

HUIWOSEN QJ3005N

HUIWOSEN QJ3005N Programmable DC Power Supply User Manual

Model: QJ3005N

1. INTRODUCTION

This user manual provides comprehensive instructions for the HUIWOSEN QJ3005N Programmable DC Power Supply. It covers product features, safety guidelines, setup procedures, operational instructions, maintenance, and troubleshooting. Please read this manual thoroughly before operating the device to ensure safe and efficient use.

2. PRODUCT FEATURES

- **Clear Digital Display:** Features a high-brightness LED digital tube for real-time display of test time, voltage, current, and breakdown value, ensuring intuitive and convenient readings.
- **Advanced Control System:** Equipped with a high-performance ARM processor and a high-speed AD sampling chip, along with a color touchscreen. Supports guided menus in both Chinese and English for smooth operation and comprehensive information display.
- **Data Storage Functions:** Includes three built-in data storage functions, allowing for quick saving and retrieval of frequently used test parameters. This enhances efficiency when switching between test items.
- **USB HOST Interface:** Provides a USB HOST interface for remote control of voltage and current output via computer software. It also supports online firmware upgrades to maintain optimal device performance.
- **Overcurrent Protection (OCP):** Features precise OCP overcurrent protection, which automatically cuts off the output when the current exceeds the preset value. This effectively safeguards both the tested product and the power supply equipment.

3. SAFETY INSTRUCTIONS

To prevent electric shock, injury, or damage to the device, observe the following safety precautions:

- Always connect the power supply to a grounded outlet.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation to prevent overheating.
- Do not open the casing; refer servicing to qualified personnel.

- Verify voltage and current settings before connecting to a load.
- Disconnect power before making or changing connections.

4. PRODUCT OVERVIEW

4.1 Front Panel

The front panel of the QJ3005N power supply features a clear LED display and intuitive controls for operation.



Figure 4.1: Front panel of the HUIWOSEN QJ3005N DC Power Supply, highlighting the high-brightness LED digital display showing voltage (30.00 V) and current (0.000 A) readings.

OCP



Figure 4.2: The HUIWOSEN QJ3005N DC Power Supply front panel, illustrating the OCP (Overcurrent Protection) feature with a protective shield graphic. This indicates the device's capability to safeguard connected equipment.

- **LED Digital Display:** Shows real-time voltage, current, and other operational parameters.
- **Control Knobs:** For fine and coarse adjustment of voltage and current.
- **Function Buttons (M1, M2, M3, OCP, MEN):** For memory recall, OCP settings, and menu navigation.
- **Output Terminals:** Positive (+), Negative (-), and Ground (GND) terminals for connecting the load.
- **Power Switch:** To turn the unit on or off.

5. SETUP

1. **Unpacking:** Carefully remove the power supply from its packaging and inspect for any damage. Retain packaging for future transport.
2. **Placement:** Place the unit on a stable, level surface with adequate ventilation around all sides. Do not block the ventilation openings.

3. **Power Connection:** Connect the provided power cord to the AC input on the rear panel of the power supply, then plug it into a grounded electrical outlet.
4. **Initial Power On:** Flip the power switch to the 'ON' position. The LED display should illuminate.

6. OPERATING INSTRUCTIONS

6.1 Basic Operation

1. **Adjusting Voltage:** Use the 'PUSH-HOLD FINE-COARSE' knob to adjust the output voltage. Push the knob to switch between fine and coarse adjustment modes. The display will show the set voltage.
2. **Adjusting Current:** Similarly, use the current adjustment knob (if separate, or the same knob with a mode switch) to set the maximum output current limit.
3. **Connecting Load:** With the output OFF (ensure the 'OUTPUT' button is disengaged), connect your load to the output terminals (Red for positive, Black for negative, Green for ground).
4. **Enabling Output:** Press the 'OUTPUT' button to enable the power output. The display will show the actual voltage and current delivered to the load.

6.2 Advanced Features

6.2.1 Data Storage and Recall

The QJ3005N allows you to save and recall up to three sets of frequently used voltage and current settings.

三组数据存储



Figure 6.1: The HUIWOSEN QJ3005N DC Power Supply illustrating its capability to store and recall three sets of data, indicated by the large '3' graphic. This feature allows for quick access to predefined settings.

- **Saving Settings:** Set the desired voltage and current. Press and hold one of the memory buttons (M1, M2, or M3) until a confirmation message appears on the display.
- **Recalling Settings:** Briefly press the desired memory button (M1, M2, or M3) to load the saved settings.

6.2.2 Overcurrent Protection (OCP)

The OCP function protects your load by automatically shutting down the output if the current exceeds a set limit.

- **Setting OCP:** Press the 'OCP' button. Use the adjustment knob to set the desired overcurrent limit. Press 'OCP' again to confirm.
- **OCP Trigger:** If the output current exceeds the set OCP limit, the output will automatically shut off, and an OCP indicator will illuminate.
- **Resetting OCP:** To reset after an OCP event, clear the fault (e.g., reduce load current) and then press the 'OUTPUT' button to re-enable the output.

6.2.3 Serial Communication (USB HOST)

The USB HOST interface allows for remote control and monitoring of the power supply via a computer.

- **Software Installation:** Install the provided control software on your computer.
- **Connection:** Connect the power supply to your computer using a USB cable.
- **Remote Control:** Use the software interface to adjust voltage, current, and monitor output parameters.
- **Firmware Upgrade:** The USB interface also supports online firmware upgrades. Refer to the software documentation for detailed upgrade procedures.

7. MAINTENANCE

- **Cleaning:** Disconnect power before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure ventilation openings are free from dust and obstructions. Periodically clean with compressed air if necessary.
- **Storage:** When not in use for extended periods, store the power supply in a dry, dust-free environment.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power/display	Power cord disconnected, power switch off, faulty outlet.	Check power cord connection, ensure switch is ON, test outlet with another device.
No output voltage/current	Output button OFF, OCP triggered, incorrect settings, open circuit.	Press 'OUTPUT' button, check OCP status and reset if needed, verify voltage/current settings, check load connections.
OCP frequently triggers	OCP limit set too low, load drawing excessive current.	Increase OCP limit (if appropriate for load), check load for short circuits or excessive current draw.
Unit overheating	Blocked ventilation, operating in high ambient temperature.	Ensure clear ventilation, operate in a cooler environment.

9. SPECIFICATIONS

- **Model:** QJ3005N
- **Output Temperature Coefficient - Voltage:** $\leq 100\text{ppm} + 10\text{mV}$
- **Output Temperature Coefficient - Current:** $\leq 100\text{ppm} + 5\text{mA}$
- **Readback Resolution - Voltage:** 10mV
- **Readback Resolution - Current:** 1mA
- **Package Dimensions:** 0.39 x 0.39 x 0.39 inches
- **Item Weight:** 13.23 pounds
- **Manufacturer:** HUIWOSEN
- **ASIN:** B0G6YQTDXR
- **Date First Available:** December 15, 2025



Figure 9.1: Illustration of the HUIWOSEN QJ3005N DC Power Supply's noise levels, showing a graphical representation of decibel ratings (50dB, 40dB, 37dB, 10dB) at various points, indicating its operational acoustic performance.

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your purchase or contact HUIWOSEN customer service through their official channels.

Manufacturer: HUIWOSEN

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