

MULTI-FUNCTION REGULATED POWER SUPPLY



OPERATION MANUAL

INTRODUCTION

This series a versatile precision device. The power supply has a high stability is designed for use in schools, training, laboratories, universities, widely used in scientific research, teaching and maintenance.

Can work in three modes:

1. Power output mode:

A group 0-30V / 0-5A power output or 0-60V / 0-5A power output
8 sets of USB charging output ports.

2. Voltage measurement, can only test the maximum DC voltage DC60V;

3. On-off and diode measurement Type, you can measure the line off and diode, transistor PN section, light LED.

FEATURES

1. Power output function: DCV DC voltage 0-30V/60V adjustable; DCA DC current maximum output 5A.
2. USB output function: DCV DC voltage fixed 5V; DCA DC current maximum 10A, and the 8 port outputs are automatically shunted.
3. Voltage measurement function: can only measure DCV DC voltage, the maximum DC measurement voltage DCV 60V; can be directly for the device power output or USB output voltage measurement; can also measure other power or battery voltage.
4. When the measured voltage, the diode, transistor, LED is open or PN section of the reverse voltage value remains at about 2.1V-2.2V when the same; when the measured voltage, Short circuit when the buzzing sound, display "0.000"; when measuring diode and transistor PN section, the display "0.500 ~ 0.800" are normal; when measuring light-emitting diodes, the polarity can be directly lit light-emitting diodes.
5. Mobile phone signal detection: When the phone in the call or receive calls, the phone near the signal detection point, RF RF signal indicator light will light.



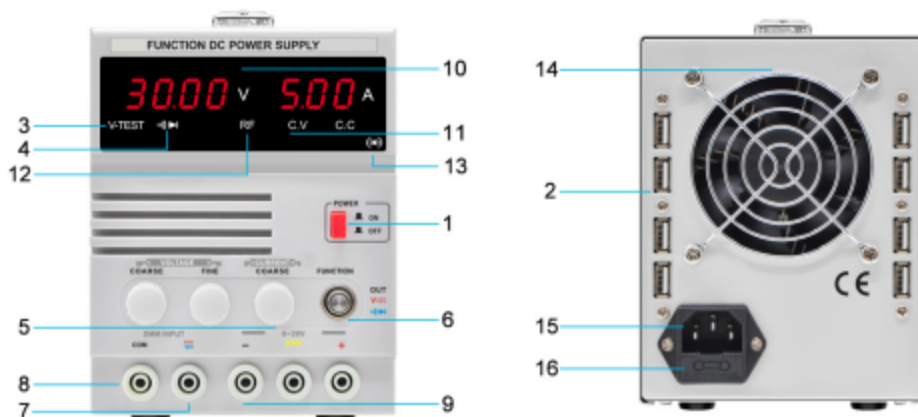
WARNING: While the device is running in "On off detection mode" or "diode detection mode", please pay **SPECIAL ATTENTION** to connect the correct terminals - DMM terminals (Not the Regulated Power Supply terminals); Otherwise the equipment under test or the machine will be damaged.

PARAMETER

Output voltage	0-30V	0-60V
Output current	0-5A	0-5A
Input voltage	110/220V $\pm$ 10%; 50/60Hz	
Voltage display	Four digital tube: 00.00; resolution: 00.01V	
Current display	Three digital tube: 0.00; resolution: 0.01A	
Voltage display error	$\leq \pm 0.5\%$	
Current display error	In units of A $\leq \pm 0.4\%$; in mA $\leq \pm 0.3\%$	
USB port output	DC fixed voltage: 5V; 8 ports total current 10A, multi-port output is automatically shunted.	
Ripple	$\leq 3\text{mV rms}$	
Source effect	$\leq 0.2\%$	
Load effect	$\leq 0.5\%$	
Temperature Coefficient	300ppm/ $^{\circ}\text{C}$	
DC Voltage measurement	Measure the maximum DC voltage: 60V	
On-off detection	Measuring output voltage: 2.1V-2.2V; Measuring line open circuit shows the same voltage; short buzzing sound	
Diode/transistor measurement	Measuring the output voltage: 2.1V-2.2V or so; when measuring the diode and transistor PN section, the red, black probe then reverse or PN section open circuit, display voltage unchanged; displaying value range between 0.500 ~ 0.800 is normal	
RF radio frequency detection	Mobile phone in the call and call, close to the RF signal receiving point, the RF signal light flashes light	
Fuse specifications	$\Phi 5\text{X}20\text{mm}$ MCH-S305D 1.5A/250 V; MCH-S605D 3A/250 V	
working environment	0~40 $^{\circ}\text{C}$; <80%RH	
Storage environment	-10~70 $^{\circ}\text{C}$; <80%RH	
size	130x 165 x 330 mm	
weight	Appro 6kg	
Accessories	Power cord 1; Probe 1 set; User manual	

Special note: While the device is working, the 8 sets of USB and power ports maintain voltage and current output.

PANEL CONTROL INSTRUCTIONS



- [1]: POWER: turn on or off the device.
- [2]: 8 sets of USB output sockets: directly charge other device. Automatic split the output: total voltage 5V, total current 10A.
- [3]: V-TEST DC voltage measurement mode indicator: when the light is on, entering DC voltage value, which can measure the DC voltage of other power sources or batteries; it can also measure the DC output voltage of other device.
- [4]: Continuity and diode detection mode indicator: When the light is on, measuring the open circuit and short circuit of the conductor; detects whether the PN section of the diode and the transistor is damaged; it can directly light the light-emitting diode.
- [5]: Voltage and current control knob: adjusting the output voltage and controlling the output current.
- [6]: Function selection button: switching between DC voltage measurement, on-off and diode measurement modes.
- [7]: DC voltage/continuity/diode measurement port: When measuring DC voltage, continuity and diode, insert the red test lead.
- [8]: COM Common port for voltage measurement and continuity/diode measurement: connect in parallel with the “-” negative terminal of the power supply; when measuring DC voltage/continuity and diode, insert the black test lead.
- [9]: “+” The positive terminal of the power supply; “-” The negative terminal of the power supply; the ground terminal of the GND power supply.
- [10]: Voltage and current display window: display voltage value when the voltage is measured, as well as the standard diode measurement are performed.
- [11]: CV/CC indicator light.
- [12]: RF radio frequency signal indication: when the device detects a mobile phone signal or radio frequency signal, the indicator light flashes and glows.
- [13]: Radio frequency signal receiving point: indicates the receiving point for

detecting radio frequency signals and mobile phone signals.

[14]: Cooling fan: cooling down the device.

[15]: Power input socket: input AC110 V / AC220V $\pm$ 10% 50/60 Hz.

[16]: Fuse box: used to assemble the fuse tube. Please refer to Section 3 for the replacement of the fuse.



Before using the equipment, attention of the local power system voltage which must match the AC input voltage; Otherwise the equipment may be damaged.

REPLACE THE FUSE TUBE

1. Disconnect the power cord from the power socket of the device.
2. Pull out the fuse box.
3. Install the fuse tube of the same specification into the fuse box, and ensure that it is stuck in place and fixed in contact.
4. Fuse tube specifications: Φ 5X20mm MCH-S305D 1.5A/250 V; MCH-S605D 3A/250 V.



Ensure that all connections have been disconnected from the grid, otherwise there is a danger of electric shock!

SAFE OPERATION OF EQUIPMENT

The equipment is defined in accordance with the EU Directive 2014/22 / EC (Electromagnetic Compatibility) and 2014/35 / EU (Low Voltage) as Supplement No. 2004/22 / EC (CE Mark). For the safety and power of the equipment, in order to avoid serious personal injury or damage to the equipment, the following matters must be strictly observed. Failure to comply with these safe operation, resulting in personal injury and equipment damage, is unable to claim for any form of reason.

- * To avoid electric shock, do not operate the product in a humid environment.
- * Prevent children from hand or body touch the device to prevent electric shock.
- * This device can not be used in high voltage circuits.
- * When connecting the device to an electrical outlet, the voltage setting on the device should be the same as the existing voltage (110V / 220V option)
- * The unit can only be connected to the socket and ground to protect the conductor.
- * Before use should check the equipment test line and other accessories are damaged or exposed, kink and so on.
- * If the fuse of the device is damaged, replace the fuse with the same size. Never replace the fuse or fuse with a short circuit fuse.

- * Do not cover the vents on the case to ensure that the air is free to circulate.
- * Do not insert metal objects or debris, etc. into the ventilation openings of the equipment.
- * Do not place water containers on the equipment to avoid short circuits.
- * Do not operate the equipment near strong magnetic fields.
- * Turn off the output line when the device is not running.
- * Do not touch the tip of the test leads or probes.
- * Observe the warning labels and other information on the device.
- * The device can not run unattended.
- * Do not expose the device to direct sunlight or extreme temperatures, humidity or humidity.
- * Do not subject the device to shock or vibration.
- * Allow the device to measure at room temperature.
- * This unit is only suitable for indoor applications.
- * Avoid storing with explosive and flammable items.
- * Do not open the equipment, and maintenance and repair work must be carried out by qualified technical staff.
- * Do not place the control of the device face down or on the table to prevent damage to the control panel.
- * Do not modify the equipment in any way.
- * Clean the case regularly with a damp cloth and a soft cleaner. Do not use corrosive abrasives. Unplug the power plug from the power outlet before cleaning the device. Use only wet cloth, clean and clean cloth. Use only conventional washing solution. When cleaning, make sure that no liquid enters the inside of the equipment. To avoid short circuit and damage to the device.