AvalonMiner1246 User Manual

Overview

Thank you for purchasing our products. To ensure that you can fully understand and install this product, please read the manual carefully. Please keep it for future reference.

Safety regulation

Warning: in order to prevent equipment damage, falling, electric shock, fire and other accidents that threaten personal safety, please install and use in strict accordance with the instructions. Do not transform the equipment or replace the parts by yourself.

- Do not use power supply beyond rated voltage range.
- Do not place equipment in unstable places.
- When checking and repairing the equipment, please entrust professional personnel to operate.
- When the equipment is abnormal, cut off the power supply quickly and contact the after-sales department.

Hardware connection

1. Network port connection; 2 is the fan connection. Connect the 4 Pin fan extension cable, as shown in the figure:
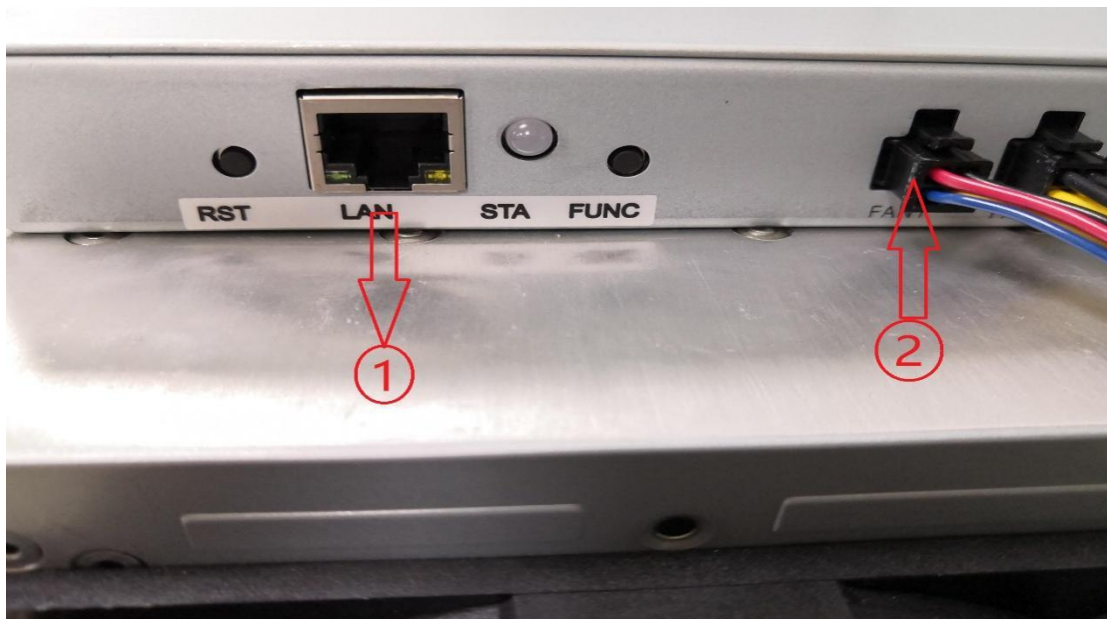
3 is the fan connection, connecting the 4Pin fan extension cable; 4 is connecting the power supply with the control board and connecting it with 6pin cable, as shown in the following
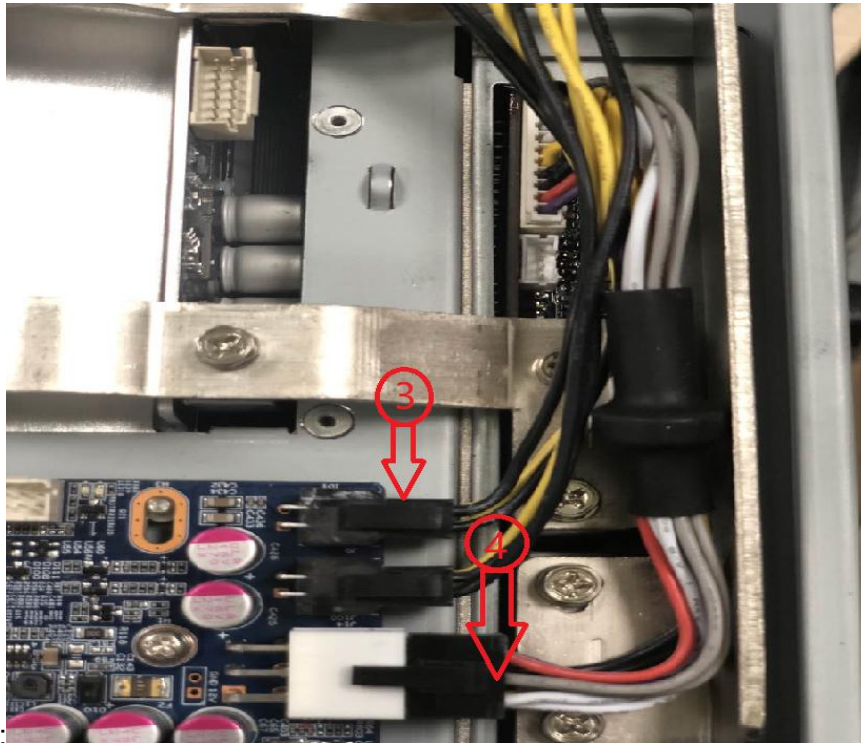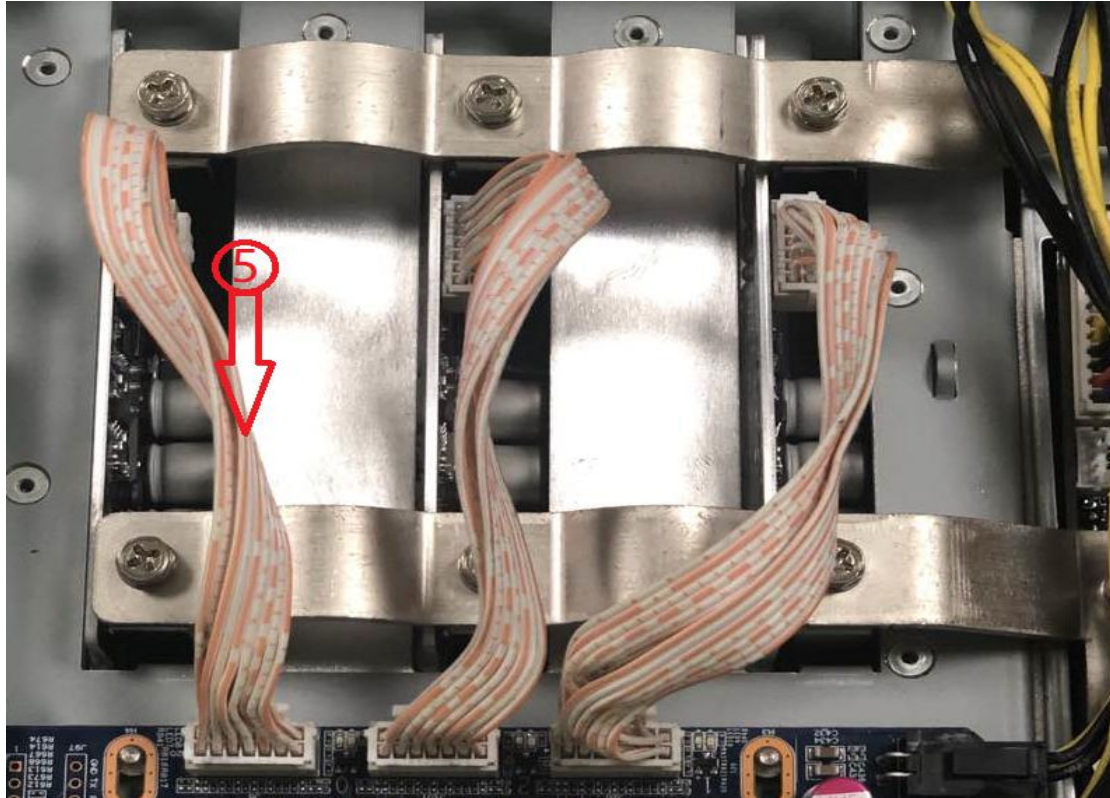

figure:

5 is to connect the hash board with the control board with 2 × 7pin cable, as shown below:

Button and indication LED

Button

RESET：System reset button, system reset will not affect the network series.

FUNC：Function button can be used to restore factory configuration, enter configuration mode, switch on light status during operation, etc

Indication LED

- After power on, the indicator light flashes red several times

- After the device is started, the indicator light will be yellow for about three seconds. During this period, press the func key to enter the configuration mode.

- The indicator led is green under normal mining condition.

- The indicator light is yellow during system preparation.

- When the system is overheated, the indicator light is red.

- During the operation of the system, through FMS software or manually pressing the func key, the indicator light flashes alternately yellow and green, and then press again to restore the original color

- Restore the factory settings: press the func function key when power on, keep it unchanged for five seconds until the red light flashes, then press reset or disconnect the power to restart.

Work mode

The device has two working modes: "normal mode" and "configuration mode". The default mode is DHCP mode.

Normal mode

In normal operation mode, the device runs in this mode most of the life cycle. In this mode, the network can use DHCP (dynamic acquisition) or static IP, and the factory setting is DHCP.
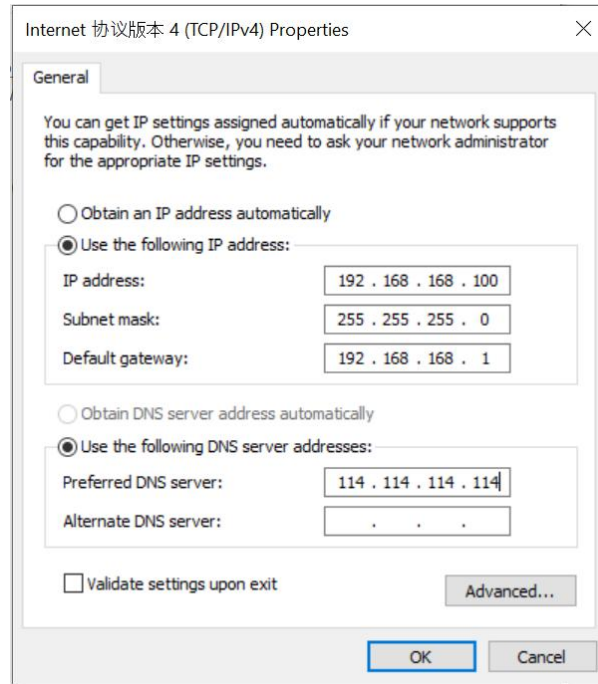
Configuration mode

Enter this mode by press the func button during the Red LED light at second time (about 3 seconds) at miner start up.

Press the func key before starting and then start the machine. During the red light period (about three seconds), the device will enter this mode.

In this mode, the IP address is static (address: 192.168.168.168, subnet mask: 255.255.255.0). The built-in web services of the device can be accessed through PC browser, and then the network, mine pool, password and other information can be configured.

After setting the PC to static IP address: 192.168.168.100 (or any other non conflict address in the same network segment), subnet mask: 255.255.255.0, connect the PC to the same network (under the same switch or router, or the PC is directly connected with the device network cable).

1.Right click ，Open network and Internet settings

2. Change the adapter options, disable WLAN and enable Ethernet.

You can access it with your browser http://192.168.168.168/ Configure the
device (modify static IP, etc.). After the device configuration is
completed, it needs to be rebooted. You can click reboot on the left side
of the console, or manually power off and restart. Don't forget to switch
the network connection so that the device can't access the Internet.

Use the browser to access the modified IP address again. If the indicator
is green, the operation is correct.

System setting

Access the built-in web service of the device through the browser, and
access the device console after login

User login

Default user name：**root**，default password：**root**，after login you could see
the Overview page.
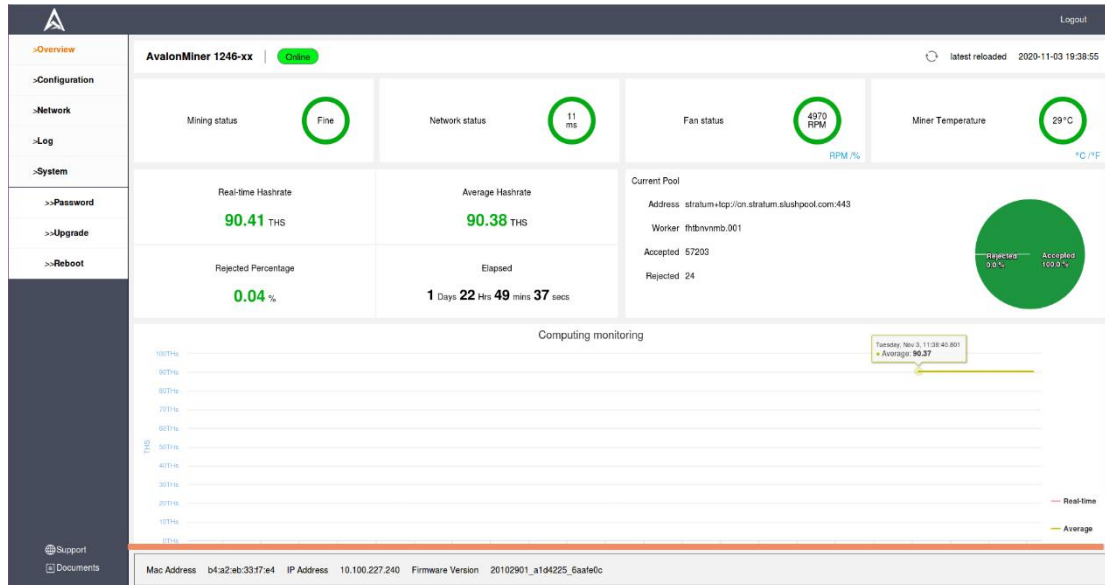
Network setting

Click **Network** on the left side of the console to set it as **DHCP** (dynamic access) or **static IP** (static).

Note: after saving the network settings, you must restart it. You can click reboot on the left side of the console, or press the reset button to restart. You can also disconnect the power supply and power on again.

Pool setting

The following figure shows the factory default settings. **Normal mode** (normal mode / low power consumption mode) or high performance (high power consumption mode) can be selected for work mode. When using **high performance mode**, please pay attention to using the power supply with higher power output to avoid damaging the hardware.

Note: after saving the configuration of the ore pool, it must be restarted. You can click reboot on the left side of the console, or press the reset button to restart. You can also disconnect the power supply and power on again.
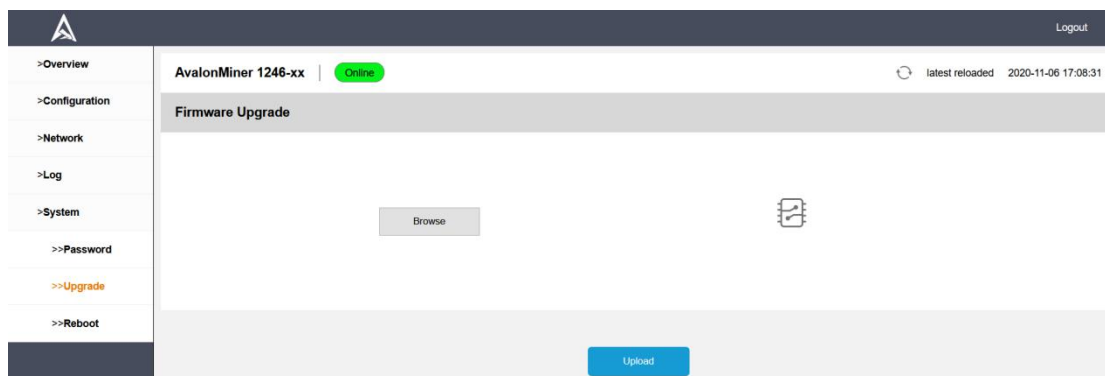
—
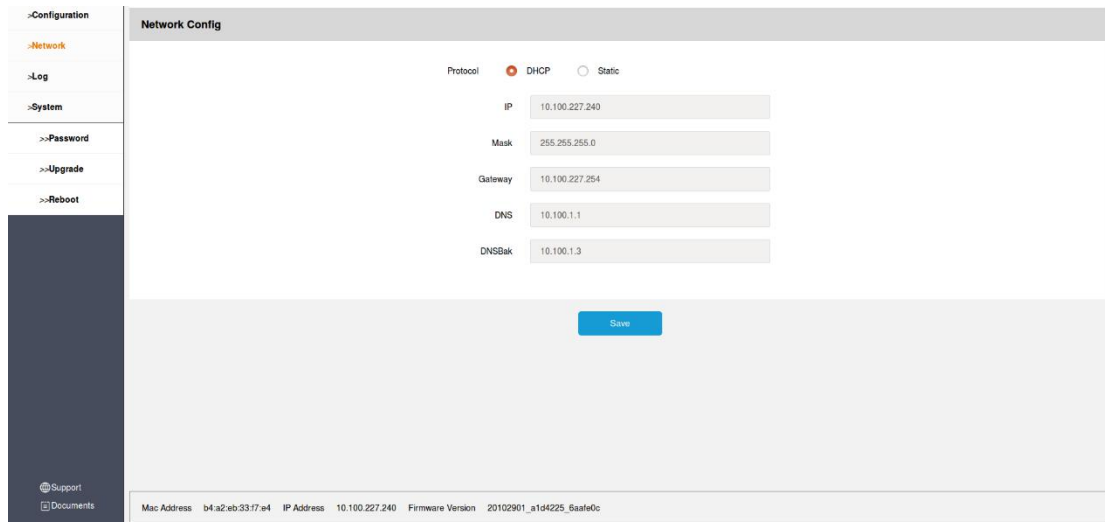
User Password

Default username：**root**，Default password：**root**

Click administrator on the left side of the console to set a new password and save it.

Firmware Upgrade

The upgrade package file format of this device is ***. AUP**, which can be downloaded through the official website or contact customer service.

The firmware of the device can be upgraded by FMS software.

Restore to factory setting

When power on, press the func key for 5 to 10 seconds, and the system will automatically clear the saved configuration, including network, mine pool, password and other information. After the configuration is cleared, the white indicator light flashes frequently, indicating that the configuration is restored successfully. After releasing the func key, press the reset

button to restart, or disconnect the power supply and power on again. The system will work with the default factory configuration.

Device guarantee

In the process of use, the equipment may not work normally due to loose connection and abnormal damage of device wire. You can check and remove the fault by yourself. If the device is damaged and within the scope of warranty, you can contact our after-sales personnel for quick repair.

This product provides a 180 day warranty from the time the customer receives the goods, but the following conditions will void the warranty:

- Any physical damage caused by self dismantling equipment or other reasons (including but not limited to: fracture, fragmentation, missing corner, missing components, etc.)
- Damage caused by lightning strike, voltage surge, etc
- There are burn marks on the circuit board or the chip is burned
- Damage caused by water inflow and immersion
- The circuit board is damp and corroded
- beyond the warranty period

If the above situation happens unfortunately, we can still provide charge maintenance service for your equipment, you can also contact the after-sales personnel to purchase parts for self repair.

Malfunction

Boot failure

1、Failure phenomenon

Fan does not turn or LED light does not light up after starting.

2、Possible Cause

Mine fan wiring loose, Miner control board power supply line disconnected, AC power input is not well connected, power module is broken, control board is broken, power output short circuit protection.

3、Inspection and repair methods

- Power on the whole miner, turn on the power switch of the miner, and plug in the network cable connected with the switch (or router). Check that the network port link light flickers. If the network port light is not on, it indicates that the MM control board has no power. It is necessary to check the power line connection, replace the power supply or check whether there is a short circuit in the power output.
- If the network port light is on, but the LED light of MM control

board is not on, it is necessary to replace the MM control board.

- If the MM control board LED is on but the fan does not rotate, check the fan connection line or replace the fan.

Can't mine

1、Faulty phenomenon

- Unable to connect the pool for a long time (more than 5 minutes) after starting up (the miner lights up yellow for a long time, does not turn green light, has no hashrate).

- The miner pool can be connected after the machine is turned on (the LED light of the miner is green), but it has no hashrate.

2、Possible cause

- pool configuration error.

- Network configuration error.

- The miner cannot access the Internet.

- The miner power supply has no main circuit output (wiring error, overload, short circuit or damage).

- The miner's hashboard does not work。

- overheat protection.

3、Check and repair

- If the PC cannot be connected to the miner through the network, you can try to restore the factory settings after confirming that the network environment is normal, the network cable is firmly connected, and the miner is started normally. The method of restoring factory settings is shown in Appendix I.

- Check the current firmware version of mining machinery, and it is recommended to update it to the latest version with FMS. See Appendix 3 for the upgrade method.

- Check the status of the hashboard .

- Click log to view the working status as shown in the figure below. It should be in work normally. If it is overheating shutdown, check the fan and ambient temperature as follows.

- Check the number of hash boards shown in the figure below. If the value is 1 or 2, you need to contact our after-sales personnel for handling. If it is 0, you need to check the status of the power supply according to the following.

Miner Log

{'STATUS':[{'STATUS':'S','When':168679,'Code':11,'Msg':'Summary','Description':'cgminer 4.11.1'}],'SUMMARY':[{'Elapsed':168681,'MHS av':90380263.06,'MHS 30s':9653
58.20,'Found Blocks':0,'Getworks':5968,'Accepted':57246,'Rejected':24,'Hardware Errors':1483,'Utility':20.36,'Discarded':378049364,'Stale':0,'Get Failures':0,'Local Work':6
7.0000,'Work Utility':1262595.08,'Difficulty Accepted':3543208196.00000000,'Difficulty Rejected':1516032.00000000,'Difficulty Stale':0.00000000,'Best Share':1924720749
0428,'Pool Stale%':0.0000,'Last getwork':0}
{'STATUS':[{'STATUS':'S','When':168679,'Code':70,'Msg':'CGMiner stats','Description':'cgminer 4.11.1'}],'STATS':[{'STATS':0,'ID':'AVA100','Elapsed':168682,'Calls':0,'Wait'
02901_a1d4225_6aafe0c] DNA[020100009f6bb725] MEMFREE[1395976.0] NETFAIL[0 0 0 0 0 0 0 0] SYSTEMSTATU[Work: In Work, Hash Board: 3] Elapsed[168682] B
40%] Temp[30] TMax[77] TAvg[65] Fan1[5030] Fan2[4910] Fan3[4972] Fan4[4932] FanR[67%] Vo[308] PS[0 1219 1233 256 3159 1232] PLL0[2187 3021 4558 4154] PLi

1. Check the power supply, temperature, network status and fan status, and click log in the left column, as shown in the figure below:

Miner Log

{'STATUS':[{'STATUS':'S','When':168679,'Code':11,'Msg':'Summary','Description':'cgminer 4.11.1'}],'SUMMARY':[{'Elapsed':168681,'MHS av':90380263
58.20,'Found Blocks':0,'Getworks':5968,'Accepted':57246,'Rejected':24,'Hardware Errors':1483,'Utility':20.36,'Discarded':378049364,'Stale':0,'Get Failur
7.0000,'Work Utility':1262595.08,'Difficulty Accepted':3543208196.00000000,'Difficulty Rejected':1516032.00000000,'Difficulty Stale':0.00000000,'Best S
0428,'Pool Stale%':0.0000,'Last getwork':0}
{'STATUS':[{'STATUS':'S','When':168679,'Code':70,'Msg':'CGMiner stats','Description':'cgminer 4.11.1'}],'STATS':[{'STATS':0,'ID':'AVA100','Elapsed':168
02901_a1d4225_6aafe0c] DNA[020100009f6bb725] MEMFREE[1395976.0] NETFAIL[0 0 0 0 0 0 0 0] SYSTEMSTATU[Work: In Work, Hash Board: 3]
40%] Temp[30] TMax[77] TAvg[65] Fan1[5030] Fan2[4910] Fan3[4972] Fan4[4932] FanR[67%] Vo[308] PS[0 1219 1233 256 3159 1232] PLL0[2187 30
Hspd[2.140%] GHSmm[92632.88] GHSavg[90379.47] WU[1262586.57] Freq[554.56] Led[0] MGHS[30035.11 30396.00 29948.35] MTmax[77 71 76] M

Check the following fields in the right interface:

2. NETFAIL: The time of disconnection from the pool is recorded (if it has not been disconnected or has never been connected to the pool, here is all 0). In this record, the odd number items (items 1, 3, 5) are the time of disconnection from the pool, and the even number items (items 2, 4, 6) are the time to restore the connection with the pool. If only the odd number items have data and the even number items are 0, it indicates that the connection with the pool is currently disconnected and has not been restored (usually because the server at the end of the pool is disconnected due to excessive pressure, if it occurs frequently for a long time, other mining pools can be replaced).

- SYSTEMSTATU: The current working status is recorded. It is in work normally. Among them, hash board: is the number of hash boards in operation. If it is 1 or 2, you need to contact the after-sales department for solution.

- TAvg is average chip temperature.

- Vo is average chip voltage range:290mV-350mV。

- PS is PSU status ,include 1-6 item as below：

  - Item 1: error code. Other values indicate power failure or output short circuit。
  - Item 2: voltage supplied to the control board. The normal value is 12xx.
  - Item 3: the voltage supplied to the hash board is normally between 1200 and 1320.

- **Item 4**: the current output from the power supply to the hash board, which is related to the output power and voltage.
- **Item 5**: the output power of the power supply to the hash board. The normal value is between 3100 and 3300.
- **Item 6**: the desired output voltage of the power supply to the hashboard, which is configured by the control board.

If the six parameters in the PS field of the power supply are all 0, it means that the control board cannot communicate with the power supply. Please check the circuit connection. If the connection is correct, the power supply PSU needs to be replaced.

3. Check whether the password configuration of mine pool, miner and miner is correct.

   In the background of the mining machine, click pool on the left column to check the configuration of pool, worker and password. Finally, click the Save button to save the settings, restart the machine, and the configuration takes effect
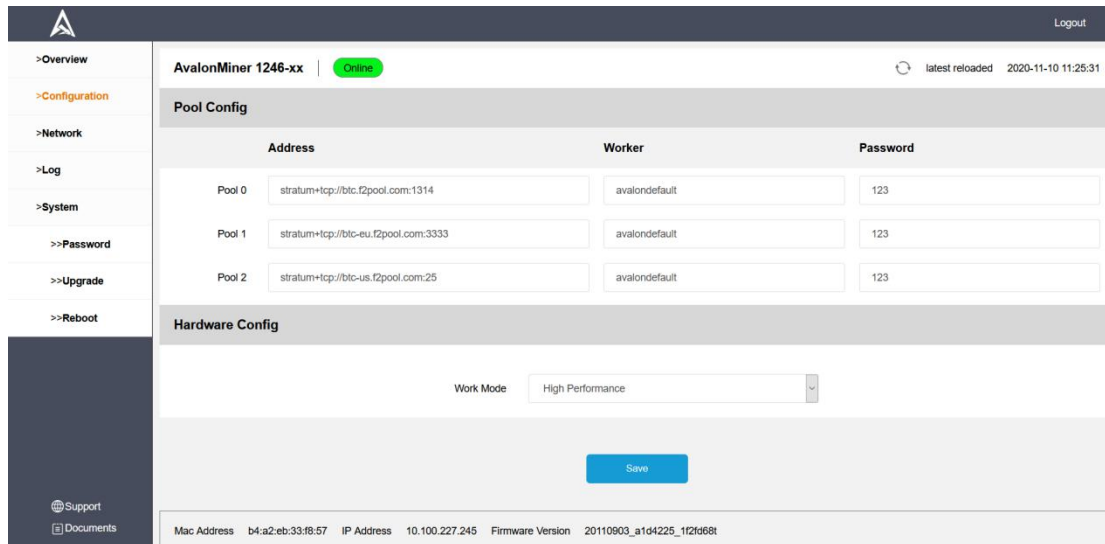
4. Check network setting

   Click Network on the left. The default configuration is DHCP mode. If all the data here is empty, press F5 to refresh the page.

   Note that if you need to use static IP configuration. Incorrect DNS configuration will cause the miner to lose access to the pool.

   The commonly used DNS address in China is 114.114.114.114, and the commonly used DNS address outside China is 8.8.8.8.

   Note: after modifying the configuration, you need to click the Save button to save the configuration and restart the machine to take effect.

Miner Simple Makeup

1. The assembled hash boards, case shell and rear panel are assembled as follows:
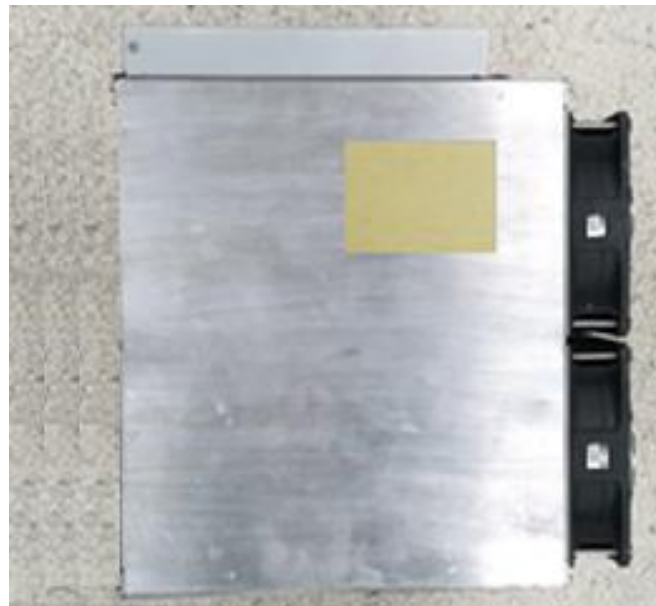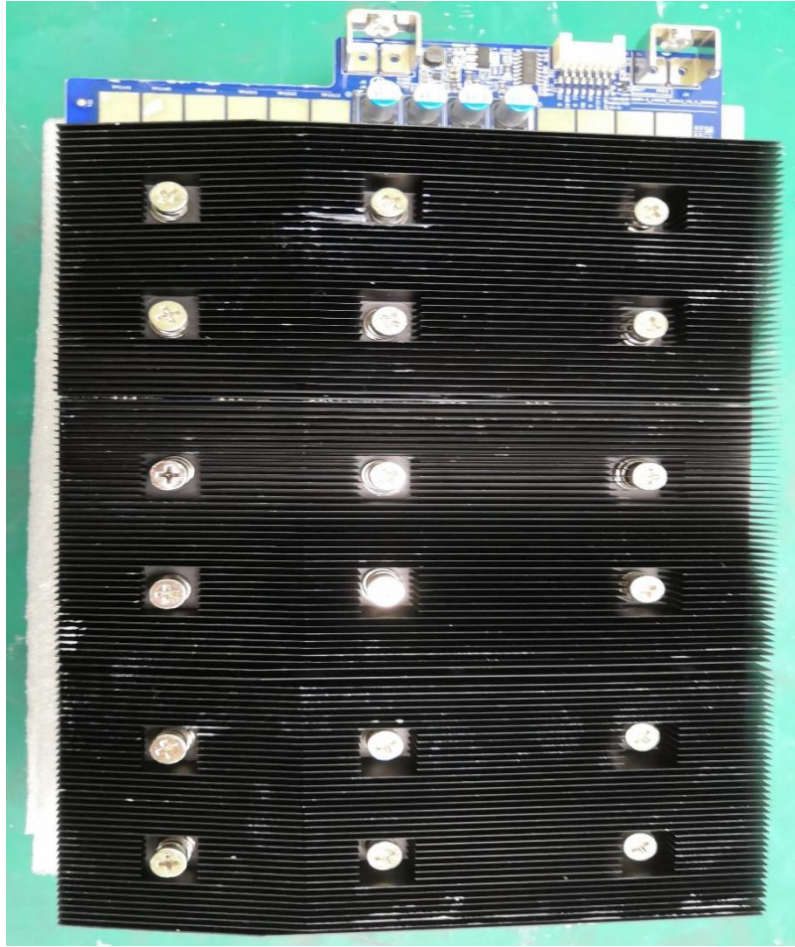
2. Place the chassis vertically, push the three hash board onto the guide rail of the chassis, and pay attention to the assembly direction of the hash board components, as shown in the figure:

3. Assemble the hashboards in place, as shown in the figure:

4. Assemble the rear panel to the chassis, pay attention to the assembly direction, as shown in the figure,

5. As shown in the figure, align the opening position of the power supply with the hook position of the power support, press it to level, and push the power supply horizontally according to the arrow direction in the figure until the snap pops up (with a click sound), indicating that the power supply is assembled in place.
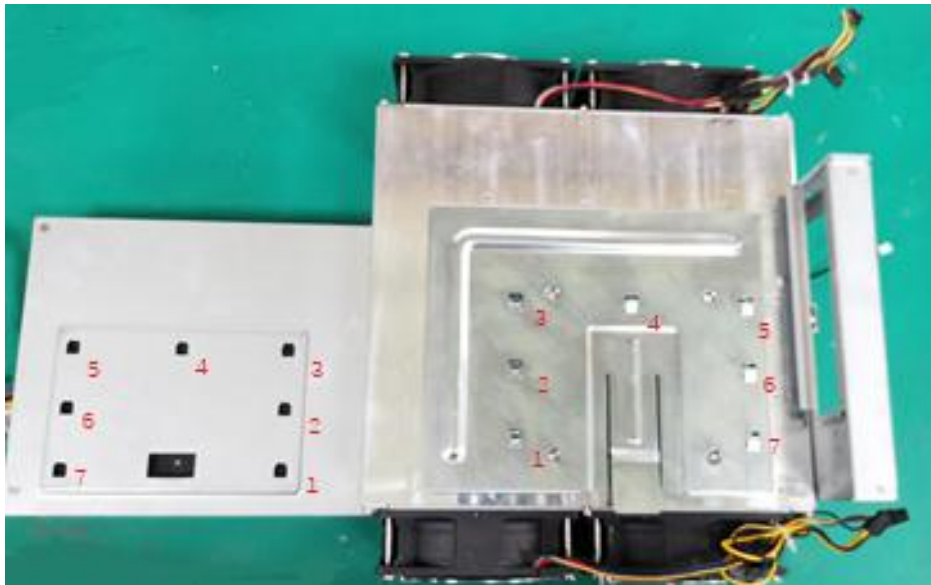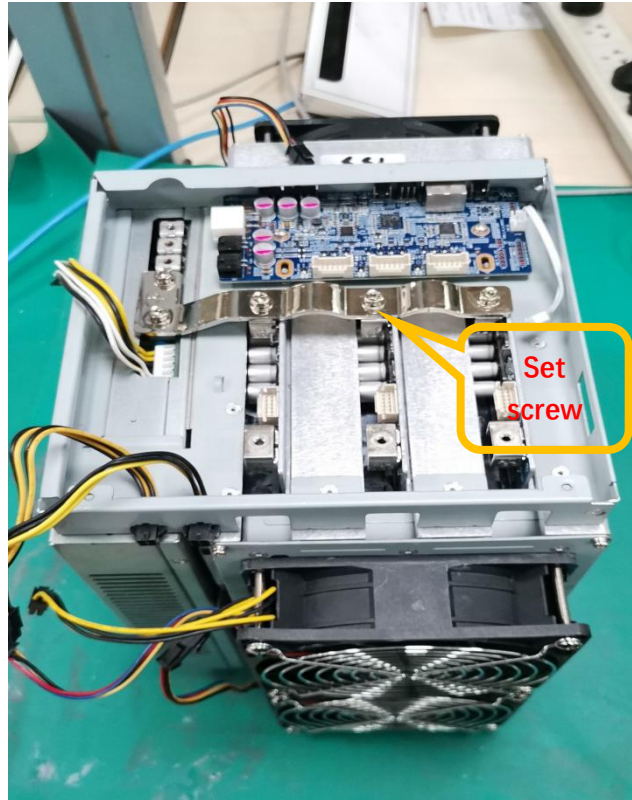
7. Assemble mm board according to the direction shown in the figure, and pay attention to the position of locating pin.
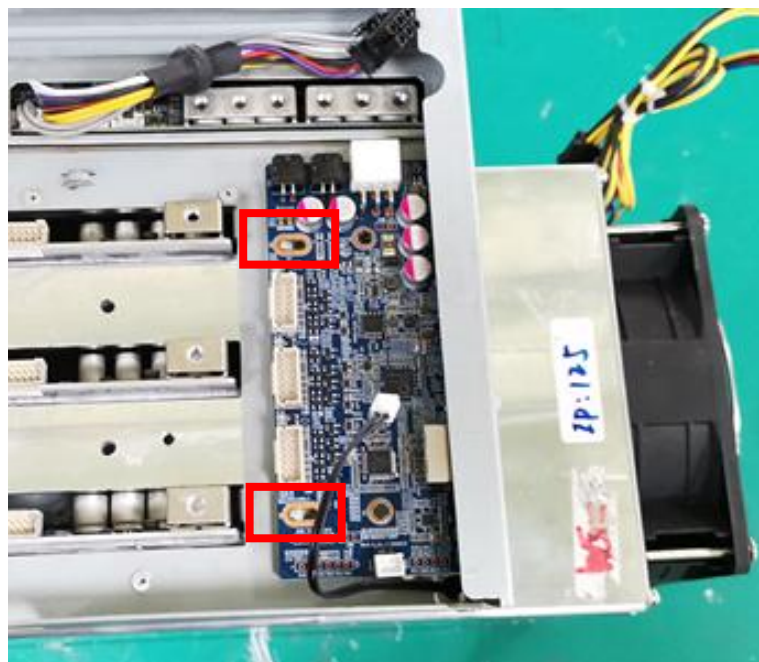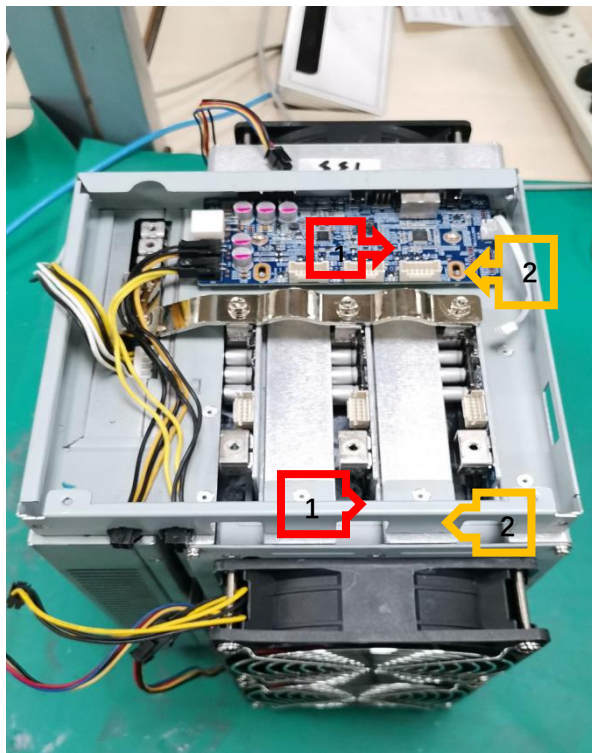

8. As shown in the figure, place the conductive aluminum bar (positive pole) at the position shown in the figure, first assemble the set screw, but do not tighten it; tighten other screws, and finally tighten the set screw.
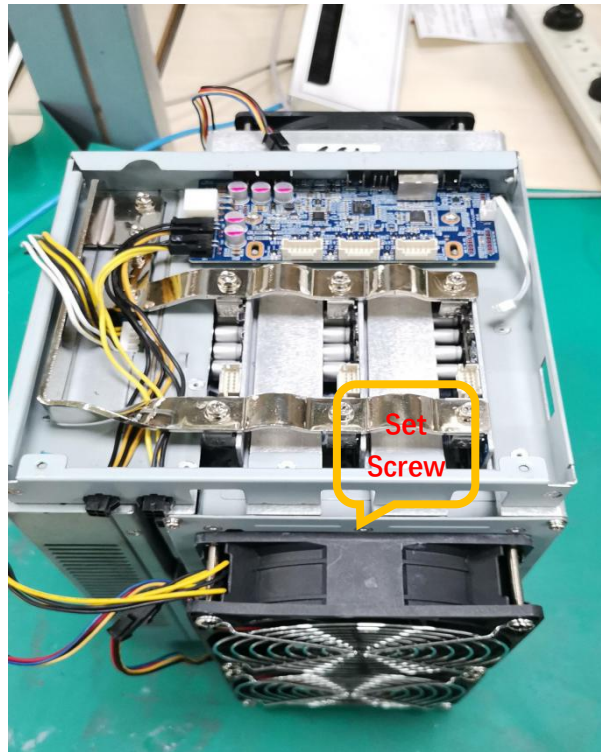
9. Connect the fan extension cable with MM board, pay attention to the connection sequence.

10. As shown in the figure, place the conductive aluminum bar (negative

pole) at the position shown in the figure, first assemble the set screw, but do not tighten it; tighten other screws, and finally tighten the set screw.
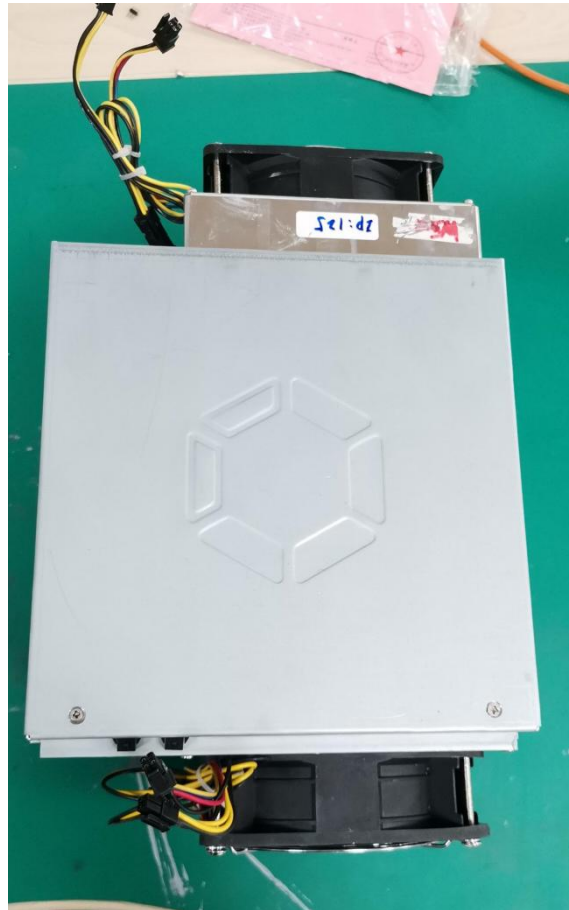

11. Connect the voltage regulating line of the power supply to the MM board, and connect the plug of the temperature sensing line to the MM board.
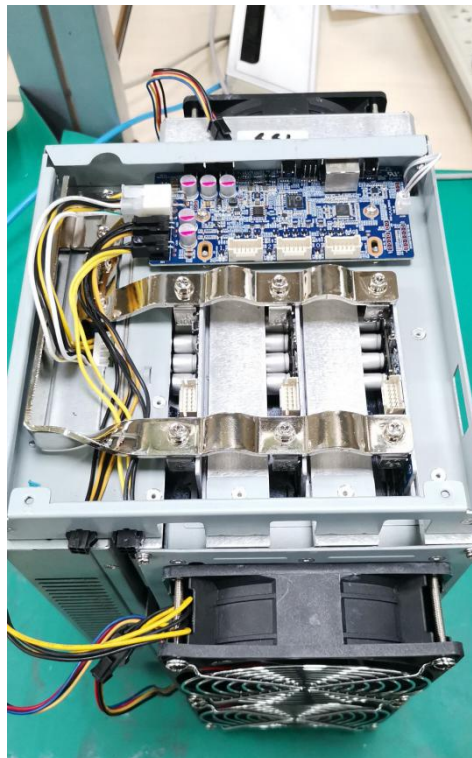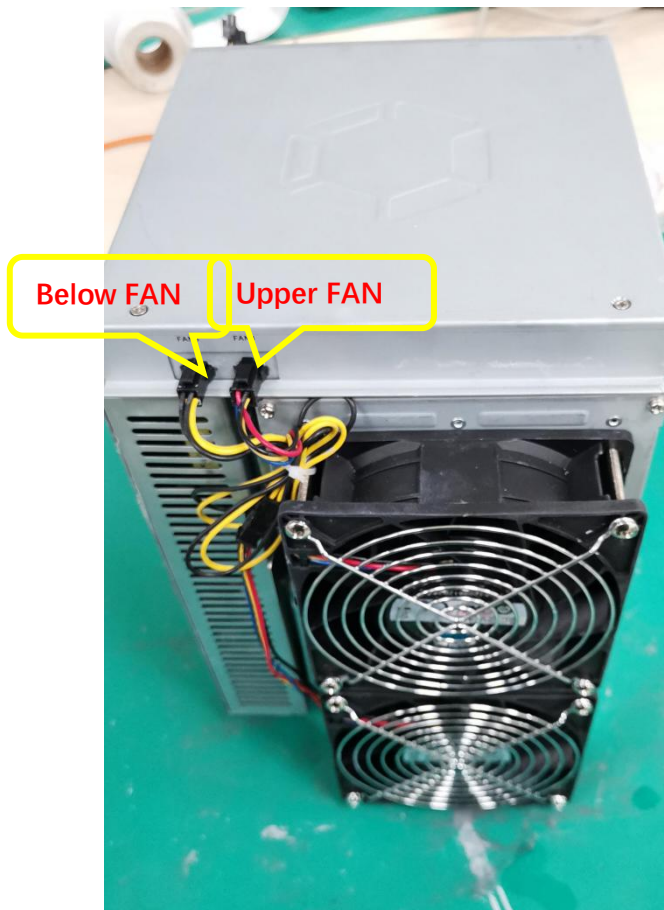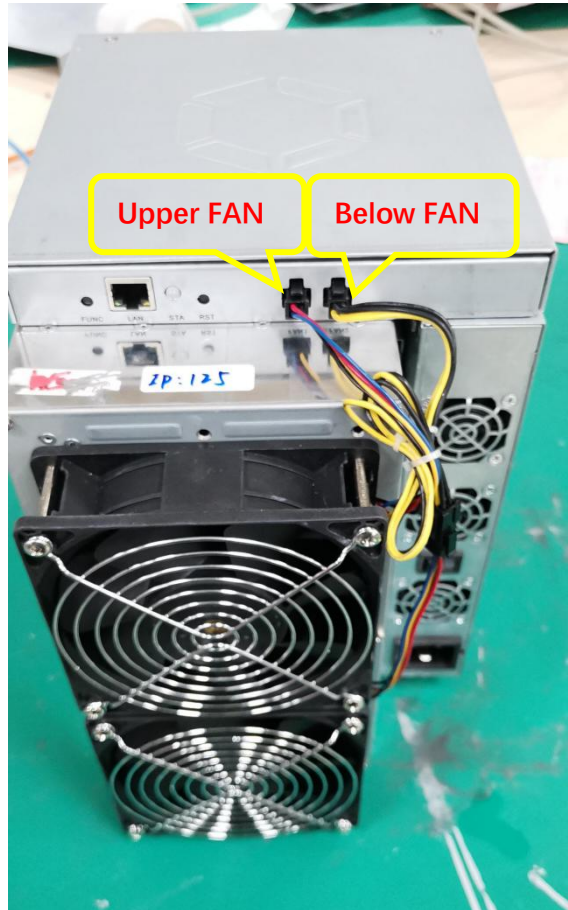
12. Hash, as shown in the assembly diagram.

13. Place the upper shell and fix it with flat head screw, as shown in the figure:

14. Assemble the fan line in sequence as shown in the figure

Upper FAN   Below FAN

Below FAN   Upper FAN

Appendix I operation method of restoring factory settings

Step	Remark
Confirm that the miner is powered off	
Press and hold the func key。	
Power on the miner	Note that you need to keep the func key pressed all the time.
Keep func pressed until the miner's red LED flashes.	

- **Method 2 of restoring factory settings**

Step	Remark
The miner is powered on	
Press and hold the func key。	
Press the reset button and release.	Note that you need to keep the func key pressed all the time.
Keep func pressed until the miner's red LED flashes.	

Appendix 2 firmware version viewing method

- view version in the background：

Click overview on the left column to see the firmware version number in the figure below。

Mac Address   b4:a2:eb:33:f8:57   IP Address   10.100.227.245   Firmware Version   20110903_a1d4225_1f2fd68t

-

- view with FMS：

Directly view the contents of ver in the far right column of the mine machine list in FMS。

Appendix 3 operation method of FMS batch upgrade mining machine firmware

Start FMS, select the corresponding miner in the main interface, and click the upgrade button, as shown in the following figure:
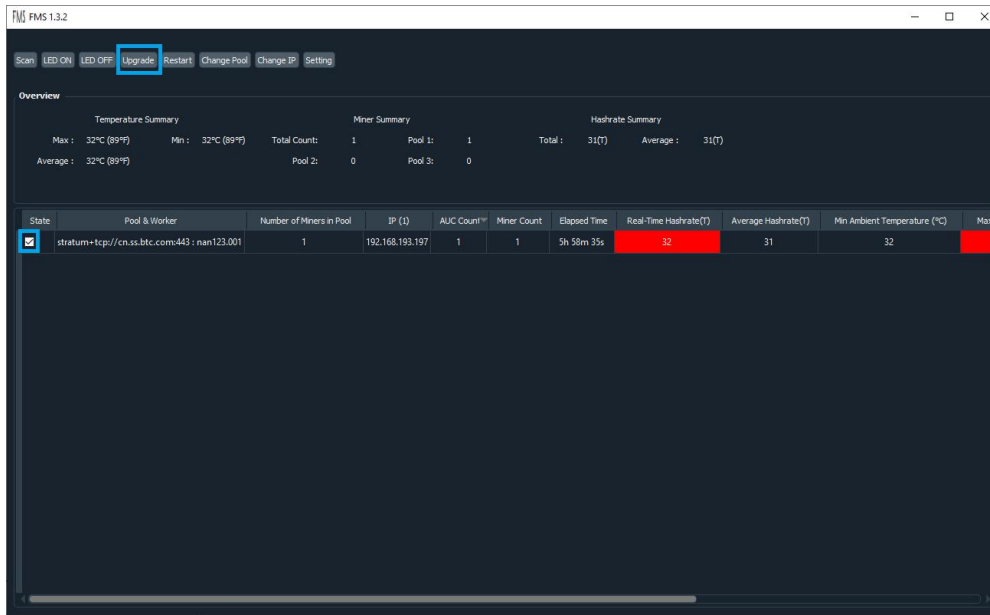
In the pop-up dialog box, select the firmware file to be upgraded (.AUP), and click open. As shown in the figure
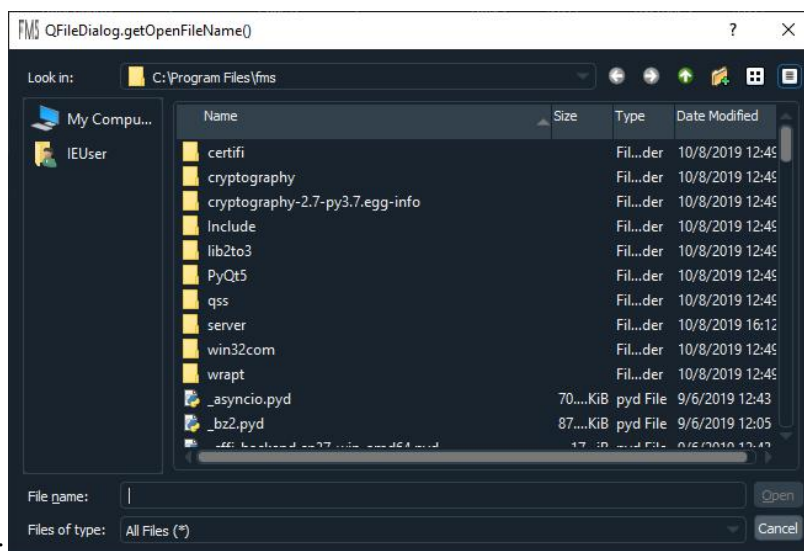
below:

There will be progress prompts during the update process:

There will be a prompt at the end of the update. If all are successful, A12 upgrades were successful. Otherwise, all IP addresses that failed to upgrade will be listed. For the miner that failed to upgrade, you can select them according to IP, click the button Restart to restart them, wait for 3 minutes, and then try to upgrade these mining machines again.
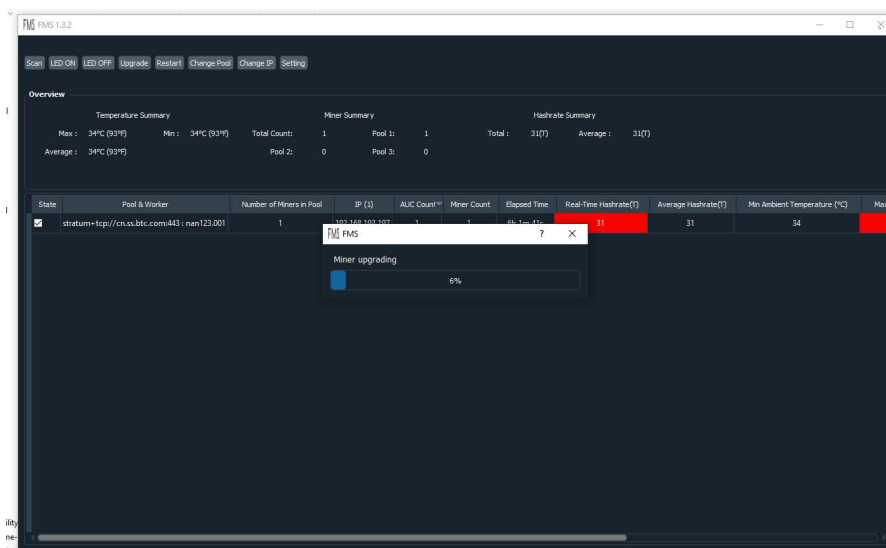
Appendix 4 description of main parameters of log page

field	Name	Remark
Elapsed	Total running time of miner after starting (unit: s)	
Ver	Version number of miner firmware	
DNA	The Unique miner ID。	
NETFAIL	After connecting the pool successfully, the time to disconnect from the mine pool and the time to resume the connection are also included.	The odd number items (items 1, 3 and 5) are the time of disconnection from the pool, and the even number items (items 2, 4 and 6) are the time for resuming the connection with the pool. The time is in seconds, and the starting time of miner is the 0 second.
SYSTEMSTATU	The current status of the system, including the working status and the number of hash boards in operation。	
DH	Average calculation error rate. The normal value was 0.6-1.6%.	
Temp	Ambient temperature	
TMax	Maximum chip temperature。	

TAvg	Average chip temperature	
Fan1	Fan 1 rotating speed	
Fan2	Fan 2 rotating speed	
FanR	Fan rotating percentage	
Vo	Average chip voltage	
PS	Power supply status	The meanings of items 1-6 are as follows: Item 1: error code. Other values indicate power failure or output short circuit. Item 2: voltage supplied to the control board. The normal value is 12xx. Item 3: the voltage supplied to the hash board is normally between 1300 and 1448. Item 4: Power supply output current to hashboard. It's related to the output voltage of the power supply. Item 5: the output power of the power supply to the hash board, the normal value is between 3000 and 3200. Item 6: the desired output voltage of the power supply to the force calculation board, which is configured by the control board. If the six parameters in the PS field of the power supply are all 0, it means that the control board cannot communicate with the power supply.
PLL0	The distribution of the 0 th hash board chip at each frequency point。	For example, pll0 [256 589 1259 5786] indicates that there are 256 chips running at frequency 1 There are 5786 chips running at frequency 4。
PLL1	The distribution of the 1 th hash board chip at each frequency	

	point。	
GHSmm	theoretical hashrate, Unit GH/s.	Note:the actual hashrate is the value obtained by deducting DH (calculation error rate) from theoretical hashrate.
GHSavg	Average Hashrate at 1 hour .	According to the 1-hour average hashrate by the actual work submitted, this value is closest to the 24-hour average hashrate at the end of the ore pool.
WU		
Freq	Equivalent frequency	The chip works at different frequency points, and the equivalent frequency is the comprehensive equivalent frequency of the whole machine.
Led	White LED status	When you need to find a specific one among many miners, use API to light up the yellow green flashing LED light of the miner. Here is the status of whether the yellow and green flashing LED is on, 1 indicates that it is on, 0 means it is not.
MGHS	The calculation force of a single force plate, unit GH / S	
MTmax	Maximum chip temperature in a single hashboard .	
MTavg	Average chip temperature in a single hashboard.	
TA	ASIC chip numbers	
SF0	The frequency point configuration state of the hashboard 0.	For example, SF0 [500 525 550 575] indicates that frequency point 1 is 500MHz and frequency point 4 is 575mhz.
SF1	The frequency point configuration state of the hashboard 1.	
PVT_T0	Temperature list of all chips of hashboard 0.	
PVT_T1	Temperature list of all chips of	

	hashboard 1.	
PVT_V0	Voltage list of all chips of hashboard 0.	
PVT_V1	Voltage list of all chips of hashboard 1.	
PVT_R0	DH value list of all chips of hashboard 0.	
PVT_R1	DH value list of all chips of hashboard 1.	

Appendix 5 LED status

1. The state flow process of LED lamp under normal startup condition:

Status sequence	Red Led Flash	Yellow Led Flash	Green Led Flash
Durable Time	1s	Approximately 20-30s	Long time

2. LED Status Description

LED status	Description
Off state	The firmware is not running. (no power input possible)
Red LED light	The system enters test mode. (or to restore the status after the factory setting operation, it is necessary to release the func key and restart to make the master control enter the normal working state.)
Yellow LED light	The system has been started but not connected to the mine pool, the network is blocked or the power supply is abnormal.
Green LED light	The system has been started and connected to the mine pool.。