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Walfront WZ5005

Walfront WZ5005 DC Regulated Power Supply User Manual

Model: WZ5005

1. INTRODUCTION

This manual provides detailed instructions for the safe and efficient operation of your Walfront WZ5005 DC Regulated Power Supply. The WZ5005 is a high-precision, high-power DC power supply module featuring a 1.8-inch high-definition color LCD with a 4-digit display. It offers constant voltage and constant current output, along with comprehensive protection functions.

Key features include:

- High-definition 1.8-inch color LCD with 4-digit display.
- Support for PC upper computer and Android APP for remote control (requires optional modules).
- Constant Voltage (CV) and Constant Current (CC) output modes.
- Over-voltage (OVP), over-current (OCP), over-temperature (OTP), and under-voltage (LVP) protection.
- Convenient data storage and key lock function to prevent accidental operation.



Figure 1.1: The Walfront WZ5005 DC Regulated Power Supply unit and included clip lines.

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 damage to the product.

- **Power Source:** This unit is a DC-DC converter and requires an external DC power source (input voltage range DC 6-55V) to operate. It is not a standalone power supply. Ensure the external power source meets the required specifications.
- **Ventilation:** Ensure adequate ventilation around the unit to prevent overheating. Do not block ventilation openings.
- **Environment:** Operate the device in a dry environment, away from moisture, dust, and corrosive gases. The normal working temperature range is -10°C to 40°C.
- **Connections:** Always ensure all connections are secure and correct before applying power. Incorrect wiring can cause damage to the unit or connected devices.
- **Output Limits:** Do not exceed the maximum output voltage (50V), current (5A), or power (250W) ratings of the device.
- **Servicing:** Do not attempt to open or service the unit yourself. Refer all servicing to qualified personnel.

- **Children:** Keep the device out of reach of children.

3. PRODUCT OVERVIEW

The Walfront WZ5005 features a clear LCD display and intuitive controls for easy operation.

3.1 Display Indicators



Figure 3.1: Detailed view of the WZ5005 LCD display, showing various output parameters, settings, and status indicators.

- **Output Voltage:** Displays the current output voltage.
- **Output Current:** Displays the current output current.
- **Output Power:** Displays the current output power.
- **Output Voltage Setting (V-SET):** Indicates the set output voltage.
- **Output Current Setting (I-SET):** Indicates the set output current.
- **Output Overvoltage Protection (OVP):** Indicates the set overvoltage protection limit.
- **Output Overcurrent Protection (OCP):** Indicates the set overcurrent protection limit.
- **Data Storage (M0-M4):** Indicates the currently selected data storage group.
- **Constant Voltage (CV) / Constant Current (CC) State:** Shows the current operating mode.

- **Communication Interface and Status (COM):** Indicates communication status with external modules.
- **Abnormal Status Indication:** Alerts for errors or protection activations.
- **Key Lock Status Indication:** Shows if the keys are locked.
- **Output Capacity, Output Energy, Statistics Time, Input Voltage (VN):** Additional parameters displayed on a secondary screen.

3.2 Control Panel

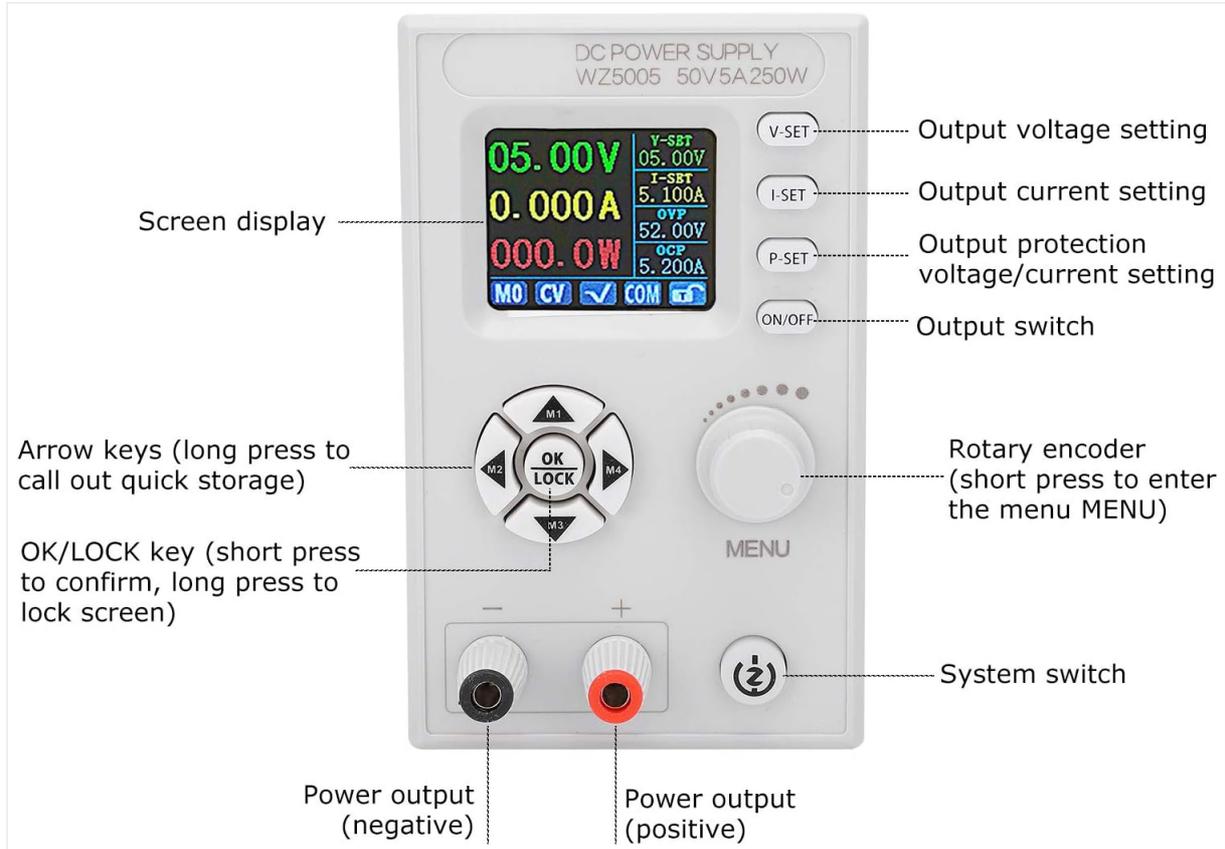


Figure 3.2: The control panel of the WZ5005, highlighting the buttons, rotary encoder, and output terminals.

- **V-SET Button:** Used to set the output voltage.
- **I-SET Button:** Used to set the output current.
- **P-SET Button:** Used to set protection parameters (OVP/OCP).
- **ON/OFF Button:** Toggles the output power on or off.
- **Arrow Keys (M1-M4):** Used for navigation and quick recall of stored data (long press).
- **OK/LOCK Key:** Short press to confirm selections, long press to lock/unlock the screen.
- **Rotary Encoder (MENU):** Short press to enter the menu, rotate to adjust values.
- **System Switch:** Power switch for the unit.
- **Power Output Terminals:** Negative (-) and Positive (+) terminals for connecting the load.

4. SETUP

The WZ5005 is a DC-DC regulated power supply module and requires an external DC power source for operation.

1. **Prepare External Power Source:** Obtain a suitable DC power source with an output voltage between 6V and 55V. Ensure its current capacity is sufficient for your intended application (e.g., 48V-

10A for higher power output).

2. **Connect Input Power:** Connect the positive (+) terminal of your external DC power source to the input positive terminal of the WZ5005, and the negative (-) terminal of your external DC power source to the input negative terminal of the WZ5005. Ensure polarity is correct.
3. **Connect Load:** Connect your device or load to the output terminals of the WZ5005. The red terminal is positive (+), and the black terminal is negative (-). Use the provided clip lines or appropriate cables.
4. **Power On:** Turn on the system switch on the WZ5005 unit. The LCD display should illuminate.



Figure 4.1: Example of the WZ5005 connected to a load using the provided clip lines.

5. OPERATING INSTRUCTIONS

5.1 Setting Output Voltage and Current

1. **Set Voltage:** Press the **V-SET** button. The voltage setting value on the display will blink. Rotate the **Rotary Encoder** to adjust the desired voltage. Press **OK/LOCK** to confirm.
2. **Set Current:** Press the **I-SET** button. The current setting value on the display will blink. Rotate the **Rotary Encoder** to adjust the desired current limit. Press **OK/LOCK** to confirm.
3. **Enable Output:** After setting the desired voltage and current, press the **ON/OFF** button to enable the output. The display will show the actual output voltage and current.

5.2 Setting Protection Parameters (OVP/OCP)

The WZ5005 includes Over-Voltage Protection (OVP) and Over-Current Protection (OCP) to safeguard your devices.

1. Press the **P-SET** button. The OVP value will blink. Rotate the **Rotary Encoder** to set the desired OVP limit. Press **OK/LOCK** to confirm and move to OCP setting.
2. The OCP value will blink. Rotate the **Rotary Encoder** to set the desired OCP limit. Press **OK/LOCK** to confirm.
3. Over-Temperature Protection (OTP) and Under-Voltage Protection (LVP) are built-in and automatically activated if conditions exceed predefined thresholds.

5.3 Data Storage and Recall

The unit allows you to store and recall up to four sets of voltage, current, and protection settings.

- **Store Settings:** Set your desired voltage, current, OVP, and OCP. Long press one of the **M1-M4** arrow keys until the display indicates the settings are saved to that memory location.
- **Recall Settings:** Short press one of the **M1-M4** arrow keys to recall the stored settings from that memory location.

5.4 Key Lock Function

To prevent accidental changes to settings, you can lock the control panel.

- **Lock:** Long press the **OK/LOCK** button. A lock icon will appear on the display.
- **Unlock:** Long press the **OK/LOCK** button again. The lock icon will disappear.

5.5 Remote Connection (Optional)

The WZ5005 supports remote control via a PC or Android APP with optional communication modules.

- **USB to TTL Module (U2T):** For PC connection.
- **RS485 to TTL Module (T485):** For industrial control or longer distance communication.

Refer to the specific instructions provided with these optional modules for setup and software usage.

6. MAINTENANCE

- **Cleaning:** Disconnect power before cleaning. Use a soft, dry cloth to wipe the unit. Do not use abrasive cleaners or solvents.
- **Storage:** When not in use for extended periods, store the unit in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Inspection:** Periodically inspect the cables and connections for any signs of damage or wear.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Unit does not power on.	No input power; input power outside 6-55V range; system switch off.	Ensure external DC power source is connected and supplying power within the specified range. Check the system switch.

Problem	Possible Cause	Solution
No output voltage/current.	Output is disabled; OVP/OCP/OTP/LVP triggered; incorrect settings.	Press the ON/OFF button to enable output. Check for protection warnings on the display. Verify voltage and current settings.
Output voltage/current is unstable.	Poor input power quality; loose connections; load issues.	Ensure stable input power. Check all connections. Verify the load is not drawing excessive current or causing instability.
Display is locked.	Key lock function is active.	Long press the OK/LOCK button to unlock the screen.

8. SPECIFICATIONS

The following table details the technical specifications of the Walfront WZ5005 DC Regulated Power Supply.

Parameter	Value
Product Model	WZ5005
Input Voltage Range	DC 6-55V
Output Voltage Range	DC 0-50V
Output Current Range	0-5A
Output Power Range	0-250W
Display Screen	1.8 inch Color LCD
Output Voltage Accuracy	$\pm(0.3\%+3 \text{ digits})$
Typical Output Ripple	150mV peak-to-peak
Statistical Time Range	0-100 hours (unit S)
Capacity Measurement Range	0-9999.99AH
Screen Brightness	0-6 total 7 levels
Input Voltage Resolution	0.01V
Output Voltage Resolution	0.01V
Output Current Resolution	0.001A
Input Voltage Accuracy	$\pm(1\%+5 \text{ digits})$
Output Current Accuracy	$\pm(0.5\%+5 \text{ digits})$
Normal Working Temperature Range	-10°C to 40°C
Energy Measurement Range	0-9999.99WH
Capacity Energy Statistical Error	$\pm 2\%$
Buck Working Mode Pressure Difference	$>0.05\%+1V$

Parameter	Value
Product Size (H x W x H)	Approx. 120 x 74 x 35mm / 4.7 x 2.9 x 1.4inch
Item Weight	Approx. 337 Grams / 11.9 ounces
Material	ABS (Flame Retardant)

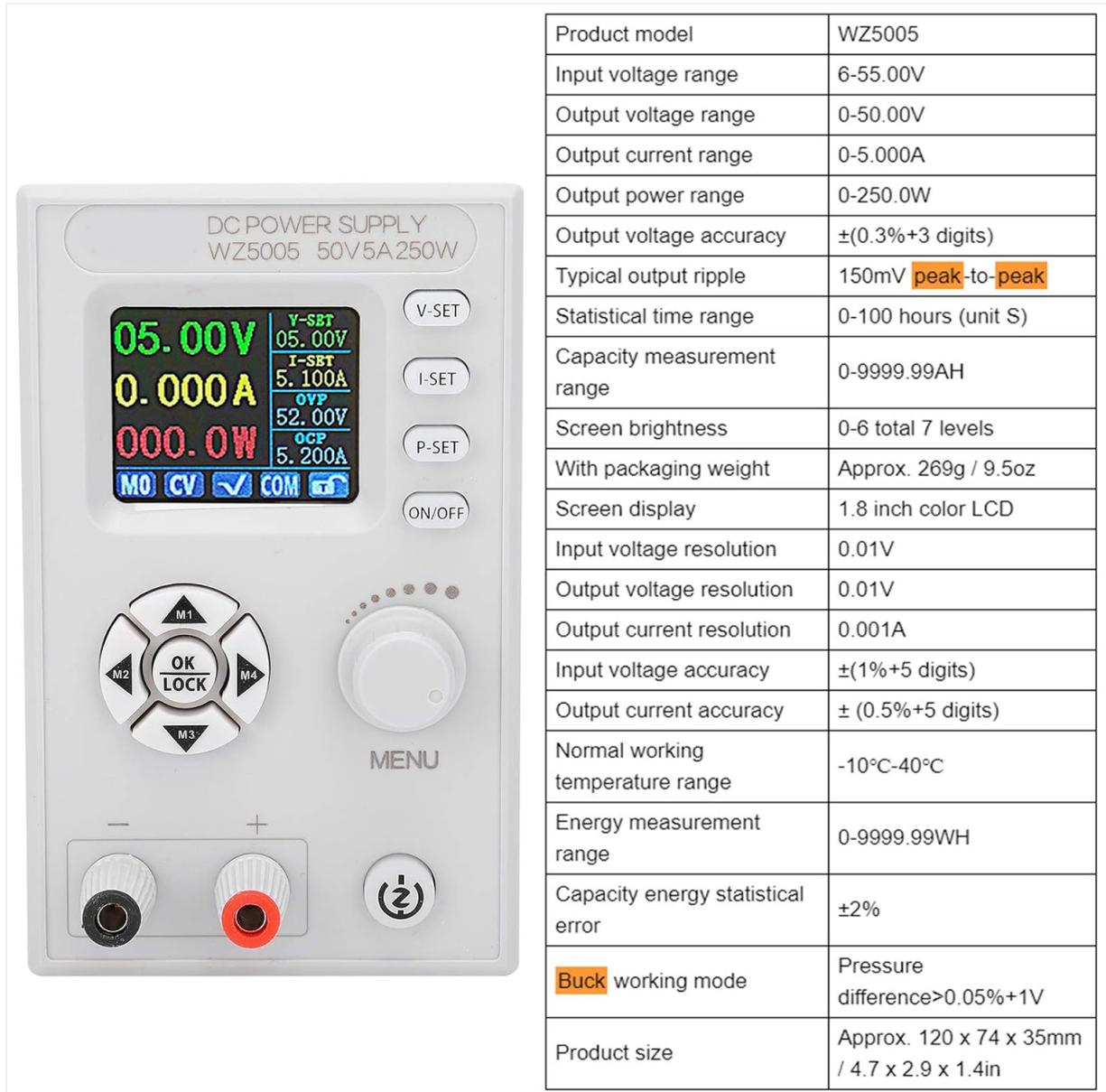


Figure 8.1: Visual representation of the WZ5005 specifications.

9. WARRANTY AND SUPPORT

For warranty information or technical support regarding your Walfront WZ5005 DC Regulated Power Supply, please contact Walfront customer service. Keep your purchase receipt as proof of purchase. You can often find contact details on the Walfront official website or through your point of purchase.

Related Documents - WZ5005

	<p>WUZHI WZ5005 DC Power Supply User Manual</p> <p>Comprehensive user manual for the WUZHI WZ5005 50V 5A 250W DC stabilized voltage power supply, detailing operation, settings, connectivity, and technical specifications.</p>
	<p>// - Interface //</p>