DC6006L CNC DC adjustable power supply
Product Manual

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1 Product Description

DC6006L programmable digital controlled step-down DC adjustable power supply is small in size, comprehensive in input interface, stable in performance, high in precision and high in efficiency, and contains a variety of humanized system settings. Adopting 1.44-inch LCD high-definition display, one screen displays a variety of data, the page is simple and rich.

2 Parameter Description

2.1 Basic Parameters

1. Input voltage: Banana head 6-70V input;DC 6-30V input;PD 80W input.
2. The Output voltage: 0-60V (note: ensure that the input voltage is greater than 1.1 times the output voltage)
3. Output current: 0-6A;
4. Output power: 0-360W;
5. Voltage resolution: 0.01V, precision: ±0.3%+3;
6. Current resolution: 0.001A, precision: ±0.5%+5;
7. Output ripple: 100mV peak-to-peak value .

2.2 Protection mechanism parameters

1. The input prevents reverse connection, the output prevents short connection to prevent backflow, and can

charge the battery (distinguish between positive and negative)

2. Output overvoltage protection (OVP): 0V-61V custom adjustment, default 61V;

3. Output overcurrent protection (OCP): 0-6.1A custom adjustment, default 6.1A;

4. Output over power protection (OPP): 0-360W custom adjustment, default 360W;

5. Output over temperature protection (OTP): 45-120℃ self-defined adjustment, closed by default;

6. Output overtime protection (OHP): 0-100h custom adjustment, closed by default;

7. Turn on default (ACQ): Off by default;

3 Features

3.1 Interface diagram

description:

① Digitally set voltage and current; ② Output voltage; ③ Output current; ④ Output power; ⑤ Running time; ⑥ Switch indicator; ⑦ CC/CV constant current and constant voltage display; ⑧ √ : Normal output status, if the software protection is triggered, the protection type will be displayed, OVP/OCP/OPP/OTP/OHP; ⑨ temperature display; ⑩ output parameters: voltage, current; ⑪ output power; ⑫ output energy; ⑬ input voltage value; ⑭ output voltage value; ⑮ output current value; ⑯ output power value;

3.2 Parameter setting description

3.2.1 System settings

1. Default Switch：Set the power-on device to turn on or turn off the output by default;
2. System language: switch between English and Chinese;
3. Timing screen off: set the screen to automatically turn off at a specified time, the maximum support 100h;
4. Display direction: set the direction of 360 degree rotation;
5. Temperature unit: Set the temperature unit (℃ or ℉).

3.2.2 Software protection settings

During the operation of the equipment, once the software protection mechanism is triggered, the output of the equipment is disconnected and the buzzer will beep for a long time, and the corresponding mechanism code will be alarmed. Press the switch key and the knob again to release the alarm and return

to the normal state.

1. Over Voltage：Set the threshold voltage, and alarm OVP when the output voltage exceeds the set voltage;

2. Over Current：Set the threshold current, and alarm OCP when the output current exceeds the set current;

3. Over Power：Set the threshold power, and alarm OPP when the output power exceeds the set power;

4. Over Temp：Set the threshold temperature, and alarm OTP when the device temperature exceeds the set temperature

5. Timeout：Set the threshold time, when the output time exceeds the set time, it will alarm OHP;

3.3 Intelligent temperature control system

When the product temperature is greater than 40°C or the output current is greater than 2A, the fan automatically starts, and the fan automatically shuts off when the conditions are not met.

3.4 PD Interface Description

The PD interface compatibility of this device is not very comprehensive,It is not guaranteed to be compatible with all PD chargers,Fix the PD gear of 20V voltage. If the charger does not support the 20V gear,Will outputthe voltage of the first gear,Maximum load is 80W (due to the influence of PD charger and CC line, it may be lower than 80W,Most CC lines on the market support up to 3A,Need to support the CC line of the Emarker chip to be larger than 3A)

3.5 Other Functions

Long press the switch button to realize one- key turn- off and one- key bright screen operation,When the screen is off, the keys are locked to prevent accidental touch;Supports quick recall of CNC setting parameters;Support PD charger and DC DC power adapter for direct power supply;It also supports a series of functions such as PC software upgrade and control.

4 Key Description

Knob operation is used to switch pages and adjust values. Other key operations are as follows.

	Knob	ON/OFF	V/A	<	>
Short press	Confirm or clear	Switch output	Cutover Set up Voltage and current	Previous page	Next page
Long press	/	Screen off/display	/	Switch M1 data	Switch M2 data

5 PC software introduction
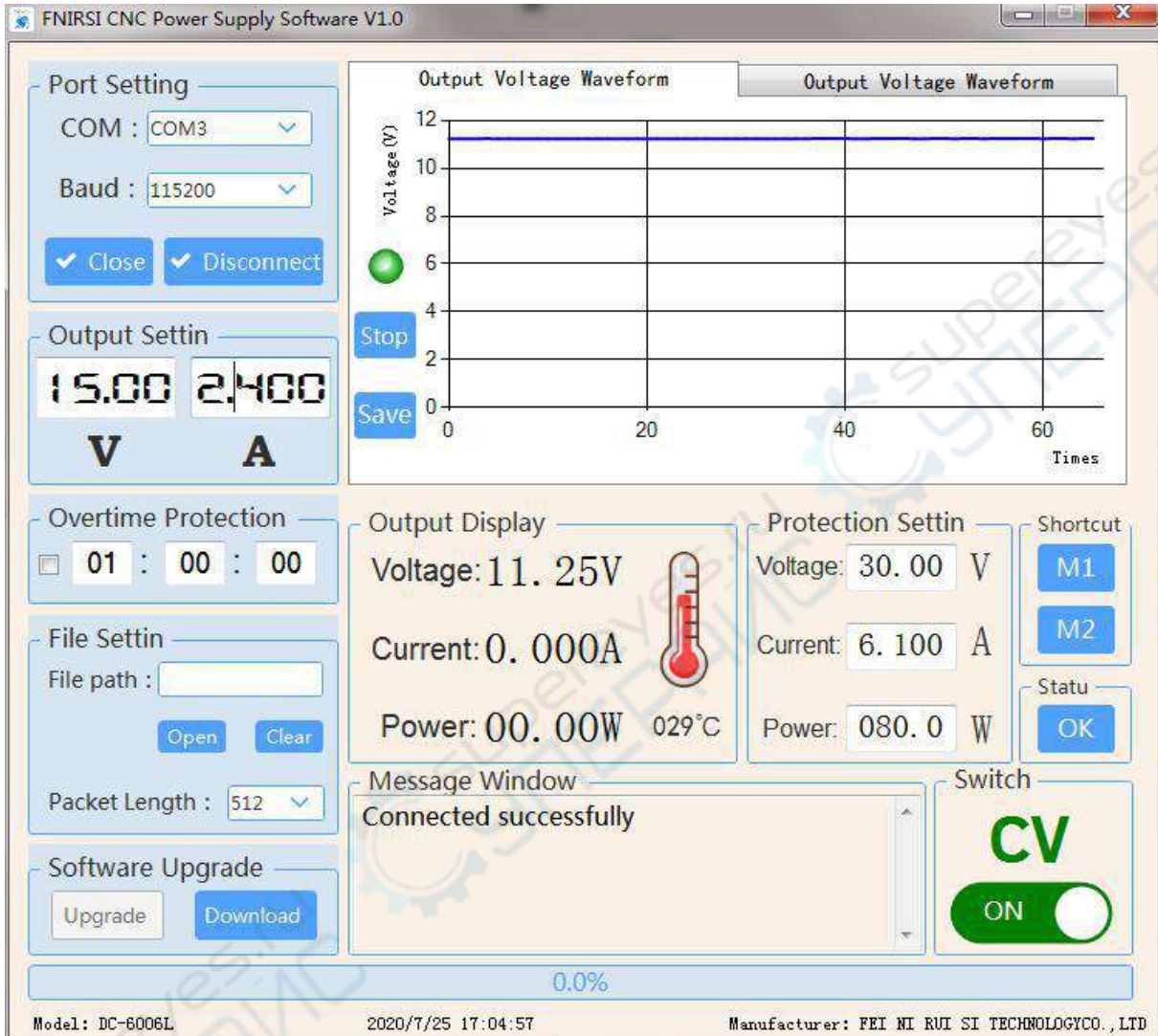
After the DC6006L is powered on, connect to the computer through the MICRO USB interface, select the corresponding serial port number (if the serial port number is not found, please check whether the computer is installed with the CH340 driver), and then open the serial port, click to connect the device, the message window will prompt whether the connection is successful, connect After success, the corresponding product model will be updated in the lower left corner of the page.

5.1 Firmware upgrade

Warning: Please disconnect any load when connecting to PC for software upgrade!After opening the PC software to connect the device,After selecting the correct latest device firmware file and data packet length (Free Choice),Just proceed with the firmware upgrade operation. Do not power off the device during the upgrade process.It will cause the upgrade to fail and cause the device to crash.

If the upgrade fails accidentally, please disconnect the power and press and hold the ">" button to power on the device.

Try to re- enter the upgrade mode and turn on the upper computer again to upgrade the firmware.After the firmware upgrade is successful, the device will automatically run the latest firmware and the PC software will restart.

5.2 Control operation

First, you must open the correct serial port number before the connect device button will take effect.When operating the host computer, all control input boxes cannot be empty,And only numbers and decimal points can be entered (the decimal point can only be entered in a specific position to take effect,For example, voltage 10 . 00 , current 3 . 000 , power 360 . 0),The setting will not take effect until the cursor leaves the input box.

The waveform can be observed by the waveform status light,to determine whether the waveform status is acquired in real time(Green represents acquiring data waveform, red represents pause to acquire data waveform), The " start/ pause" next to the waveform can control the waveform status light,The waveform can also be zoomed in   by   selecting the designated area with the left mouse

button, You can watch the waveform more intuitively, If you want to analyze the data for a period of time, click the save button next to the waveform, The DC-Date. xlsx file will be automatically generated on the desktop

, just open the file for data analysis.

6 Precautions

1.   This product is a step- down digitally   controlled adjustable power supply, and the output power of the input DC source equipment must be higher than 1 . 1 times the operating power of the load equipment;

2.   Before charging the lithium battery with constant current, please check the battery parameters, and after setting the voltage and current, distinguish the positive and negative poles connected to the battery to start charging;

3.   VIN- and OUT- are forbidden to be shorted or wrongly connected, otherwise the CC mode will fail;

4.   When using PC software to upgrade, please disconnect the load, and then connect the PC software.

5.   Multiple input interfaces cannot be connected at the same time, only one input interface can be connected ;

6.   Please read the product parameters carefully before using .