

**Warning:** Do not connect any load to the power supply before it's turned on. Likewise, make sure to disconnect the load before shutting down the power supply. Damages to the power supply can happen if you do not follow this. Such damages are not under warranty.

**Warning:** If you are running inductive load like magnetic coils, DC motors, stepper motors, etc., make sure to change the voltage/current slowly, and NEVER turn the power supply on or off with a inductive load connected!

## **I Summary**

This serial single output switch power supply is a kind of DC regulated power supply.

It has high efficiency, stronger load ability, and long continuous working period characteristics. Also it has perfect over voltage, over temperature, overload protection functions and so on. It can act as constant voltage as well as constant current DC power supply. This series of power supplies are first choices for scientific and research institutions, colleges, factories units ect. See the models from the table1.

## Single output switch power supply

Model	Output Voltage	Output Current	Display	Display Accuracy
LW1510KD	0~15V	0~10A	3LED display	±1%±1 digit
LW1520KD	0~15V	0~20A	3LED display	±1%±1 digit
LW1530KD	0~15V	0~30A	3LED display	±1%±1 digit
LW3010KD	0-30V	0-10A	3LED display	±1%±1 digit
LW3020KD	0-30V	0-20A	3LED display	±1%±1 digit
LW3030KD	0-30V	0-30A	3LED display	±1%±1 digit

(Table 1)

## II Panel's characteristics and technical parameters

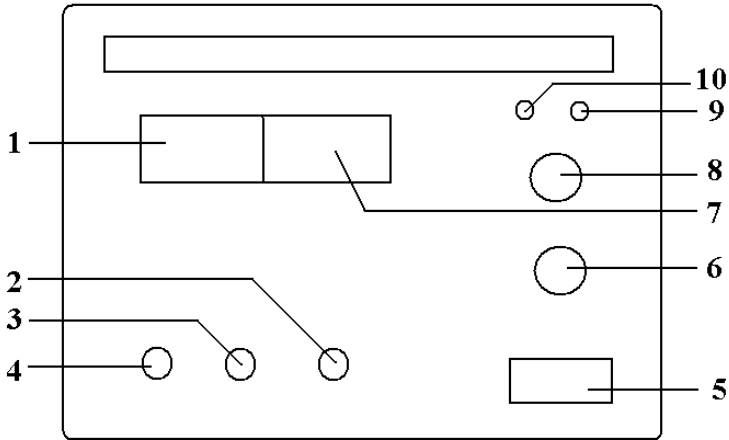
### 2.1 Panel's characteristics

(1) Digital ammeter: display the output current value

(2) output positive terminal: the anode of the output voltage connects to positive terminal of the load. (**Attention: the maximum output current of the front output terminal is 10A, if the output current is more than 10A, please choose the back output terminal**)

(3)Cabinet ground terminal: the cabinet connects to the ground.

(4)output negative terminal: the negative electrode of output voltage connects to the negative terminal of the load. (**Attention: the maximum output current of the front output terminal is 10A, if the output current is more than 10A, please choose the back output terminal**)



(5) Power switch when the power switch is placed “ON” Conversely, the machine is off.

(6) Constant-current setting knob: regulate the knob to set the max current value or constant current value.

(7) Digital voltmeter: Display the output voltage value.

(8) Voltage regulation output voltage adjusting knob: regulate the output voltage value.

(9) Voltage regulation indicator light: when the power supply is under the condition of voltage regulation, the indicator light is on.

(10) Current regulation indicator light: when the power supply is under the condition of current regulation, the indicator light is on.

## **2.2 Rated operating condition**

- (1) Input voltage: AC220V $\pm$ 10% 50Hz or AC110V $\pm$ 10% 60Hz
- (2) Working conditions: -10<sup>0</sup>C -40<sup>0</sup>C relative humidity<90%
- (3) Storage conditions: -20<sup>0</sup>C-80<sup>0</sup>C relative humidity<80%

## **2.3 technical parameters**

- (1) Voltage stabilization:  $\leq$ 0.5%
- (2) Current stabilization:  $\leq$ 0.8%
- (3) Load stabilization:  $\leq$ 0.5%
- (4) Ripples and noises:  $\leq$ 1 %( RMS)

## **III The method for use**

### **1. The method for use**

- (1) Power-on: check the input voltage whether it is normal voltage value or not.
- (2) Clockwise regulate the constant-current setting knob (6) to the maximum. Place the power switch in “ON” position, the indicator light is on.
- (3) Constant voltage setting: the knobs (6) should be clockwise regulated to the maximum. Regulate the voltage regulation knobs (8) to set the necessary voltage value, and then connect the load to the “+” and “-” output terminal. At this moment the power supply is working under the condition of constant voltage, the output voltage remains the same, while the output current changes

with the load. When used in places with high demand, make sure one of the output terminal “+” or “-” must reliably connects with post head “GND” so as to reduce output ripple voltage.

(4)Constant current setting: Firstly, regulate the voltage to any value between 3-10V, and regulate the knob (6) to the minimum. (0A), and then use a lead to make positive and negative polarities shorted. Regulate the Current regulation setting knob (6) to the necessary current value. Remove the short lead, and then regulate the voltage to the necessary value, connect the load, then you can start your work. At this moment the power supply is under the constant current. That is the current remains the same, while the voltage changes with the load. (There will be slight sounds when positive and negative polarities are shorted. That is normal phenomenon)

#### **IV Matters need attention**

1. Input voltage: Confirm the input voltage is AC220V $\pm$ 10% 50Hz or 110V $\pm$ 10% 60Hz.if the input voltage is wrong, the power supply can not work normally, and even it will lead to serious result.

2. Working condition: For the purpose of heat dissipation, there should be enough space around the power supply. The two sides and back of the power supply should have more than 10cm space. This kind of power supply uses intelligent fan controlled by temperature to cool. When inside temperature of

the power supply is no less than 45<sup>0</sup>C, the fan start to work, while the temperature is less than 45<sup>0</sup>C, the fan stop working.

3. The protective ground terminal of the tree-core power cord should be reliably connected with the ground to ensure safety in use and reduce the ripple.

4. Do not start the power supply with load, otherwise it easily damage the power supply and load. When the load current is more than 10A, please choose the back output terminal, tighten the output terminal to avoid damaging the terminal which caused by large contact resistance. Please regularly check the connecting terminal whether it is loose or not.

5. Over temperature protection: The power supply has over temperature protection function. When inside temperature is higher than protection value, the power supply will stop working. After the inside temperature is lower than protection value, the power supply will come to work again. Do not use the power supply in the condition that the temperature is higher than 40<sup>0</sup>C. There should be enough space for heat dissipation.

6. This serial is a kind of switch power supply. It has the function of about 2 seconds with time delay start-up (turn on the power supply, after about 2 seconds, the indicator light is on and the LED has display). Also it has the function of about 1-5 seconds with time delay start-down.

## **V Maintenance**

1. If the fuse burned out, the power supply will stop working. Please replace it with equivalent fuse. The crisper should not be opened unless something goes wrong.

2. The power supply is precisely regulated before it goes out. Please do not open the power supply unless you are a professional. If there is something wrong, please contact with dealer. Do not repair the power supply by yourself as there is high voltage circuit in the power supply.

## **VI attachment**

User manual	1
Power cord	1