OWH65 Series
Single-Channel High-Power Programmable DC Power Supply
Quick Guide

- **OWH6522**
- **OWH6546**
- **OWH6546A**

For product support, visit:www.owon.com.hk/download

※：The illustrations, interface, icons and characters in the user manual may be slightly different from the actual product. Please refer to the actual product.

General Warranty

We warrant that the product will be free from defects in materials and workmanship for a period of 2 years from the date of purchase of the product by the original purchaser from our company. The warranty period for accessories such as probes, battery is 12 months. This warranty only applies to the original purchaser and is not transferable to a third party.

If the product proves defective during the warranty period, we will either repair the defective product without charge for parts and labour, or will provide a replacement in exchange for the defective product. Parts, modules and replacement products used by our company for warranty work may be new or reconditioned like new. All replaced parts, modules and products become the property of our company.

In order to obtain service under this warranty, the customer must notify our company of the defect before the expiration of the warranty period. Customer shall be responsible for packaging and shipping the defective product to the designated service centre, a copy of the customers proof of purchase is also required.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. We shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than our company representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of not our supplies; or d) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

Please contact the nearest Sales and Service Offices for services.

Excepting the after-sales services provided in this summary or the applicable warranty statements, we will not offer any guarantee for maintenance definitely declared or hinted, including but not limited to the implied guarantee for marketability and special-purpose acceptability. We should not take any responsibilities for any indirect, special or consequent damages.

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1. General Safety Requirement

Before any operations, please read the following safety precautions to avoid any possible bodily injury and prevent this product or any other products connected from damage. In order to avoid any contingent danger, this product is only used within the range specified.

Only the qualified technicians can implement the maintenance.

To avoid Fire or Personal Injury:

Use Proper Power Cord. Use only the power cord supplied with the product and certified to use in your country.

Product Grounded. This instrument is grounded through the power cord grounding conductor. To avoid electric shock, the grounding conductor must be grounded. The product must be grounded properly before any connection with its input or output terminal.

Limit operation to the specified measurement category, voltage, or amperage ratings.

Check all Terminal Ratings. To avoid fire or shock hazard, check all ratings and markers on the instrument. Refer to the user's manual for more information about ratings before connecting the instrument. Do not exceed any of ratings defined in the following section.

Do not operate without covers. Do not operate the instrument with covers or panels removed.

Use Proper Fuse. Use only the specified type and rating fuse for this instrument.

Avoid exposed circuit. Do not touch exposed junctions and components when the instrument is powered.

Do not operate if in any doubt. If you suspect damage occurs to the instrument, have it inspected by qualified service personnel before further operations.

Use your instrument in a well-ventilated area. Inadequate ventilation may cause an increasing of temperature or damages to the instrument. Please keep the instrument well ventilated, and inspect the air outlet and the fan regularly.

Do not operate in wet conditions. To avoid short circuit inside the instrument or electric shock, never operate the instrument in a humid

environment.

Do not operate in an explosive atmosphere. In order to avoid damages to the device or personal injuries, it is important to operate the device away from an explosive atmosphere.

Keep instrument surfaces clean and dry. To avoid the influence of dust or moisture in air, please keep the surface of device clean and dry.

2. Safety Terms and Symbols

Safety Terms

Terms in this Manual. The following terms may appear in this manual:

⚠ **Warning:** Warning indicates the conditions or practices that could result in injury or loss of life.

⚠ **Caution:** Caution indicates the conditions or practices that could result in damage to this product or other property.

Terms on the Product. The following terms may appear on this product:

Danger: It indicates an injury or hazard may immediately happen.

Warning: It indicates an injury or hazard may be accessible potentially.

Caution: It indicates a potential damage to the instrument or other property might occur.

Safety Symbols

Symbols on the Product. The following symbol may appear on the product:

⚡	Hazardous Voltage	⚠	Refer to Manual
⏚	Protective Earth Terminal	⏚	Chassis Ground
⏚	Public Ground		

3. Quick Start

3.1 Panel and User Interface

3.1.1 Front Panel

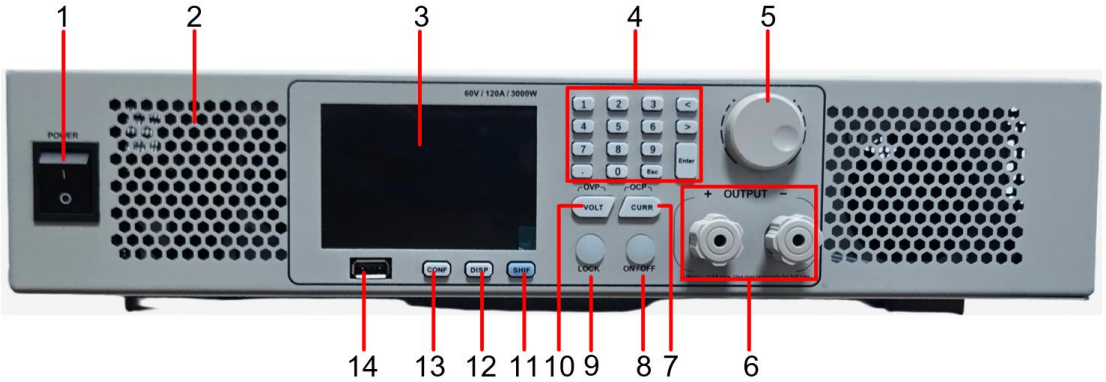


Figure 3- 1 6522 Series Front Panel Overview

1	**Power button**	Turn on/off instrument.
2	**Fan**	Do not block the outlet of the fan, otherwise the internal heat dissipation of the machine will lead to excessive internal temperature.
3	**Display screen**	TFT color screen display, output Settings and measurement results.
4	**0-9 and. Esc < > Enter**	Number and dot key:input number; Esc key: return to the previous page. < > Cursor movement key: Use to move the cursor left and right to the desired parameter position. Enter: Confirm parameter setting.
5	**Knob**	User can turn the knob to enter programming information or options. When a U flash drive is inserted, press and hold the knob for 3 seconds to save the current display interface in the U flash drive as a screenshot.
6	**DC source output terminal**	The output connection of the DC source.

7	**CURR**	Current setting button: When the user presses this button, the user enters the current setting mode; At this time, the user can use the numeric button or knob to input the set current value. In LIST mode, this button is used as a manual trigger button.
8	**ON/OFF**	Control output status: ON or OFF.
9	**LOCK**	Lock all keys and knobs; Cancel method: Press and hold the LOCK key to cancel the setting.
10	**VOLT**	Voltage setting button: When the user presses this button, the user enters the voltage setting mode; At this time, the user can use the digital button or knob to input the set voltage value. In LIST mode, this button is used as a manual trigger button.
11	**SHIF**	Multiplex function keys.
12	**DISP**	Toggle output digital display and waveform display.
13	**CONF**	Turn the interface to the configure page to set various functions.
14	**USB**	USB data interface.

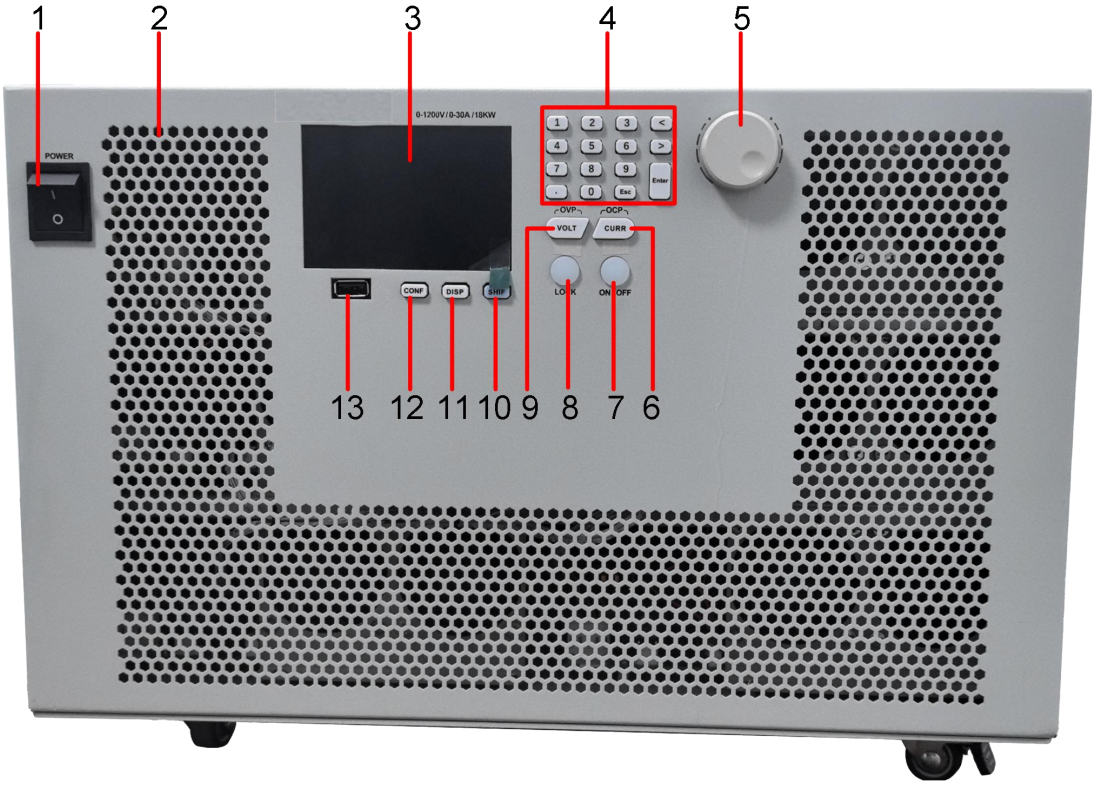


Figure 3- 2 6546 Series Front Panel Overview

1	**Power button**	Turn on/off instrument.
2	**Fan**	Do not block the outlet of the fan, otherwise the internal heat dissipation of the machine will lead to excessive internal temperature.
3	**Display screen**	TFT color screen display, output Settings and measurement results.
4	**0-9 and. Esc < > Enter**	Number and dot key:input number; Esc key: return to the previous page. < > Cursor movement key: Use to move the cursor left and right to the desired parameter position. Enter: Confirm parameter setting.
5	**Knob**	User can turn the knob to enter programming information or options. When a U flash drive is inserted, press and hold the knob for 3 seconds to save the current display interface in the U flash drive as a screenshot.

6	**CURR**	Current setting button: When the user presses this button, the user enters the current setting mode; At this time, the user can use the numeric button or knob to input the set current value. In LIST mode, this button is used as a manual trigger button.
7	**ON/OFF**	Control output status: ON or OFF.
8	**LOCK**	Lock all keys and knobs; Cancel method: Press and hold the LOCK key to cancel the setting.
9	**VOLT**	Voltage setting button: When the user presses this button, the user enters the voltage setting mode; At this time, the user can use the digital button or knob to input the set voltage value. In LIST mode, this button is used as a manual trigger button.
10	**SHIF**	Multiplex function keys.
11	**DISP**	Toggle output digital display and waveform display.
12	**CONF**	Turn the interface to the configure page to set various functions.
13	**USB**	USB data interface.

Key Indicator Light Description

On/Off :Press this button and the button light lights up.

3.1.2 Rear Panel

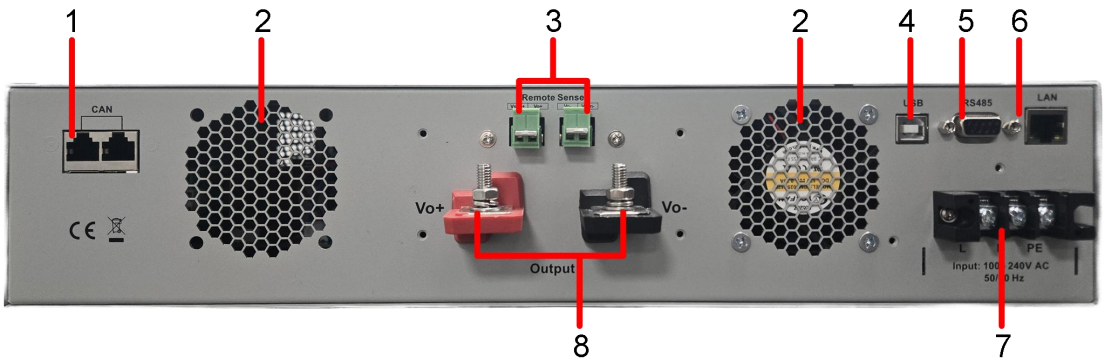


Figure 3- 3 6522 Series Rear Panel Overview

1	**CAN interface**	Multiple parallel machines CAN be made through the

		CAN port.
2	**Fan**	Do not block the outlet of the fan, otherwise the internal heat dissipation of the machine will lead to excessive internal temperature.
3	**Remote compensation**	This sampling connection terminal is connected to the load terminal and can compensate for the voltage drop on the line. Please confirm that Vsen+ is connected to output +, Vsen- is connected to output-, please do not connect reversely or float.
4	**USB Terminal**	The computer can be connected through the USB serial port.
5	**RS485 interface**	The computer can be connected through the RS485 port.
6	**LAN interface**	Ethernet remote communication controller can be connected to a computer through this interface for remote operation.
7	**AC Power connection terminal**	Power cord input AC power, from this connection terminal to the input terminal.
8	**DC output terminal**	DC power output terminal.

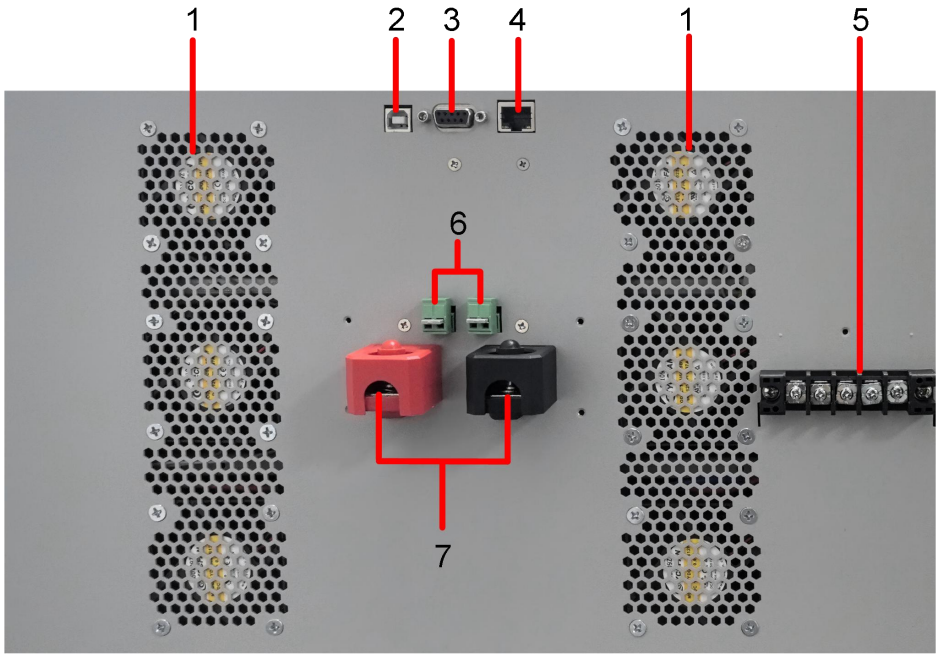


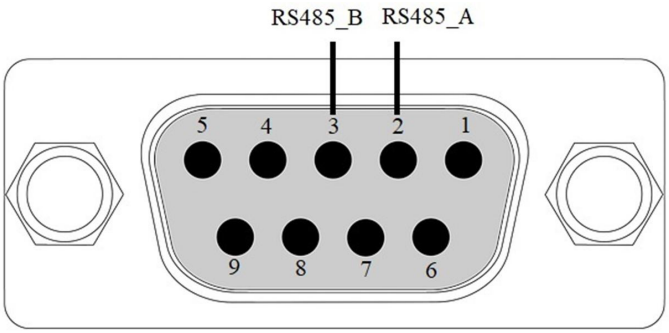
Figure 3-4 6546 Series Rear Panel Overview

1	**Fan**	Do not block the outlet of the fan, otherwise the internal heat dissipation of the machine will lead to excessive internal temperature.

2	**USB Terminal**	The computer can be connected through the USB serial port.
3	**RS485 interface**	The computer can be connected through the RS485 port.
4	**LAN interface**	Ethernet remote communication controller can be connected to a computer through this interface for remote operation.
5	**AC Power connection terminal**	Power cord input AC power, from this connection terminal to the input terminal.
6	**Remote compensation**	This sampling connection terminal is connected to the load terminal and can compensate for the voltage drop on the line. Please confirm that Vsen+ is connected to output +, Vsen- is connected to output-, please do not connect reversely or float.
7	**DC output terminal**	DC power output terminal.

RS485 is DB9 terminal block:

Foot position	Function Definition
Pin 2	RS485_A
Pin3	RS485_B
Pin1,4,5,6,7,8,9	NC



3.1.3 User Interface

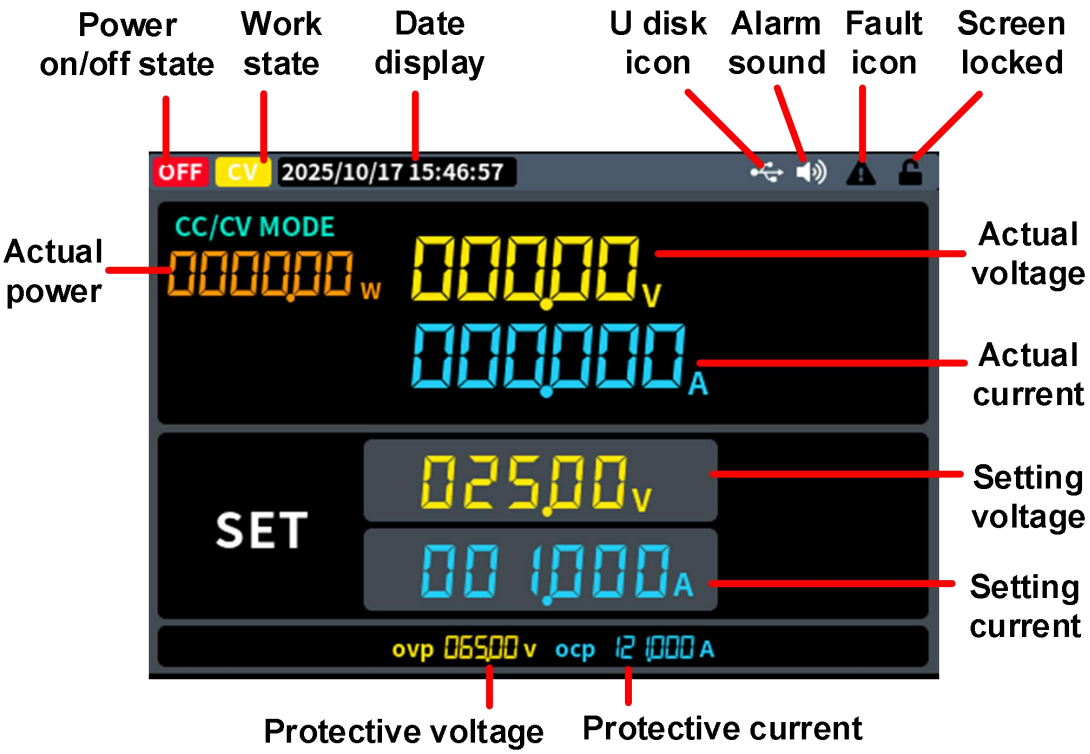


Figure 3- 5 User interface

Status Icon

Icon	Description
	The USB port of the panel is connected to storage media such as U disk
	Alarm sound is on
	Alarm mark: red-fault; Grey-Normal
	Panel keys are locked

- In CC/CV or LIST working mode, you can switch to the waveform display interface by pressing the **DISP** button.

3.2 General Inspection

After you get a new DC power supply, it is recommended that you should make a check on the instrument according to the following steps:

1. **Check whether there is any damage caused by transportation.**

   If it is found that the packaging carton or the foamed plastic protection cushion has suffered serious damage, do not throw it away first till the complete device and its accessories succeed in the electrical and mechanical property tests.

2. **Check the Accessories.**

   The supplied accessories have been already described in Appendix A: Accessories of this manual. You can check whether there is any loss of accessories with reference to this description. If it is found that there is any accessory lost or damaged, please get in touch with our distributor responsible for this service or our local offices.

3. **Check the Complete Instrument.**

   If it is found that there is damage on the first appearance of the instrument, or the instrument cannot work normally, or fails in the performance test, please get in touch with our distributor responsible for this business or our local offices. If there is damage to the instrument caused by the transportation, please keep the package. With the transportation department or our distributor responsible for this business informed about it, a repairing or replacement of the instrument will be arranged by us.

3.3 Power-on Inspection

(1) Connect the instrument to an AC power source using the power cord supplied with the accessory.

> ⚠ **Warning:**To prevent electric shock, make sure the instrument is properly grounded.

(2) 6522 series adopts single-phase input, with terminals for AC live wire, neutral wire and ground wire. The input voltage range is 100~240Vac. When the input voltage is lower than 200Vac, the power module will limit output power, and the input current shall not exceed 18.5A (5% tolerance). Do not operate beyond the rated power of the module during use; otherwise, the unit may activate internal protection due to output overload.

(3) 6546 series features three-phase input with terminals for three-phase AC L1, L2, L3, neutral wire and ground wire, and there is no phase sequence requirement. The rated input voltage range is 380Vac ±10%. If the input voltage falls below this range, the module will trigger AC input undervoltage protection.

(4) Press the **power button** on the front panel and the startup screen will be displayed on the screen.

3.4 Output Inspection

The output check ensures that the instrument reaches the rated output value and can perform the front panel operation correctly. For some operations, see "Turn on/off Channel Output" and "Output Voltage/Current Setting" on page 15.

3.4.1 Voltage Output Inspection

The following steps verify basic voltage functions without load:

(1) When the instrument is under no load, select a channel and ensure the output current setting for this channel is not at zero.

(2) Turn on the channel output, then ensure the channel is in Constant Voltage output mode.

(3) Set some different voltage values on this channel; check if the actual voltage value displayed is close to the set voltage value, and also that the actual current value displayed is nearly to zero.

(4) Check if the output voltage can be adjusted from zero to the maximum

rating.

3.4.2 Current Output Inspection

The following steps check basic current functions to directly short the output two terminals:

(1) Starting up.

(2) Connect a short across (+) and (-) output terminals with an insulated test lead on this channel. Use a wire size sufficient to handle the maximum current.

(3) Set the output voltage to the maximum rating on this channel.

(4) Turn on the channel output. Ensure the channel you used is in Constant Current output mode.

(5) Set some different current values on this channel; check if the actual current value displayed is close to the set current value, and to check if the actual voltage value displayed is nearly zero.

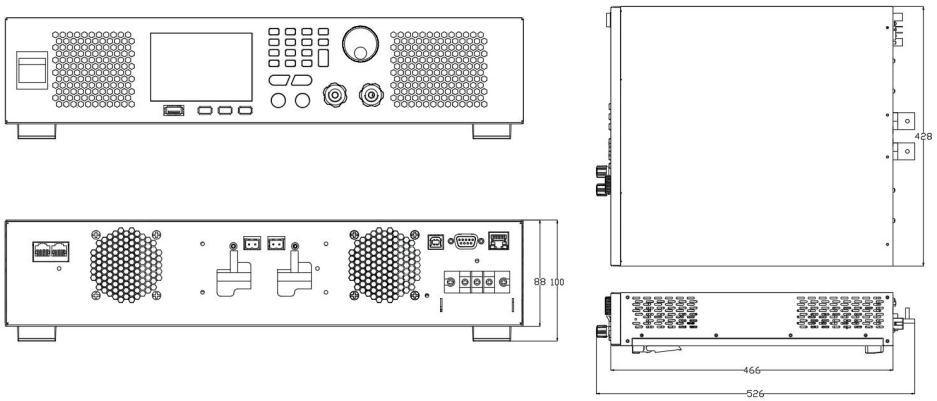
(6) Check that if the output current can be adjusted from zero to the maximum rating.

(7) Turn off the channel output and remove the short circuit from the output terminals.

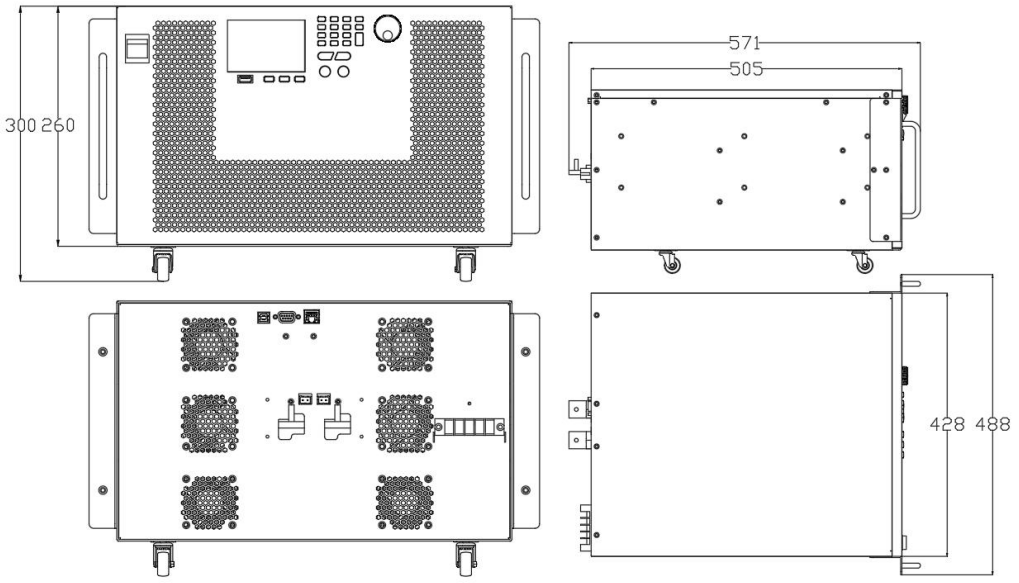
3.5 Instrument Dimension Introduction

This series of instruments needs to be installed in a space with good ventilation and reasonable size. Please select the appropriate space for installation according to the following instrument size introduction.
Detailed structural dimension data are as follows (unit: mm).

6522 series model size chart:



6546 series model size chart:


300 260
571
505
428 488

4. Panel Operation

4.1 Turn on/off Channel Output

Press the **ON/OFF** key to turn on/off the channel. When the **ON/OFF** key is bright, the output is turned ON; when the **ON/OFF** key light is off, the output is turned off. When the power is turned on, the panel defaults to the main interface to display the current state.

Description:

After the power supply is connected with the object to be tested, press the **ON/OFF** key to open the output to avoid the possible ignition phenomenon. If there is no power output after the output is turned on, please check the voltage and current setting value, please set the voltage and current is according the setting values and not 0 value,and then turn on the output.

4.2 Local/remote mode Operation Switch

The power supply provides both local and remote operation mode, and the two modes can be switched by communication commands. In power initialization mode, the machine is operated locally by default.

- Local operation mode: Use the keys on the panel to perform relevant operations.
- Remote operation mode: The power supply is connected to the PC, and the PC performs relevant operations on the power supply. When the power is in remote mode, all the buttons in the panel do not work except for the LOCK key. You can switch to local operation mode by press and hold **LOCK** key. When the operation mode is changed, it will not affect the output parameters of the power supply.

4.3 Output Voltage/Current Setting

4.3.1 Set the output voltage/current

Set the output voltage (CV MODE), there are the following two setting methods.

Method 1:

1. Press **VOLT** key, at this time, the voltage number of the user interface will display cursor.
2. Use the numeric **0-9** softkey to set desired voltage. Press **Enter** key to save voltage setting, or turn the **knob** to adjust directly to the set value.
3. Press **ON/OFF** key to output the setting voltage.

Method 2:

1. Press **VOLT** , at this time, the voltage number of the user interface will display cursor.
2. Use the left and right direction function keys to move the cursor to different bits, and turn the **knob** to increase or decrease the value.
3. Press **ON/OFF** key to output the setting voltage.

Note: The current setting must be greater than the load current to maintain the output in CV mode, otherwise the output voltage may not be equal to the set voltage.

Current (CC MODE) is set as follows:

Press the **CURR** key to set the rest in the same way as the voltage setting. Note that the voltage setting must be greater than the load voltage to maintain the output in CC mode, otherwise the output current will not be equal to the set current.

Note: When the input value is outside the rated range, set it according to the maximum limit or minimum limit.

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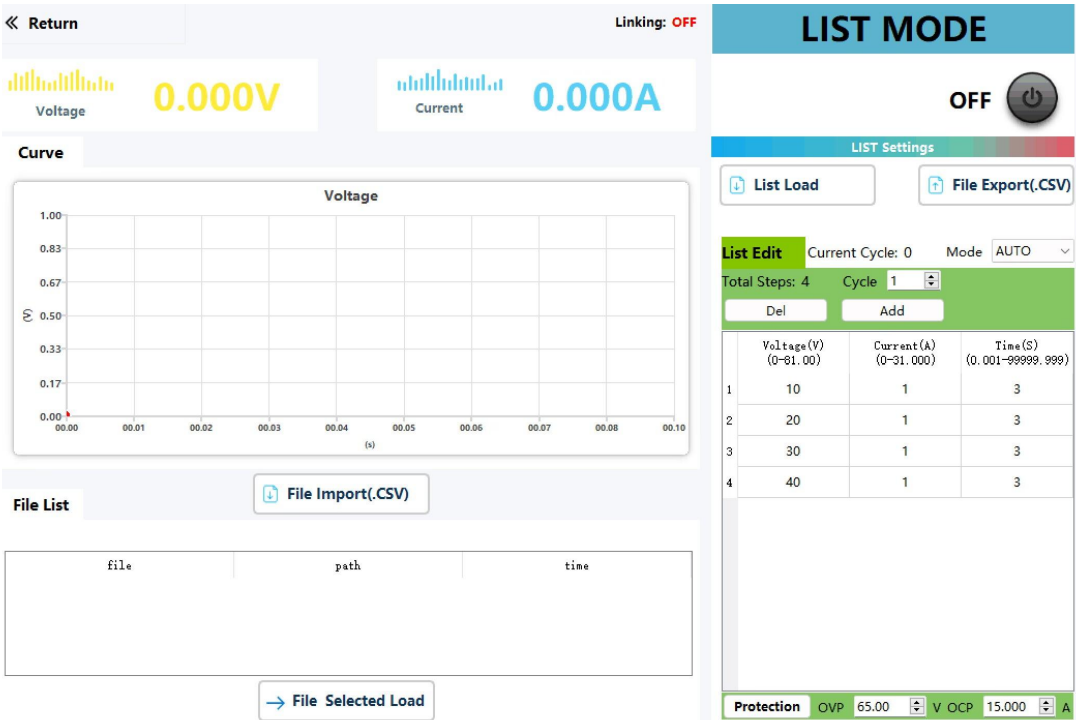
5. Host Computer Introduction

1. Please go to the official website or contact the local distributor or our sales specialist to download or ask for the software.

2. Connect the host computer by connecting the USB CDC/LAN port on the back panel. After the instrument is successfully connected, enter the mode setting to remotely operate the instrument.



6. Troubleshooting

1. The instrument is powered on but no Display.

- Check if the power is connected properly.
- Check if the fuse which is below the AC Power socket is used appropriately and in good condition (the cover can be pried open with a straight screwdriver).
- Restart the instrument after the steps above.
- If the problem still exists, please contact us for our service.

2. The output is abnormal:

- Check if the output voltage is set to 0V. If so, set it to other value.
- Check if the output current is set to 0A. If so, set it to other value.
- When in programmable output status, check if there is any voltage/current value is set to 0. If so, set it to other value.
- If the problem still exists, please contact us for our service.

7. Appendix

7.1 Appendix A: Accessories

(The accessories subject to final delivery.)
Note: Due to differences in models, the accessories included may vary. Please refer to the actual items received.

Standard accessories:

Power cord

Quick Guide

USB cable

AC terminal protective cover

DC terminal protective cover

Voltage remote sense terminals

Optional accessories:

Banana head to crocodile clip cable

L-shaped fixed bracket

7.2 Appendix B: General Care and Cleaning

General Care

Do not store or leave the instrument where the liquid crystal display could be exposed to direct sunlight for long periods of time.

Caution: To avoid any damage to the instrument, do not exposed it to any

sprays, liquids, or solvents.

Cleaning

Inspect the instrument as often as operating conditions require. To clean the instrument exterior, perform the following steps:

1. Wipe the dust from the instrument surface with a soft cloth. Take care not to scratch the transparent LCD protection screen when cleaning.

2. Disconnect power before cleaning your instrument. Clean the instrument with a damp soft cloth (not dripping with water). It is recommended to clean with soft detergent or fresh water. To avoid damage to the instrument, do not use any corrosive chemical cleaning agents.

⚠ **Warning:**

Before re-applying power, ensure that the instrument is completely dry, avoiding any electric shock or electrical short circuit resulting from moisture.

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