DUAL SWITCH POWER SUPPLY

USER MANUAL

DUAL SWITCH POWER SUPPLY

In order to better use the power supply, please read the user manual carefully before using and keeping it properly.

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

HY serial three-way 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 short-circuited, 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.

Model	Output Voltage	Output Current	Fixed output	Display
HY3005E-3	2×0-30V	2×0-5A	5V,3A	Three LED
HY3010E-3	2×0-30V	2×0-10A	5V,3A	Three LED
HY5005-2	2×0-50V	2×0-5A	——	Three LED
HY6005-3	2×0-60V	2×0-5A	5V,3A	Three LED

II Technical parameters

1.Input voltage: 110V±10% 60Hz±3Hz or 220V±10% 50Hz±3Hz

2.Two way regulated power supply

Current effect: CV≤0.01%+1mV

CC≤0.2%+1mA

Load effect: CV≤0.01%+3mV (I≤3A)

CC≤0.2%+3mA (I≤3A)

CV≤0.01%+5mV (I>3A)

CC≤0.2%+5mA (I>3A)

Ripples and noises: CV≤0.5mVr.m.s (I≤3A)

CC≤3mAr.m.s (I≤3A)

CV≤1.0mVr.m.s (I>3A)

CC≤6mAr.m.s (I>3A)

Display:

Accuracy: Voltmeter ±1%±1 figures

ammeter ±2%±1 figures

Protection: Protection of current limitation and short- circuit

3. Regular output power supply

Nominal output voltage: 5V±2.5%

Nominal output current: 3A (MAX)

Current effect: ≤0.01%+1mV

Load effect: ≤1%

Ripples and noises: ≤0.5mVr.m.s

Protection: short-circuit protection

4. Environmental conditions:

Temperature0~40^{0}C

relative humidity:<90%

5. Storage conditions:

Temperature -20^{0}C~80^{0}C

relative humidity<80%

III Panel's characteristics

1. The subordinate direct current output negative terminal: the negative electrode of output voltage connects to the negative terminal of the load.

2. Cabinet ground terminal: the cabinet connects to the ground.

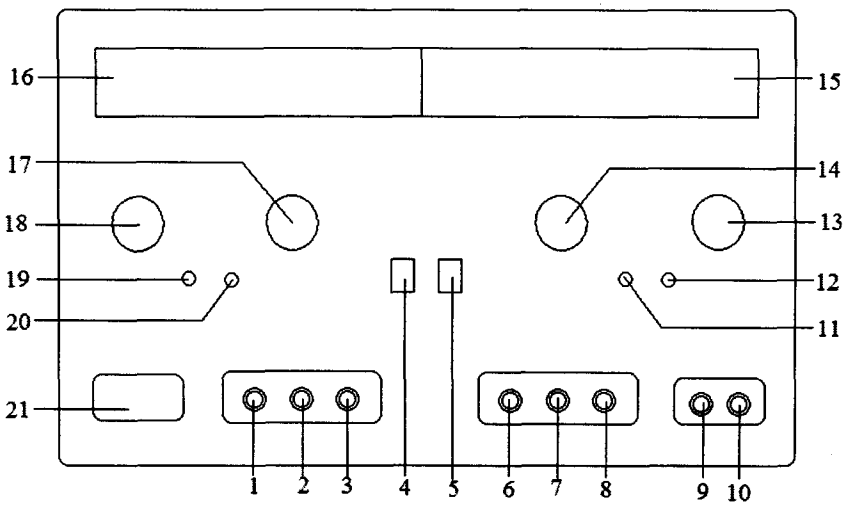
3. The subordinate direct current output positive terminal: the anode of the output voltage connects to positive terminal of the load.

4. The control switch of two-way power supply is in independence, series and parallel.

5. The control switch of two-way power supply is in independence, series and parallel.

6. Main direct current output negative terminal: the negative electrode of output voltage connects to the negative terminal of the load

7. Cabinet ground terminal: the cabinet connects to the ground.



8. Main direct current output positive terminal: the anode of the output voltage connects to positive terminal of the load.

9. Regulator 5V direct power supply output negative terminal: the negative electrode of the output voltage connects to the negative terminal of the load.

10. Regulator 5V direct power supply output positive terminal: the anode of the output voltage connects to the positive terminal of the load.

11. Main current regulation indicator light: when the main power supply is under the condition of current regulation, the indicator light is

on.

12. Main voltage regulation indicator light: when the main power supply is under the condition of voltage regulation, the indicator light is on.

13. Main voltage regulation output voltage adjusting knob: regulate the main output voltage value.

14. Main current regulation output current adjusting knob: regulate the main output current value (that is the regulation of current limit protection)

15. Numeration table: indicating the major output voltage value and current value.

16. Numeration table: indicating the subordinate output voltage value and current value.

17. The subordinate voltage regulation output voltage regulation knob: regulating subordinate output voltage value.

18. The subordinate current regulation output current regulation knob: regulating subordinate output current value. (i.e. current limitation protection regulation)

19. The subordinate current regulation indicator light: when the subordinate power supply is under the condition of current regulation

20. The subordinate voltage regulation indicator light: when the subordinate power supply is in the position of voltage regulation, the indicator light is on.

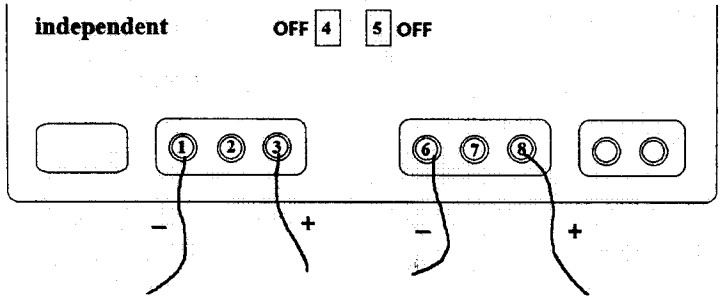
21. Power switch when the power switch is placed "ON" (that is when

the power switch is lowered down), the machine is "on", at this moment the voltage regulation indicator light is on or current regulation light is on. Conversely, the machine is off (that is when the switch is up).

IV The method for use

1. The independent use of two-way regulated power supply

(1) Put the switch of (4)、(5) on the rising position(that is ▙), like the following picture



(2) When the power supply is used as the voltage regulated power supply, first of all, the current knobs (14) and (18) should be clockwise regulated to the maximum, turn on the power supply, and then regulate voltage regulation knobs (13) and (17) to regulate output voltages of the main and subordinate to the necessary voltage values. Connect the load, now you can start your work.

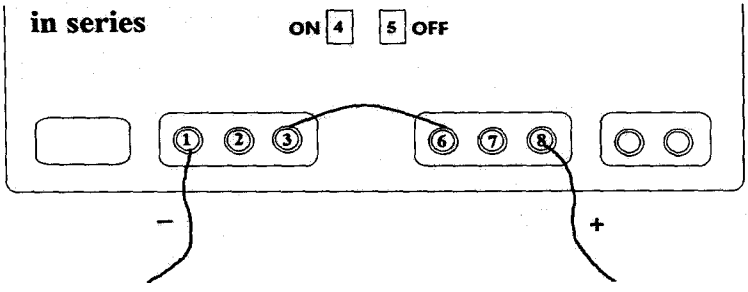
(3) When the power supply is used as the constant current power supply, after turning on the power supply, first, the voltage regulation

knobs (13) and (17) should be clockwise regulated to the maximum, at the same the current regulation knobs (14) and (18) should be counterclockwise to the minimum., then connect the necessary load, regulate the current regulation knobs (14) and (18) to make the output current of the main and subordinate to the necessary values.

(4) The setting of current limitation protection value: Turn on the power supply. First of all, regulate the knobs (13) and (17), to make the output voltage to any value between 3-10V, counterclockwise regulate the knobs (14) and (18) to the minimum, and then used leads to make output terminal (1) and (3), (6) and (8) shorted respectively. (If the power supplies whose output voltage is higher than 50V, connect a more than 5Ω load resistance when the output terminals are shorted). Clockwise regulate the knobs (14) and (18) to regulate the output current of the main and subordinate to the necessary values of current limitation protection, remove the shorted leads, and counterclockwise regulate the knobs (13) and (17) to the necessary voltage values, connect the load, now you can start you work.

2. Two-way regulation power supply used in series

(1) Used setting: Depress switch (4) (i.e. ▟ position) switch (5) ejects(i.e. ▙ position),use a lead to connect output terminals (3) and (6), than terminal (8) acted as "+" output terminal, terminal (1) as "-" output terminal. Just like the follow picture. Then clockwise regulate the knobs (17) and (18) to the maximum.



(2) Regulate the voltage regulation knob (13)of the main power supply, and the subordinate output voltage of strictly track the main output voltage, thus make the output voltage reaches the total amount of the rated values of the two way currents (i.e. voltages between terminal (1) and terminal (8))

(3) When the two power supplies are in parallel, the current regulation of the two ways is independent. If the current regulation knob (18) of the subordinate is not at the maximum position but at the current limitation protection position, when the load current reach at the position, at this moment, the output voltage of the subordinate will no longer tack the main output voltage.

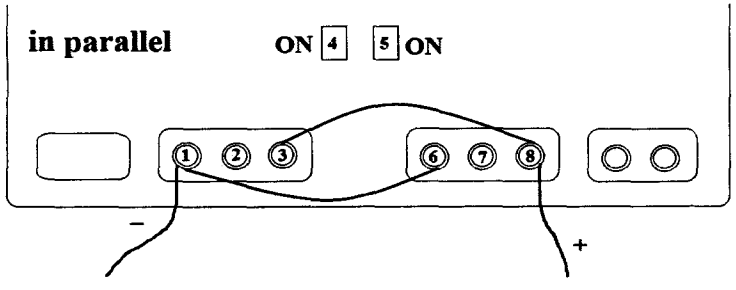
(4) When the two ways of power supply are in series, if the load is large and it has large power output, a thick lead should be used to reliably connect the terminal (3) and (6).to prevent switch components inside of the power supply from damage.

(5) When the two ways of power supply are in series, if there is

connection plate between the negative terminal of main and ground terminal or between the negative terminal of subordinate and ground terminal, please disconnect them. Otherwise it will make the subordinate shorted.

3. Two-way regulation power supply used in parallel

(1) Depress switch (4) and (5) (i.e. ▟ position), use a lead to connect terminal (3) and (8), and use other lead to connect terminal (1) and (6). so that terminal (3) and (8) acted as "+" output terminal, while terminal (1) and (6) as "-" output terminal. Just like the follow picture. Then clockwise regulate the knobs (17) and (18) to the maximum.



(2) When the two ways power supply are in parallel, the voltage regulation knob (17) and current regulation knob (18) of the subordinate power supply will not work. Regulate the knob (13), the output voltage of the subordinate trace the main output voltage, the output voltage value is that of main. Regulate the knob (14), the

output current of subordinate trace the main output current, the output current is the total amount of current of the two leads.

(3) When the two ways power supplies are in series, if the load is large and it has large power output, thick leads should be used to reliably connect the terminal (1) and (6), (3) and (8) respectively to prevent switch components inside of the power supply from damage.

V. Matters need attention

1. The power supply has over temperature protection function. When inside temperature is higher than protection value, the power supply will stop working. So please do not use the power supply in the condition that the temperature is higher than 40^0C. Also there should be enough space for heat dissipation.

2. 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.

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

4. The power supply is precisely regulated before it goes out. Please do not open the power supply at will. 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.