WANPTEK POWER TPS-C3010H

WANPTEK POWER DC Power Supply User Manual

Model: TPS-C3010H (0-30V / 0-10A)

1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your WANPTEK POWER TPS-C3010H DC Power Supply. This adjustable switching regulated bench power supply offers a variable output of 0-30V and 0-10A, featuring memory presets, a locking key, Over Current Protection (OCP), and a USB fast charging port. Please read this manual thoroughly before use and retain it for future reference.

2. Safety Instructions

To ensure safe operation and prevent damage to the device or injury, observe the following safety precautions:

- Always connect the power supply to a grounded AC outlet.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation; do not block the cooling fan or vents.
- Do not open the casing; there are no user-serviceable parts inside. Refer servicing to qualified personnel.
- Verify the input voltage switch (115V/230V) on the rear panel matches your local power supply before connecting the AC power cord.
- Avoid short-circuiting the output terminals for extended periods, even with OCP enabled.
- Disconnect power before making any connections or disconnections to the output terminals.

3. Product Overview

3.1 Front Panel Controls and Displays

The front panel features a clear 4-digit LED display for voltage, current, and power, along with various control

buttons and knobs.

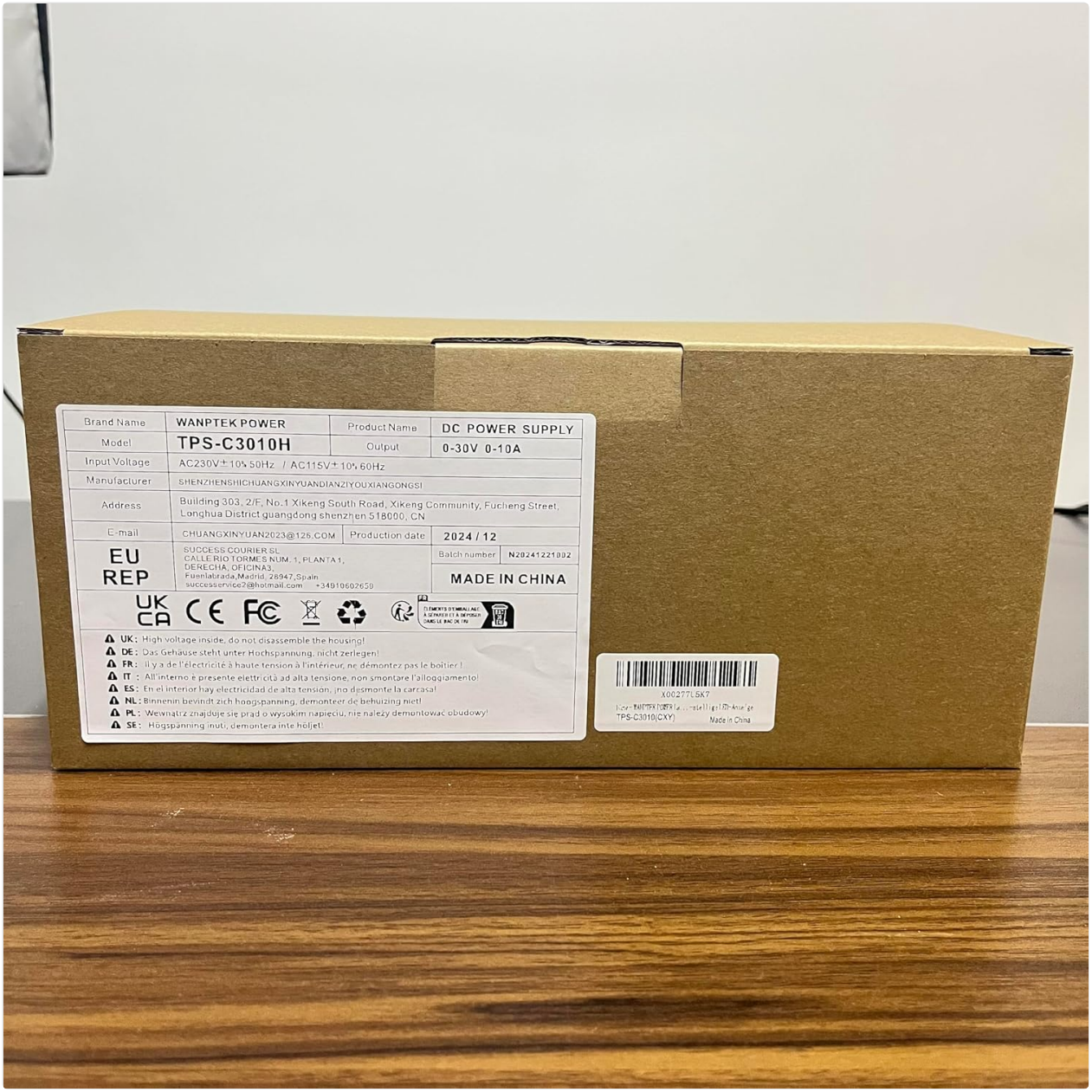

Image: Front panel layout of the TPS-C3010H power supply, highlighting its various controls and display areas.

1. **Voltage Display:** Shows the output voltage in Volts (V).
2. **Current Display:** Shows the output current in Amperes (A).
3. **Power Display:** Shows the output power in Watts (W).
4. **USB Interface:** USB fast charging port.
5. **USB Voltage Display:** Shows the voltage of the USB output.
6. **USB Current Display:** Shows the current of the USB output.
7. **Constant Voltage (C.V) Indicator:** Illuminates when the power supply is operating in constant voltage mode.
8. **Constant Current (C.C) Indicator:** Illuminates when the power supply is operating in constant current mode.
9. **Storage Buttons (M1, M2, M3):** Used to save and recall voltage/current settings.
10. **Function Lock Button:** Locks the control panel to prevent accidental changes.
11. **Short Circuit Protection (OCP) Switch:** Activates/deactivates Over Current Protection.

12. **Output Button:** Enables or disables the DC output.
13. **Voltage Adjustment Knob:** Rotary encoder for setting output voltage. Press to select digit, rotate to adjust value.
14. **Current Regulation Knob:** Rotary encoder for setting output current. Press to select digit, rotate to adjust value.
15. **Positive Polarity Output Terminal (Red):** Connects to the positive lead of your load.
16. **Negative Polarity Output Terminal (Black):** Connects to the negative lead of your load.
17. **Power Switch:** Turns the unit on or off.

3.2 Rear Panel Features

The rear panel includes the AC power input, a cooling fan, and a voltage selection switch.

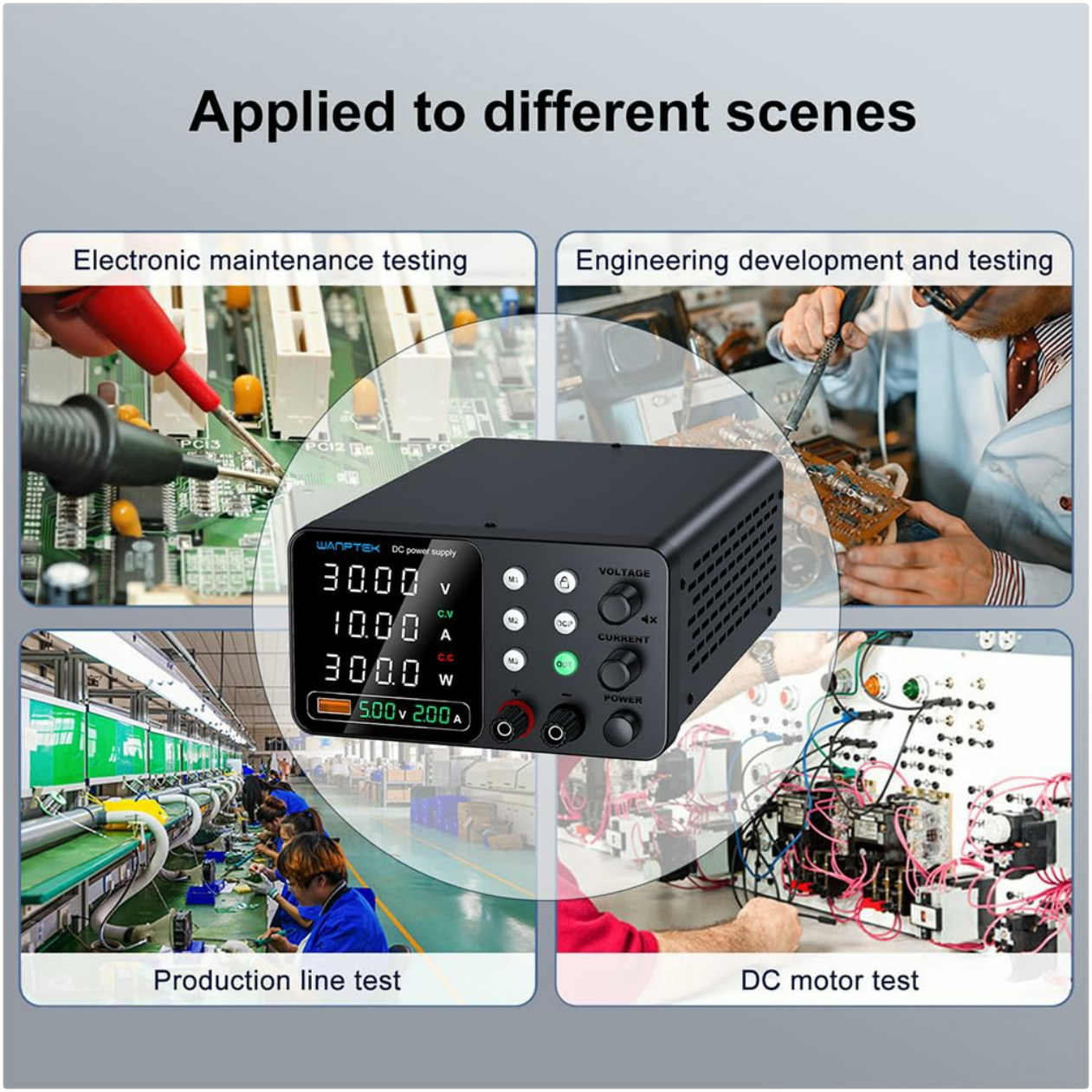

Image: Rear view of the TPS-C3010H, illustrating the cooling fan, fuse compartment, and voltage selector switch.

- **AC Power Input:** For connecting the supplied AC power cord.
- **Cooling Fan:** Automatically activates when the internal temperature exceeds 50°C (122°F) to maintain optimal operating temperature.
- **Fuse Box:** Contains the protective fuse.

- **Voltage Selector Switch:** Allows selection between 115V and 230V AC input. Ensure this is set correctly for your region.

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4. Setup

1. **Unpacking:** Carefully remove the power supply and all accessories from the packaging.
2. **Placement:** Place the unit on a stable, level surface with adequate ventilation around all sides. Avoid placing it near heat sources or in direct sunlight.
3. **Input Voltage Selection:** Before connecting the AC power cord, verify that the voltage selector switch on the rear panel is set to the correct voltage for your local power grid (115V or 230V).
4. **Power Connection:** Connect the supplied AC power cord to the AC power input on the rear panel and then to a grounded wall outlet.
5. **Output Connections:** Ensure the power supply is OFF (Power Switch) and the OUTPUT is disabled before connecting any load. Connect the red output test line to the positive (+) terminal and the black output test line to the negative (-) terminal. Connect the other end of the test lines to your device or circuit.

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5. Operating Instructions

5.1 Basic Voltage and Current Adjustment

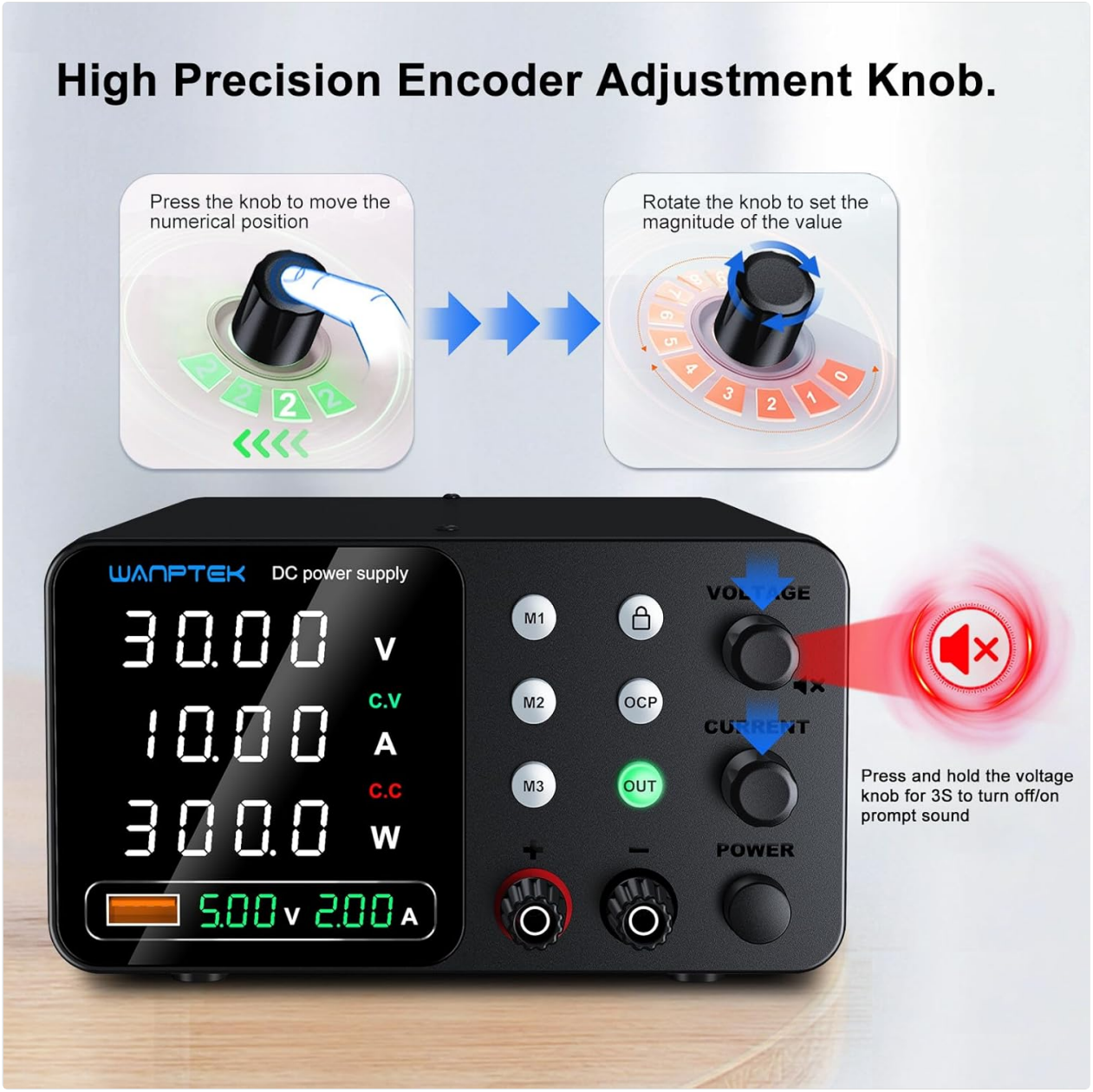

Image: Demonstrates the operation of the high-precision encoder adjustment knobs for setting voltage and current.

1. Turn on the power supply using the Power Switch.
2. **Adjusting Voltage:** Rotate the **Voltage Adjustment Knob** to set the desired voltage. Press the knob to select a specific digit on the voltage display, then rotate to fine-tune that digit.
3. **Adjusting Current:** Rotate the **Current Regulation Knob** to set the desired current limit. Press the knob to select a specific digit on the current display, then rotate to fine-tune that digit.
4. Once voltage and current are set, press the **OUT button** to enable the output. The OUT indicator will illuminate green.
5. To disable output, press the **OUT button** again.

5.2 Memory Presets (M1, M2, M3)

The power supply allows you to save and recall three frequently used voltage and current settings.

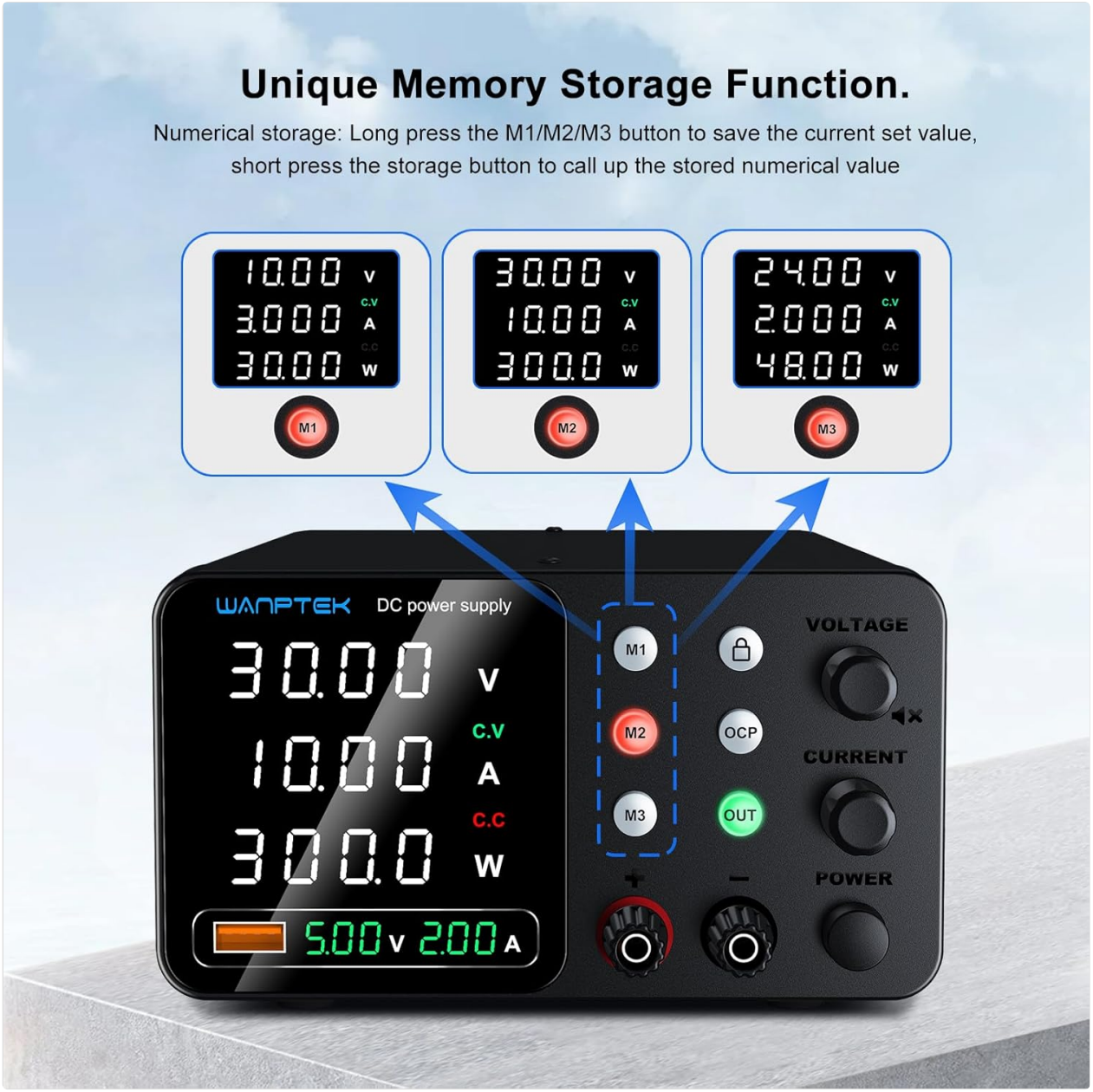

Image: Illustration of the unique memory storage function, showing how M1, M2, and M3 buttons store and recall settings.

- **Saving Settings:** Set the desired voltage and current using their respective knobs. Long press one of the **M1, M2, or M3 buttons** for approximately 3 seconds until a beep confirms the settings are saved.
- **Recalling Settings:** Short press the desired **M1, M2, or M3 button** to instantly recall the saved voltage and current values.

5.3 Output Enable/Disable

The **OUT button** controls the activation of the DC output terminals.

- Pressing **OUT** enables the output, and the indicator light turns green.
- Pressing **OUT** again disables the output, and the indicator light turns off. This feature prevents accidental short circuits or damage during connection changes.

5.4 Over Current Protection (OCP)

The OCP function protects your connected device and the power supply from excessive current draw.

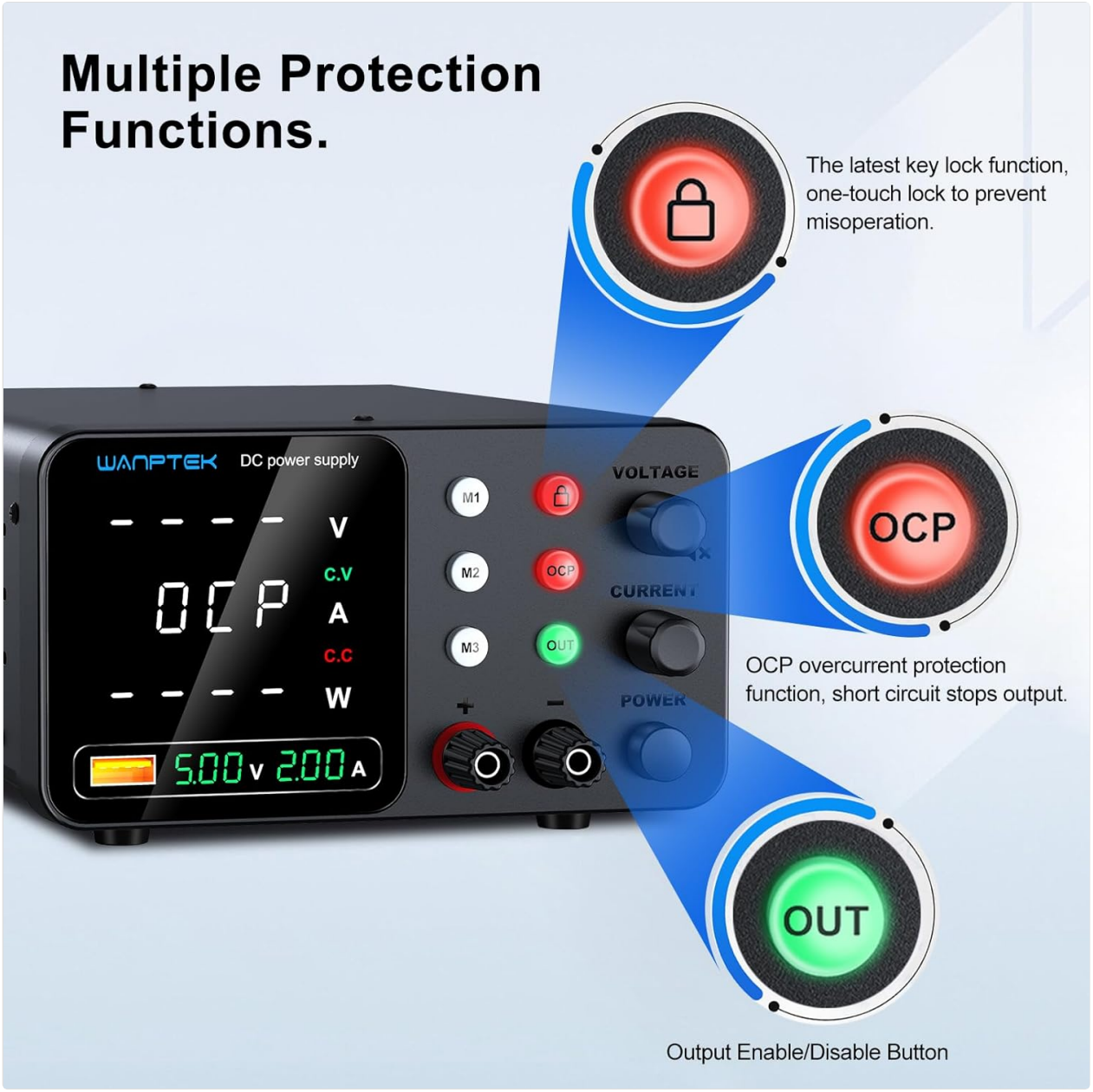

Image: Visual representation of the multiple protection functions, including OCP, output enable, and locking key.

- Press the **OCP switch** to activate Over Current Protection. The OCP indicator will illuminate.
- If the output current exceeds the set limit while OCP is active, the power supply will automatically stop output and display "OCP".
- To resume operation after an OCP event, clear the short circuit or overload condition, then press the **OUT button** to re-enable output.

5.5 Locking Function

The locking function prevents accidental changes to the set voltage and current values.

- Press the **Function Lock Button** (lock icon) to lock the control panel. The lock indicator will illuminate red.
- While locked, the voltage and current knobs, and memory buttons will not respond to input.
- Press the **Function Lock Button** again to unlock the panel.

5.6 USB Fast Charging Port

The integrated 18W USB fast charging port allows you to charge compatible devices while monitoring the output.

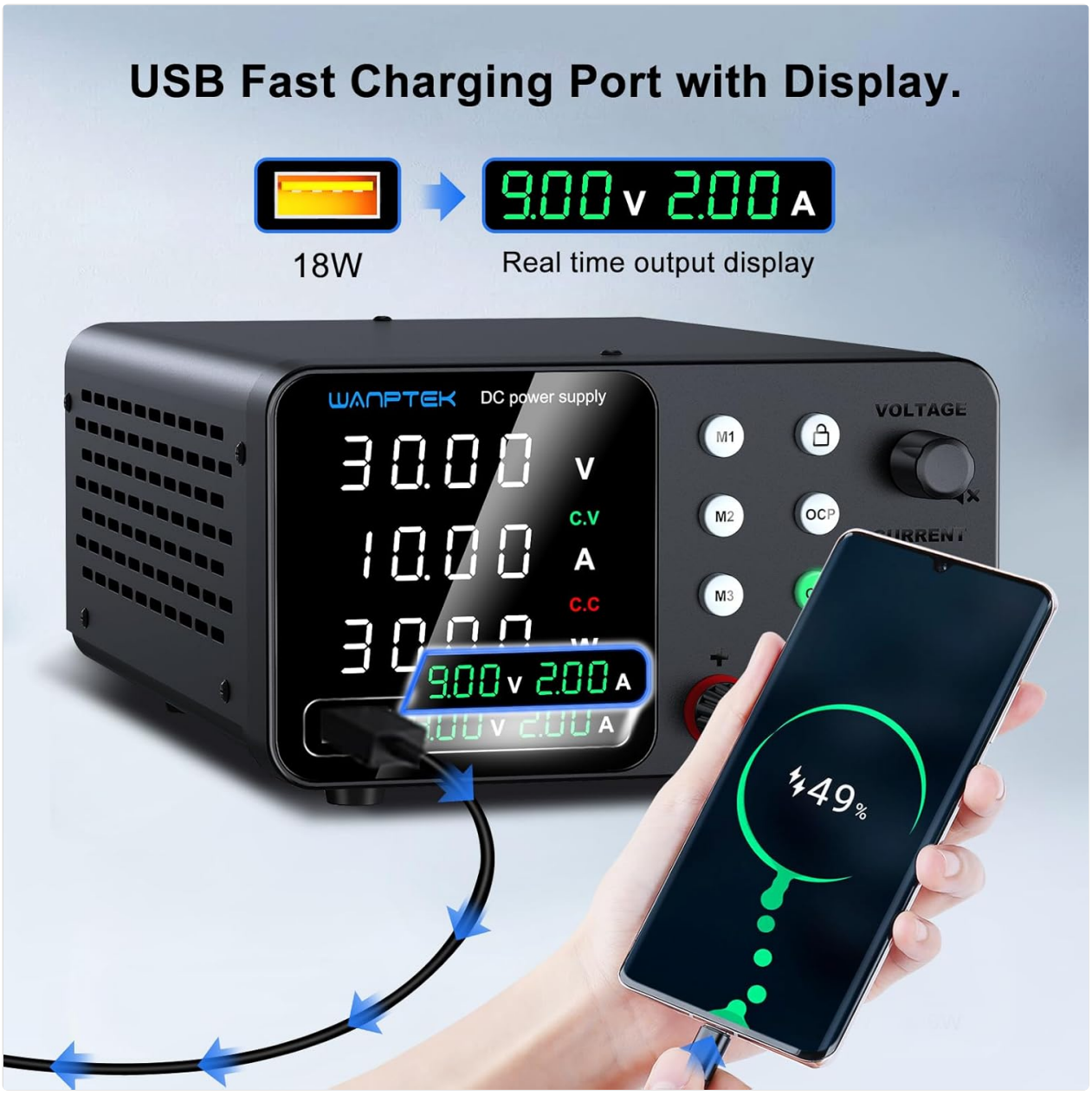

Image: A smartphone charging via the power supply's USB port, with real-time voltage and current displayed on the unit.

- Connect your USB-compatible device to the USB interface on the front panel.
- The USB voltage and current will be displayed in real-time on the dedicated USB display area.

5.7 Beep Sound Control

- To turn off the beep sound (which occurs with each knob rotation), long press the**Voltage Adjustment Knob** for approximately 3 seconds.
- Repeat the action to turn the beep sound back on.

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6. Maintenance

- **Cleaning:** Disconnect the power supply from the AC outlet before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Ventilation:** Regularly check that the cooling fan and vents are free from dust and obstructions. Blocked vents can lead to overheating.

- **Fuse Replacement:** If the unit fails to power on, the fuse may need replacement. Disconnect the AC power cord, locate the fuse box on the rear panel, and replace the fuse with one of the same type and rating (e.g., T3.15AL 250V for 230V input, T6.3AL 250V for 115V input).

7. Troubleshooting

Problem	Possible Cause	Solution
No power when turned on	AC power cord not connected; Power switch off; Blown fuse; Incorrect input voltage selection.	Check AC power cord connection; Ensure Power switch is ON; Replace fuse (see Maintenance); Verify input voltage selector switch setting.
No output voltage/current	Output disabled (OUT button); OCP activated; Short circuit in load.	Press OUT button to enable output; Check OCP status and clear fault; Inspect load for short circuits.
Voltage/Current cannot be adjusted	Function Lock is active.	Press the Function Lock Button to unlock the panel.
Unit overheats	Blocked ventilation; Prolonged high load operation.	Ensure vents are clear; Reduce load or operate in a cooler environment.

8. Specifications

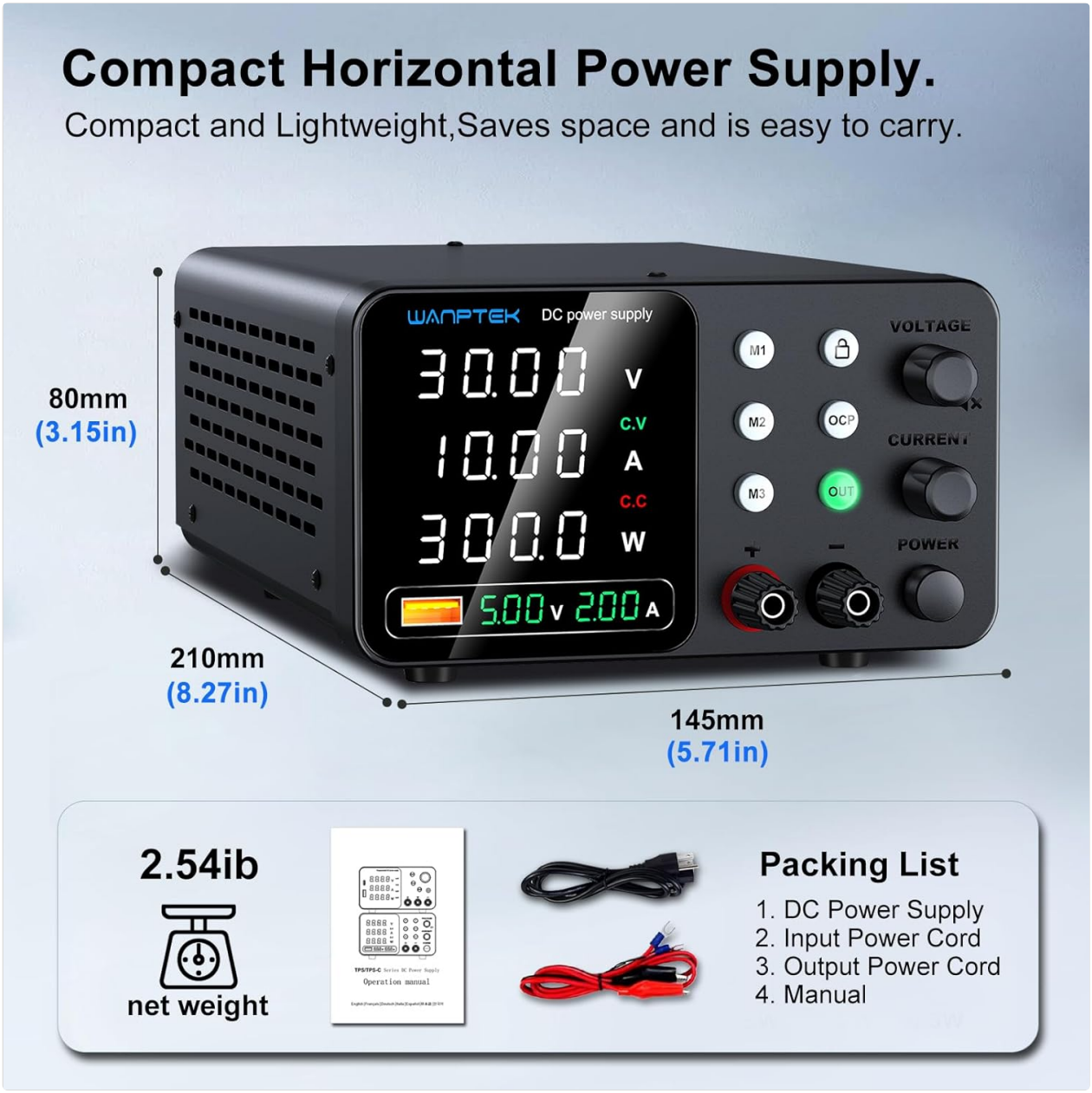

Image: Dimensions of the TPS-C3010H power supply, highlighting its compact and horizontal design.

- **Model:** TPS-C3010H
- **Output Voltage:** 0-30V DC (Adjustable)
- **Output Current:** 0-10A DC (Adjustable)
- **Output Power:** 300W
- **Input Voltage:** AC 115V/230V ±10% (Switchable)
- **Display:** 4-Digit LED (Voltage, Current, Power)
- **USB Fast Charging Port:** 18W (with real-time display)
- **Protection Features:** Over Current Protection (OCP), Output Enable/Disable, Locking Key
- **Dimensions (L x W x H):** 210 x 145 x 80 mm (8.27 x 5.71 x 3.15 inches)
- **Weight:** Approximately 1.2 kg (2.65 lbs)

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9. Package Contents

The following items are included in your package:

- 1 x WANPTEK POWER DC Power Supply (TPS-C3010H)
- 1 x Output Test Line (Alligator Clips)
- 1 x AC Power Cord
- 1 x User Manual

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10. Warranty and Support

WANPTEK POWER products are designed for reliability and performance. For warranty information or technical support, please refer to the contact details provided with your purchase documentation or visit the official WANPTEK POWER website. Please have your model number (TPS-C3010H) and purchase date available when contacting support.