITRANIC 305MS power supply, highlighting its additional functionality.

The integrated USB port provides a convenient way to charge compatible devices. Simply connect your device's USB cable to the port. The USB output operates independently of the main DC output terminals.

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:** Regularly check that the cooling fans and ventilation openings are free from dust and obstructions. Blocked vents can lead to overheating and reduced performance.

- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

If you encounter issues with your YITRANIC DC Power Supply, refer to the following common problems and solutions:

Problem	Possible Cause / Solution
Voltage/Current cannot be adjusted.	Ensure you briefly press the respective knob (VOLTAGE/SETOUT or CURRENT/LOCK) to select the digit position before turning to adjust the value. For current, ensure the output is not locked by a long press on the CURRENT/LOCK knob.
Display blinks briefly even when the unit is turned off via the rear switch.	This is a known characteristic for some units. To completely de-energize the display, disconnect the power plug from the wall outlet.
Output terminals are not immediately de-energized after pressing the front Output ON/OFF button.	Residual charge may remain for a short period. Always exercise caution and verify the output is zero before handling connections.
Rotary knob adjustment feels sensitive or difficult for precise values.	The digital adjustment requires pressing the knob to select the digit position for fine-tuning. Practice this method for better precision.
No output voltage/current.	Check if the main power switch (rear) is ON. Ensure the front Output ON/OFF button is pressed (indicator light should be on). Verify input power cable connection. Check if current limit is set too low.

8. Specifications

Technical specifications for the YITRANIC DC Laboratory Power Supply 305MS:

Feature	Detail
Manufacturer	Yitranic
Model Number	305MS
Output Voltage	0-30 V DC (Adjustable)
Output Current	0-5 A (Adjustable)
Display	4-Digit LED
USB Port	Integrated Quick Charge
Product Dimensions (L x W x H)	19.5 x 10.2 x 8 cm
Weight	800 grams
Included Components	Power supply, user manual, power cable, output test leads

Feature	Detail
Batteries Required	No
Spare Parts Availability	Information unavailable

9. Warranty and Support

For warranty information or technical support, please refer to the documentation provided with your purchase or contact YITRANIC customer service through their official channels. Keep your purchase receipt as proof of purchase.

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