

# Dual Adjustable DC Power Supply

## INSTRUCTION MANUAL

**3005D-II**

*English*

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



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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.

### Safety Tips, Important!

When using electrical equipment, in order to reduce electrical shock hazard, read the following instructions before use, following requirement need to obey:

1. Children over the age of 8 and people with physical disabilities or mental illness or suffering from lack of experience and just need to have a regulatory Under the circumstances, or to use the equipment, and fully aware of the dangers of the device;
2. Children can not play with the machine;
3. Children can not clean and maintain the machine in the absence of regulation of the situation;
4. In order to avoid danger, if the power cord is damaged, must be made by the manufacturer, dealer or other qualified personnel and more Exchange;
5. Do not leave the machine in the case of open;
6. Non-professionals do not disassemble the machine as. The machine has a high-pressure,

## I. Features

3005D-II power supply is a voltage and current continuously adjustable, dual DC power supply, large-screen LCD display with back Light, Built-in knob structure can eliminate operator error tone brings risks, work independently and do self-dual Tracking series and parallel. The third road fixed output, with 2.5V, 3.3V, 5V optional. Appearance, performance of Congregation. Applies to technology product development, laboratory, teaching, electronics production line, but also the communications industry essential instrument Device.

## II. Specifications

### I, II Independent Mode

|  |               |
|--|---------------|
| Continuously adjustable output voltage | Between 0-30V |
| Output current continuously adjustable | Between 0-5A  |

|                         |   |                                   |
|-------------------------|---|-----------------------------------|
| Power effect            | $CV \leq 0.01\% + 1mV$                    | $CC \leq 0.2\% + 1mA$             |
| Load effect             | $CV \leq 0.01\% + 5mV (I \leq 3A)$        | $CC \leq 0.2\% + 5mA (I \leq 3A)$ |
|                         | $CV \leq 0.01\% + 7mV (I > 3A)$           | $CC \leq 0.2\% + 10mA (I > 3A)$   |
| Ripple noise (5Hz-1MHz) | $CV \leq 0.5mV_{rms} (I \leq 3A)$         | $CC \leq 3mArms (I \leq 3A)$      |
|                         | $CV \leq 1mV_{rms} (I > 3A)$              | $CC \leq 5mArms (I > 3A)$         |
| Voltage accuracy of     | $\pm 0.5\% \text{ rdg} + 2 \text{ words}$ |                                   |
| Current Accuracy        | $\pm 0.5\% \text{ rdg} + 2 \text{ words}$ |                                   |
| Digital resolution      | $\pm 0.5\% \text{ rdg} + 2 \text{ words}$ |                                   |

### III Output Characteristics

|                         |                        |
|-------------------------|------------------------|
| Rated output voltage    | 2.5V/3.3V/5V $\pm 0.1$ |
| Rated output current    | 3A                     |
| Power effect            | $\leq 1mV$             |
| Load effect             | $\leq 10mV$            |
| Ripple noise (5Hz-1MHz) | $\leq 1mV_{rms}$       |

### Tracking Features

| In Series               |                  | Parallel properties     |                                   |
|-------------------------|------------------|-------------------------|-----------------------------------|
| Power effect            | $\leq 1mV$       | Power effect            | $\leq 1mV$                        |
| Load effect             | $\leq 30mV$      | Load effect             | $\leq 20mV$                       |
| Ripple noise (5Hz-1MHz) | $\leq 1mV_{rms}$ | Ripple noise (5Hz-1MHz) | $CV \leq 0.5mV_{rms} (I \leq 6A)$ |
|                         |                  |                         | $CV \leq 1mV_{rms} (I > 6A)$      |

### Safety Requirements

|                    |  |
|--------------------|--|
| High-pressure test | Leakage current $\leq 1mA$ (Test conditions: input to ground 1700VAC / 2S)             |
| Insulation testing | Insulation resistance $\geq 100M\Omega$ (Test conditions: input to ground 500VDC / 5S) |

### Rated Operating Conditions and Dimensions

|                             |   |
|-----------------------------|---|
| Supply voltage              | 220V ± 10% 50Hz (can also be customized according to the requirements of 110V ± 10% 60Hz) |
| Operating Temperature range | 0°C -40°C Relative humidity <80%  |
| Storage Temperature         | -20 °C ~ 80 °C Relative humidity <80%   |
| Work                        | CV / CC   |
| Buck limiting protection    | Short circuit protection, over temperature protection                                     |
| Radiating                   | Air-cooled heat   |
| Dimensions                  | L370 × W250 × H160mm  |
| Rated output power          | 315W  |

## III. Operation

### Precautions

#### 1. An AC input

AC input should be 220V ± 10% 50Hz (if it is 110V ± 10% 60Hz in the back of the chassis will be marked)

#### 2. Radiating

Do not operate the machine under the condition of exceed 40 °C, The cooling fan at the rear of the machine should be sufficient space to be radiating,

#### 3. The output voltage overshoot limit

When the power is turned on, the output voltage does not exceed a preset value.

#### 4. Overheat protection

The power supply has improved thermal protection function to protect the power supply to work in the non-normal conditions will not cause internal ELEMENTS Overheating and burning pieces of power and user equipment. Such as when the internal power supply transformer overheating, will automatically cut off the AC input Current voltage; when the internal power supply devices from overheating, the power will cut output; when the temperature drops inside the power supply are Within the normal range, the power will drop to restore the default state.

#### 5. Intelligent fan control

When the internal temperature of the machine main power device 45 °C, fan automatic operation, when the main power device inside the machine When the temperature is below 45 °C, the fan automatically stops.

#### 6. Stand-alone mode, in-line mode, you must disconnect the load before the parallel mode conversion, the conversion and then connected to the load.

### Current Limiting Set

- Be sure the maximum safe current-powered of the machines.
- Use a short route temporarily output “+” and “-” terminals shorted.
- Rotary voltage knob until CC lights.
- Knob to adjust the current needs of the current value.
- Current value (overload) are done, do not change after the current knob.
- Remove the short line, you can enter the working state.

### Constant voltage / Constant Current Characteristic

In the constant pressure and constant state of change between the operating characteristics of the power supply for constant voltage / constant current automatic conversion type, load it with Continuous change, the intersection between the constant pressure and constant current mode called transition points. For example, if the power supply operates in a constant load Pressure mode, the output voltage stability, with the increase of the load, the output voltage will remain stable until the pre-value current limit is set, after the current limiting value, the output current remains stable, with further increase the output voltage from the load The ratio decreases with the constant current constant voltage conversion is indicated by the front panel LED. Similar to automatically switch from the constant current constant voltage Decreases when the load carried, when a constant voltage CV indicator light, constant current CC indicator lights.

## IV. Operation

1. The power switch to “OFF” position.
2. Make sure the input supply voltage is correct.
3. Connect the power.
4. The power switch to “ON” position.
5. Adjust the voltage and current values “VOLTAGE” and “CURRENT” knob to the desired.
6. Connected to an external load, “+”, “-” output terminals.

7. When used under the high precision condition , the output terminal “+” or “-” must have a terminal to the GND terminal may by connection, so you can reduce the output ripple voltage.
8. **Stand-alone operation**  
The tracking mode selector switch on the front panel slide “IND” position, this time, this LED is lit stalls, power supply output voltage and current, respectively, and the brightest of the voltage and current control knob to adjust under this Mode.
9. **The series tracking mode**  
Turn the switch on the front panel to “SER” position, the position of the LED is lit, this mode power supply The output voltage is the way I, II and output voltage, output voltage regulation by II circuit voltage regulator control knob, Output current road I, II channel current adjustment knob control and regulation, either all the way into the constant current state, the output current is constant Unchanged. At this point the power output “+” for II output “+” output “-” for I output “-”. In order to make power Achieve good tracking performance series, it is recommended to work in this mode the power output I Road “+” and II output “-” Two terminals with a wire above AWG20 # shorted.
10. **Parallel tracking mode**  
Turn the switch on the front panel to PAR position, the position of the LED is lit, this mode power supply Output current is I Road, II output currents, output voltage adjustment knob control and regulation by II circuit voltage, output Current road by I, II channel current adjustment knob control and regulation, either all the way into the constant current state, the output current is constant Unchanged. At this point the power output “+” for II output “+” output “-” for II output “-” In order to make power Parallel track to achieve good results, we recommend power operating in this mode outputs respectively I “+” and II Output “+”, I output “-” and II output “-” with more than AWG20 # shorted wire.

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## V. Replace the Fuse

If the fuse burns out, the regulator and the steady flow indicators are off, this power will stop working, in addition to the general problems occur Do not open the fuse box, to identify and correct the cause of the blown fuse, and then use the same value fuse replacement.


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## VI. Power Installation, Use and Maintenance Instructions

Our company DC power supply adopt the world's most advanced technological achievements, after careful thermal design and structural optimization Become a unique feature multiport devices. Due to the category, series and varieties of this functionality countless devices, Its function and physical characteristics and different strengths and weaknesses, so there are many professionals in the installation, maintenance and use of terms Note doors, special instructions as follows:

1. After opening the package, please check about the accessories. like “manual” etc..., if not , please contact our sales department to discuss ways to handle properly.
2. In the first time use, the power supply must be grounded metal enclosure to ensure safety, but not mistake the outside Connected to the zero line shell.
3. Installed well and test firstly , check and proofread again terminals on each connection, make sure the input and Output, AC and DC, positive and negative value correct. Eliminate wrong connection reverse phenomenon Occurs.
4. The power does not allow long-term work under full load condition. Please linear power usage control in less than 60%, the Switching power usage control in less than 80%, otherwise it will be possible to create an artificial early failure. Order should be According to the actual work on their own to stay out of the current margin.
5. In order to achieve sufficient cooling effect, the power supply should be installed in the air convection conditions are good location, in addition, Other items are not allowed to place on the housing.
6. The power of positive mainly applicable to load, if needed in order to apply mainly capacitive or inductive-based load management Should first be explained in the contract, if the issues inadvertently mistake the nature of the load, and this should be recognized in a timely manner Contact our sales department to seek proper remedy plan.
7. Cause this is the high-voltage power supply, it is necessary to reiterate the importance of safety, not touch the machine or the high voltage area during working.

### Product certification

|                     |  |
|---------------------|--|
| Model NO.           |  |
| Product ID          |  |
| Examine             | Upon examination products meet technical standards  |
| 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 |
|-----|-----------------|-------|----------|----------|
|     |                 |       |          |          |
|     |                 |       |          |          |
|     |                 |       |          |          |