

USER'S MANUAL



DC REGULATED POWER SUPPLY

DIGITAL CONTROL DC REGULATED POWER SUPPLY



DC POWER SUPPLY

BRIEF INTRODUCTION:

HY3000M-2、HY3000M-3 series variable DC power supplies are very stable, regulated multiple output DC power supplies allowing continuous adjustment of both the output voltage and current levels. The HY3000M-2、HY3000M-3 series have four LED or four LCD displays.

HY3000M series are the power supplies, which have the direct current steady voltage and current. They adopt digital control and have high precision. It uses advanced controlling technique of microprocessor to achieve the following functions: the enactment, display, feedback, and protecting of voltage and current. This technique improves the accuracy of enactments and the accuracy of control. Besides, it makes more convenient to operate and more intuitionistic to see. So this technique avoids the unsteadiness of the enactment point caused by adjust of regular potentiometer, which brings the error, excursion, and parts of an apparatus being abrasion. Therefore, the precision and stability of power supply have heightened greatly. Another characteristic of this power supply is: the enacted voltage could lock in the whole range. This characteristic offers users much more convenience and avoids needless inaccurate operate. Double regulated power supply can be used both series and parallel connection, both series and parallel connection is possible allowing twice the voltage or current and outputs can be tracked relative to the master output.

MODELS:

MODEL	HY3003M-2	HY3005M-2	HY3003M-3	HY3005M-3
OUTPUT VOLTAGE	2×0~30V	2×0~30V	2×0~30V	2×0~30V
OUTPUT CURRENT	2×0~3A	2×0~5A	2×0~3A	2×0~5A
FIXED OUTPUT	NO	NO	5V, 3A	5V, 3A

1 TECHNICAL PARAMETER

- 1.1 Input voltage: 230V/115V AC \pm 10% 50Hz/60Hz \pm 2Hz
- 1.2 Dual adjustable power supply
 - 1.2.1 Line regulation: CV \leq 0.01%+1mv CC \leq 0.2%+1mA
 - 1.2.2 Load regulation: CV \leq 0.01%+3mv(I \leq 3A) CC \leq 0.2%+3mA(I \leq 3A)
CV \leq 0.01%+5mv(I>3A) CC \leq 0.2%+5mA (I>3A)
 - 1.2.3 Ripple and noise: CV \leq 0.5mVr.m.s(I \leq 3A) CC \leq 3mAr.m.s(I \leq 3A)
CV \leq 1.0mVr.m.s(I>3A) CC \leq 6mAr.m.s(I>3A)
 - 1.2.4 Protection: constant current and short-circuit protection
 - 1.2.5 Voltage indication accuracy: \pm 0.2%+5digits
 - 1.2.6 Current indication accuracy: \pm 0.5%+5digits

1.3 Fixed output

1.3.1 Output voltage: $5V \pm 2.5\%$

1.3.2 Output current: 3A

1.3.3 Line regulation: $CV \leq 0.01\% + 1\text{mV}$

1.3.4 Load regulation: $\leq 0.1\%$

1.3.5 Ripple and noise: $\leq 0.5\text{mV r.m.s}$

1.3.6 Protection: current limit and short-circuit protection

1.4 Environment: $0+40^{\circ}\text{C}$ relative humidity: $<90\%$

2 Operation

2.1 front panel control illustration see right picture

(1) Master output Voltage indicator

(2) Master output current indicator

(3) Slave output voltage indicator

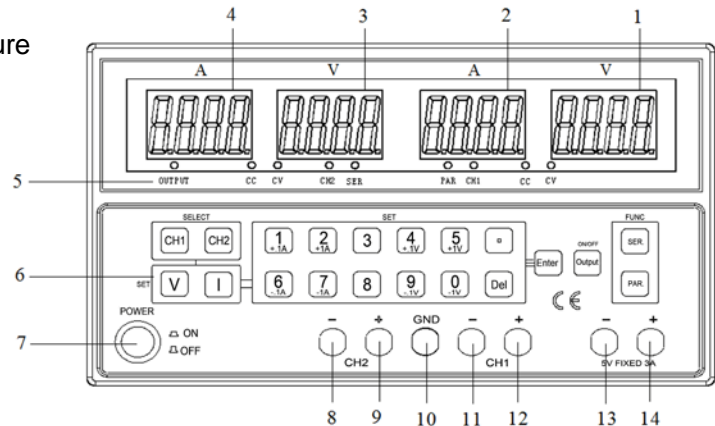
(4) Slave output current indicator

(5) Status Indicators:

OUTPUT light on when in output status;

CV light on when reaching constant voltage;

CC light on when reaching constant current;



CH1 light on when setting the Master side;
CH2 light on when setting the Slave side;
SER light on when in series connection status;
PAR light on when in parallel connection status.

- (6) Push button control panel.
- (7) On/Off button.
- (8) Slave side negative output terminal.
- (9) Slave side positive output terminal.
- (10) Ground terminal.
- (11) Master side negative output terminal.
- (12) Master side positive output terminal.
- (13) Fixed 5V – output terminal.
- (14) Fixed 5V + output terminal.

2.2 USING METHOD

2.2.1 DUAL POWER SUPPLY USED IN INDEPENDENT MODE

2.2.1.1 **Turn power on, Select the channel:**

Setting Master side press button (CH1); Setting slave side press button (CH2)

2.2.1.2 **Setting Voltage Output when channel (CH1 or CH2) has been selected:**

Press [V] button, Voltage Indicator is “zero” & blinking. Now, set blinking indicator by pressing the desired

number to the required voltage, then press [Enter] button. Voltage is set. E.g.

(1) To preset a 5.99 Volt Value: Press [V] key, then, Press number keys [0] [5] [9][0] then [Enter] OR Press [V] key, then, [5] [.] [9] [9] then [Enter] keys to complete setting.

(2) To preset a 29.99 Volt Value: Press [V] key, then, press number keys [2][9][9][9] then [Enter] OR Press [V] key, then, [2] [9] [.] [9] [9] then [Enter] keys to complete setting.

On top, you can pulse press [+/-0.1V \ +/-1V] key to step tune output voltage, long press can continuously tune output voltage.

2.2.1.3 **Setting up Limit current protection :**

After selecting channel (CH1 or CH2), press [I] key, then, key in the value by the number [--] keys the current value, then, press [Enter] to complete. (detail procedures references to set up voltage output above). Or, pulse press [+/- 0.1A \ +/- 1A] to step tune limit current protection value, long press to continuously tune limit current value.

2.2.1.4 **Output On/Off :** Press [output] key to activate output, or, de-active output. (Default setting has no output after power on the unit after power off).

2.2.1.5 **To use lock in function for voltage & current:** press [.] 3 seconds, a 'beep' sound indicates that voltage and current are locked-in. To release lock-in, press [.] for 3 seconds can release. When voltage and current are locked, all keys will not function except the [output] key.

2.2.1.6 **To use the [Del] key :** When entering the value of voltage and current protection value but before pressing [Enter] key, you can change those value by pressing [Del] key to erase initial entered values.

2.2.2 DUAL POWER SUPPLY USE IN SERIES MODE

2.2.2.1 Press [SER] button (**SER** light on), then it is in series mode. The Voltage and Limit Current of slave output changes follow the Master side. The voltage & current indicators of Slave side show the setting value of Master side; the voltage & current indicators of Master side show actual output value. Output terminals are terminal **[12]** & **[8]**. In series mode, the actual voltage output value is twice the value of the master side displays; the actual current output value is the value of the master side displays. Output voltage and current limit setting method is the same as independent mode, select Master channel (CH1).

2.2.3 Dual Power Supply in Parallel Mode:

2.2.3.1 Press [PAR] button (**PAR** light on), then it is in parallel mode. The Voltage and Limit Current of slave output changes follow the Master side. The voltage & current indicators of Slave side show the setting value of Master side; the voltage & current indicators of Master side show actual output value. Output terminals are terminal **[11]** & **[12]**. In parallel mode, the actual voltage output value is the value of the master side displays; the actual current output is twice the value of the master side displays. Output voltage and current limit setting method is the same as independent mode, select Master channel (CH1).



3 CAUTION:

3.1 In the event of a short circuit at the output the current will limit at the value set by the current controls, however the unit should be turned off and the short circuit removed before continuing use.

3.2 The mains power must be switched off before servicing and servicing should be referred to a qualified person.

3.3 The unit should be stored in a dry and well ventilated place and the power cord removed if storing for long periods.

4 ACCESSORIES

4.1 Power cord-----one piece

4.2 Instruction manual-----one piece