High Precision
Program Control
DC Power Supply Series

INSTRUCTION MANUAL

305DA/305DB/605DB/3010DB

English

Statement: The company reserves the right to improve and upgrade products, product specifications and design are subject to change without notice.

Thank you for choosing this type of DC power supply. Please read the user guide thoroughly before using, and keep it in a safe place for future reference.

I. Product Description

305DA / 305DB / 605DB / 3010DB DC power supply is designed for scientific research, product development, laboratories, universities, notebook and computer repair, and electronics production lines. Voltage and current is continuously adjustable within the nominal range of values. The power supply features high accuracy, high reliability, and an improved overload protection circuit, making it ideal for industrial use.

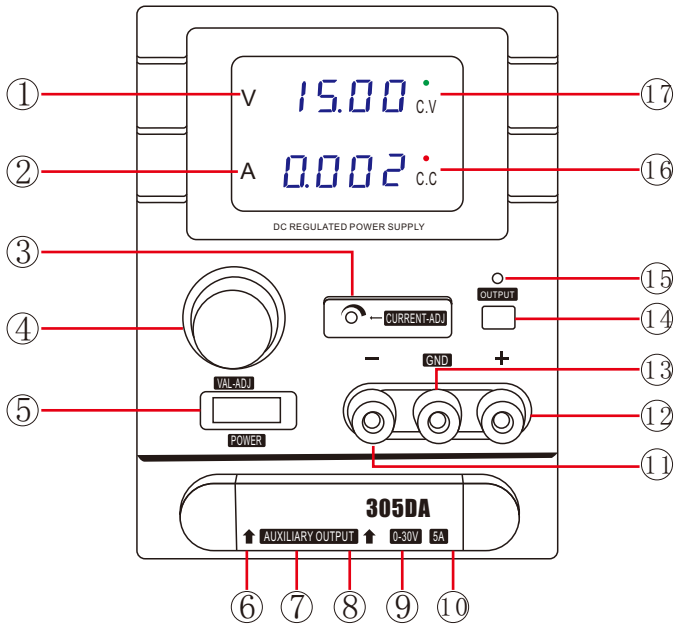
II. Specification

Rated operating conditions				
Voltage	AC110V / 220V ± 10% (as required), frequency is 50HZ / 60Hz			
Operating environment	Temperature: -10°C ~ 40°C	Relative humidity ⩽90%		
Storage environment	Temperature: -10°C ~ 40°C	Relative humidity ⩽80%		
Output				
Model	305DA	305DB	605DB	3010DB
Voltage	0~30V		0~60V	0~30V
Current	0~5A			0~10A
Power	150W		300W	
Types of protection	Over-current protection, over-voltage protection, over-temperature protection			
Load regulation				
Voltage	0.01%+3mV(I⩽3A)			
Current	0.01%+3mA			
Resolution				
Voltage	10mV			
Current	1mA (2mA rated current> 3A)			
Setting accuracy (25 ± 5°C)				
Voltage	⩽0.1%			
Current	≤0.2% (+ 10mA rated current > 3A)			
Ripple (20Hz-20MHz)				
Voltage ripple	⩽1mVrms （⩽2mVrms>3A)			
Current	⩽3mArms(⩽6mArms>3A)			

Temperature coefficient (0-40°C)	
Voltage	⩽300ppm+10mV
Current	⩽300ppm+10mA
Readout resolution	
Voltage	⩽300ppm+10mV
Current	⩽300ppm+10mA
Drift	
Voltage	⩽300ppm+10mV
Current	⩽300ppm+10mA
Interface	
RS-232 interface (optional)	USB interface (optional)

III. Description of Control Panel

305DA front panel indicators



① Setting / Actual voltage display

② Setting / Actual current display

③ Setting / Actual current adjustment

④ Setting / Actual voltage adjustment

⑤ Power switch

⑥ Auxiliary output 1+ (in parallel with the main output)

⑦ Auxiliary output 2+ (in parallel with the main output)

⑧ Auxiliary output ground connection

⑨ Auxiliary output 2- (in parallel with the main output)

⑩ Auxiliary output 1- (in parallel with the main output)

⑪ Main output -

⑫ Main output +

⑬ Main output ground connection

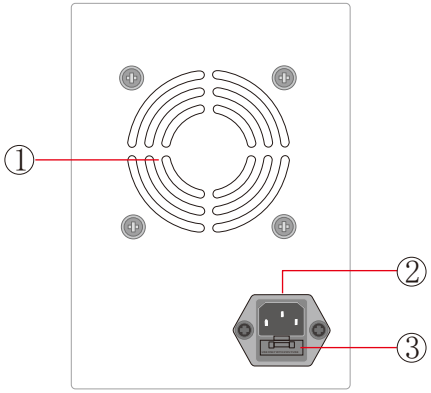
⑭ Setting / Output switch

⑮ Output indicator

⑯ Constant current indicator

⑰ Constant voltage indicator

305DA Back Panel Indicators



① Thermal windows

② Electric supply input

③ Fuse holder

305DA Operating Instructions

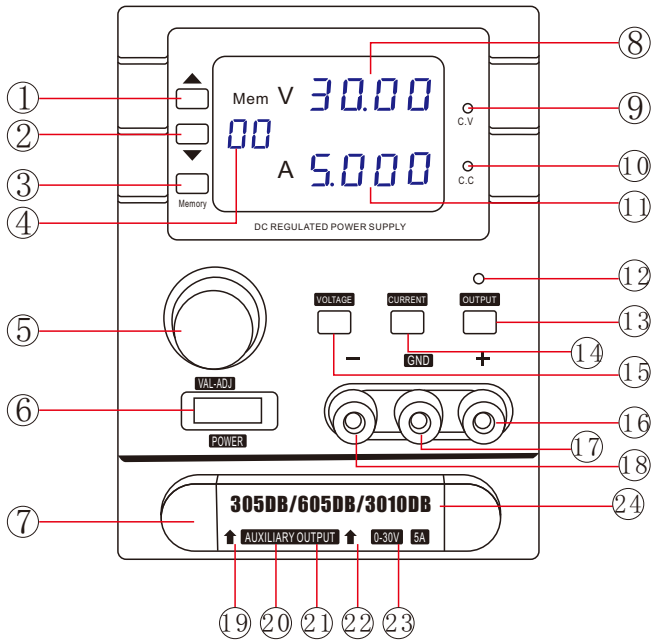
1. Switch on the power;
2. Adjust the voltage knob; the voltage display window will display the steady-state output voltage value;
3. Adjust the current knob; the current display window will display the steady-state output current value;
4. Press the output switching key to switch to output mode; the output indicator light will turn on;

5. Connect device to the main output; YH305DA will output the actual voltage and current based on the resistance of the device.

Other: The constant voltage light will be lit when the voltage enters a constant state; the constant current light will be lit when the current enters a constant state.

NOTE!
Set target values before switching to the operation state to ensure devices are not connected when the voltage and current is not known, as this may have unpredictable consequences.

305DB/605DB/3010DB Front Panel Indicators



① Storage groups choose increase

② Storage groups choose decrease

③ Storage / Recall button

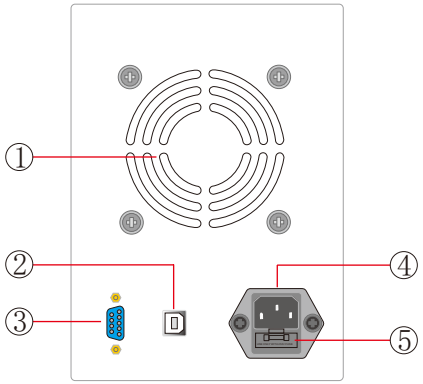
④ Display storage group

⑤ Encoder potentiometer

⑥ Power switch

⑦ Output junction box
⑧ Setting / Output voltage display
⑨ Constant voltage indicator
⑩ Constant current indicator
⑪ Output current setting display
⑫ Power output light
⑬ Output on / Output off
⑭ Current settings key
⑮ Voltage settings key
⑯ Main output +
⑰ Main output ground connection
⑱ Main output -
⑲ Auxiliary output 1+ (in parallel with the main output)
⑳ Auxiliary output 2+ (in parallel with the main output)
㉑ Auxiliary output ground connection
㉒ Auxiliary output 2- (in parallel with the main output)
㉓ Auxiliary output 1- (in parallel with the main output)
㉔ Product model

305DB / 605DB / 3010DB Back Panel Indicators

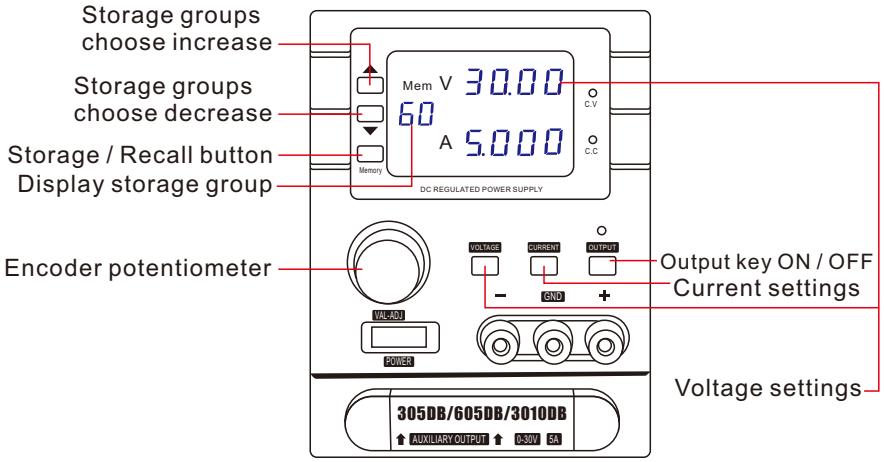


① Thermal windows
② USB port
③ 9-pin D-shaped port
④ Electric supply input
⑤ Fuse holder

IV. 305DB / 605DB / 3010DB Set up and Use

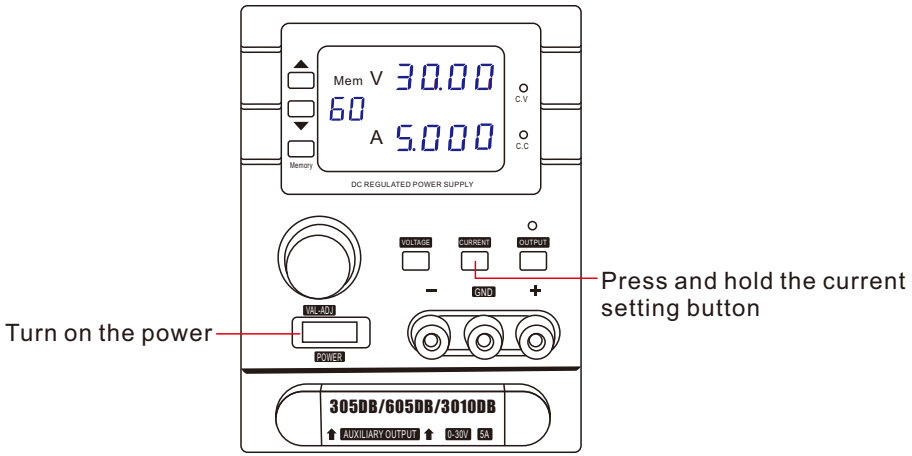
Process setting

Set current protection type
↓
Select a storage group (default 00)
↓
Confirm the set voltage
↓
Confirm the set current
↓
Press the output key ON / OFF
↓
Load



Selection Current Protection Type

The BD Series current protection is divided into two modes: steady-state current output and over-current shutdown. Modes are set as follows: Press and hold the current settings key, flip the power switch to on, and release the current settings key after “H” is displayed to enter steady-state current mode; release the current settings key after “C” is displayed to enter over-current shutdown mode; release the current settings key to automatically store the current protection type and enter normal operating mode. As shown below

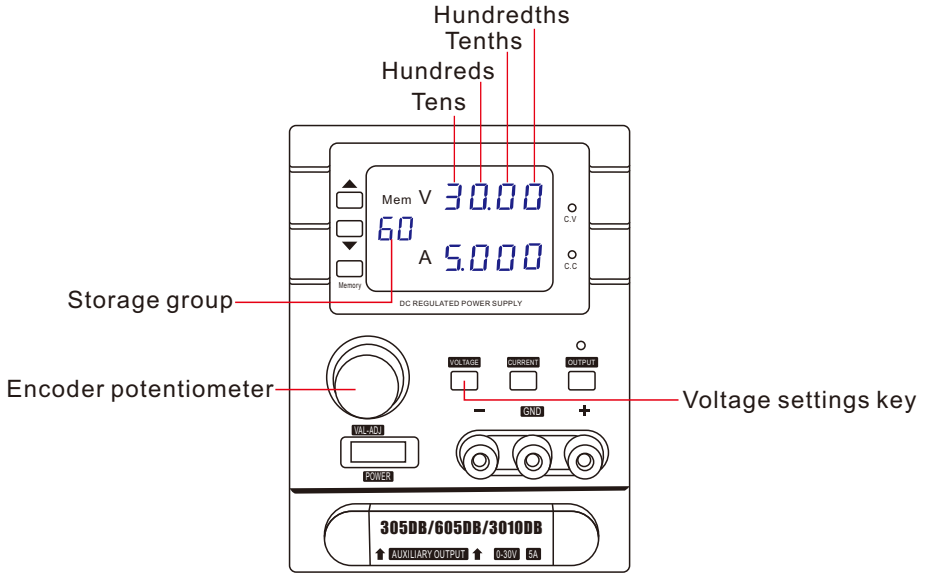


When current protection is set to steady-state current output, set the maximum power supply output to the set current value to protect the power supply device from damage resulting from under-current, and protect the load device from damage due to over-current.

When the current protection mode is set to over-current shutdown, the power supply device will automatically cut off the power supply output when the output current exceeds the set current in order to protect the power supply and load device. Ensure that the current is not set too low (less than 20mA) in order to prevent a surge charging current activating the protection.

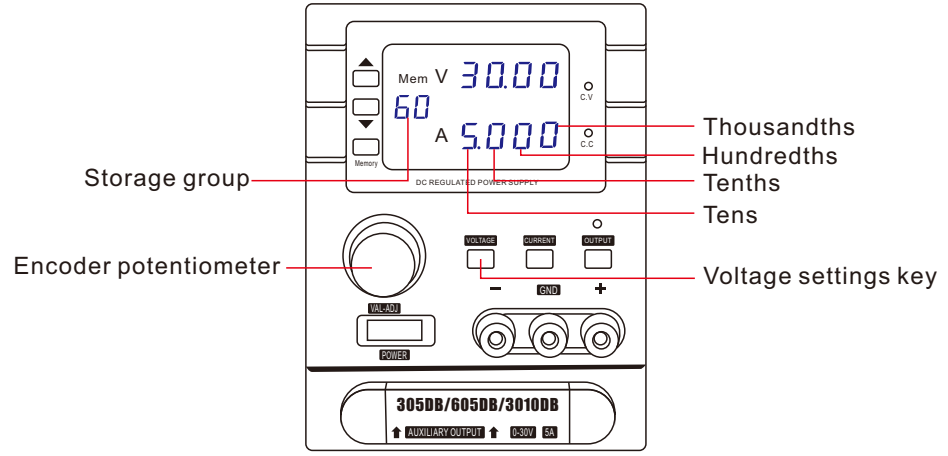
Voltage setting

Press the voltage settings key to make the voltage units column flash; press the key again to make the tenths column flash; press the key again to make the hundredths column flash; press the key again to make the tens column flash. The encoding potentiometer can be used to change the set voltage for the flashing column (shown in the Figure). After the set voltage data has been changed, the new value will be automatically saved to the current storage group.



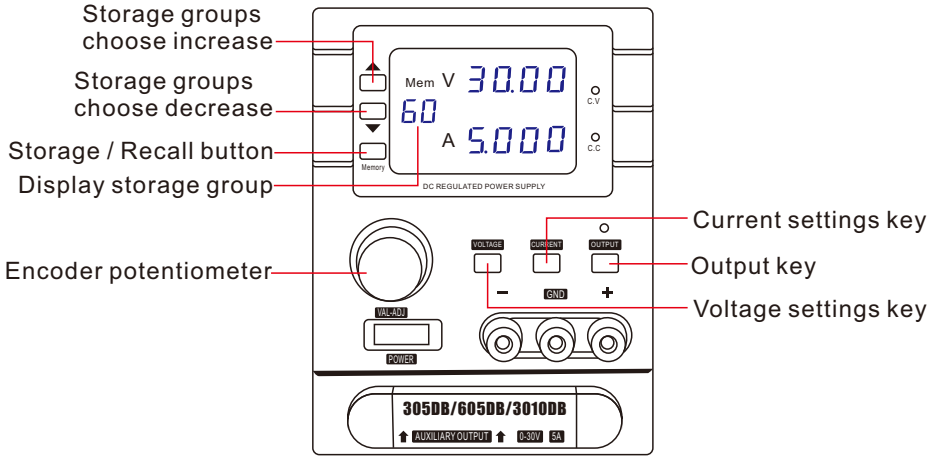
Current setting

When the current settings key is pressed, the tenths column flashes; after pressing the key again, the hundredths column flashes; pressing the key again makes the thousandths column flash; and pressing the key once more makes the units column flash. The encoding potentiometer can be used to change the set current for the flashing column (shown in the Figure). After the set current data has been changed, the new value will be automatically saved to the current storage group.



Use of storage group

For each device, the power supply voltage and current value is fixed. For example, when supplying power to a notebook of a certain brand (hereinafter referred to as the notebook), the power supply setting is 19V, 2A; the settings for the notebook are saved to storage group 01. The power supply setting of a cell phone of a certain brand (hereinafter referred to as the cell phone) is 5V, 0.5A; the settings for the cell phone are saved to storage group 02. When powering a notebook, you can switch to storage group 01; when powering a cell phone, you can switch to storage group 02. It is not necessary to repeat the settings.



Storage/transfer methods are explained using the example of notebook power supply settings

Storage method:

1. Press the storage/transfer button to make the storage group display flash
2. Press to add/remove storage groups, the storage group displays “01”
3. Press the voltage settings key and adjust the encoder potentionmeter to set the voltage to 19V.
4. Press the current settings key and adjust the encoder potentionmeter to set the current to 2A.

Transfer method (see Figure above):

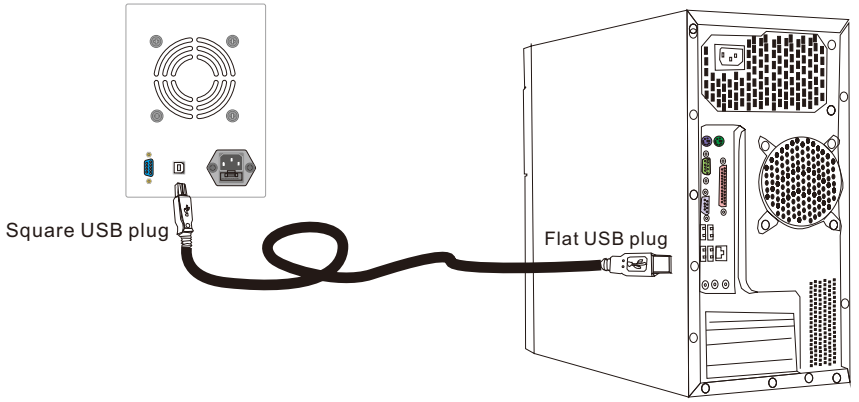
5. Press the storage/transfer button to make the storage group display flash
6. Press to add/remove storage groups, the storage group displays “01”
7. Then, set the voltage to 19V, and set the current to 2A
8. Press the output button, the notebook can be charged when the output light is on.

Connecting Master Computer

Please see “Operating Instructions for Master Computer” for detailed instructions. This section only describes a method of connecting for connecting a master computer and a slave computer, and the operation mode of the power supply device after the connection is made.

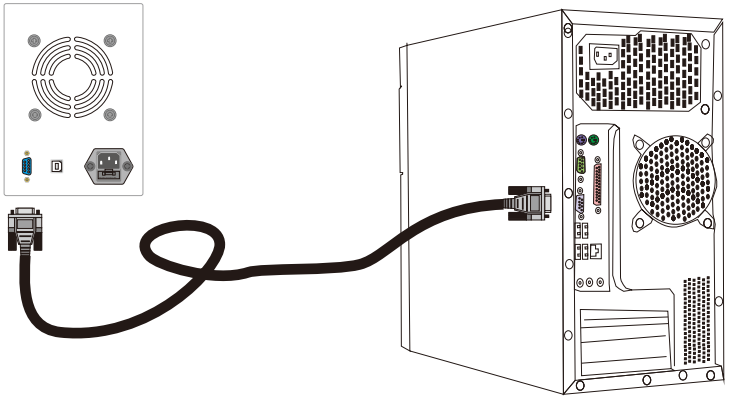
USB connection method:

One end of the cable is a square plug; the other end is a flat plug. Insert the square plug into the “square USB socket” on the backplate of the slave computer. Insert the flat plug into any of the USB sockets on the master computer. The software will automatically search for a connection with the slave computer, as shown below.



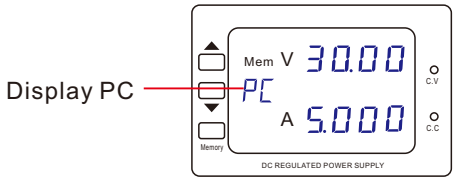
Rs232 connection method:

Insert one end of the DB9 cable into the RS232 port of the backplate of the slave computer; insert the other end into the D89 serial port of the master computer, as shown below.



Port communication:

1. Turn on the device's power switch, turn on the master computer interface; the power supply will automatically handshake with the computer to communicate.
2. After successful handshaking, the master computer will indicate a successful connection and the slave will display "PC," as shown in Figure 10.
3. Once the connection is established, the power supply device can be controlled only from the master computer interface and will not respond to operations from the power supply control panel aside from turning the main power and on and off.
4. After use, turn off the master computer interface and the machine will return to the state prior to the connection.



Product certification

Model NO.	
Product ID	
Examine	Upon examination products meet technical standards QC PASS
Sales Date	
Date of manufacture	

Warranty Card

Thank you for choosing this type of products, please read the following terms before using:

1. From purchasing date within 7 days, under normal use(Artificial damage),new package, not be disassemble and repaired ,enjoy replacement service.
2. From purchasing date within one year, under normal use, if there are quality problem, not be disassemble and repaired ,enjoy free repair service.
3. For more than warranty, we provide a lifetime warranty service, free of labor costs, charge only spare parts costs.
4. Failure to present warranty card during warranty period, the company will not be a free service.
5. Users need warranty service, please contact your original sales unit.
6. When users need warranty service, please provide warranty card and purchase invoice, or receipt of the certificate of the company seal.
7. Warranty does not include transportation costs and provide on-site service.

Maintenance records

NO.	Date for repair	Cause	Fix date	Repairer