



# Whats Miner All-in-one machine operation instruction

(Lite version)

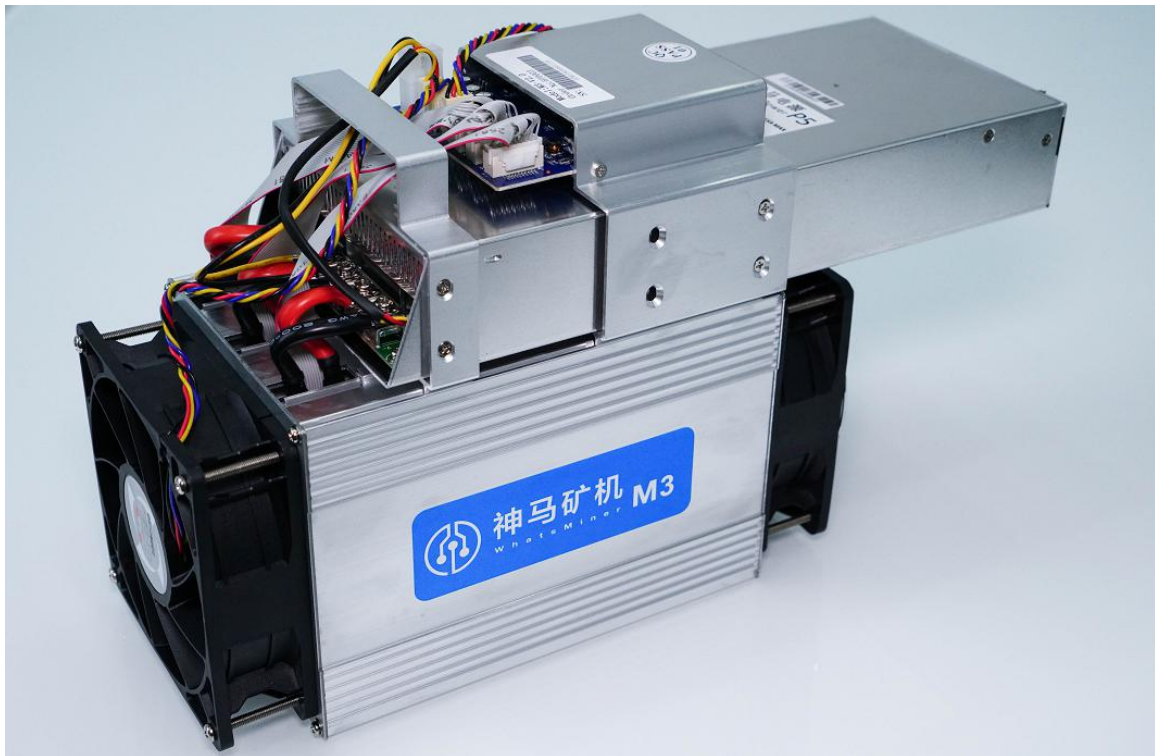
V1.2(H3 platform)



Shenzhen MicroBT Electronics Technology Co., Ltd.

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## 1. Introduction of M3 Integrated Machine



### Whatsminer M3 integrated machine

Bitcoin miner

The product parameters are as follows:

Computational power: 12TH/S

Chip: 189 28nm ASIC

Power consumption: 0.18~0.19kw/TH

Supporting Power supply: Shenma Power supply P5 (220vU 2250W)

Control board: with ambient

temperature: -5 °C ~ 40 °C whole

machine size: 375mm\*130mm\*225mm

## 2. Mine wiring, safety warning for operation on the shelf

### 2.1. Matters needing attention in connection of Mine Machine

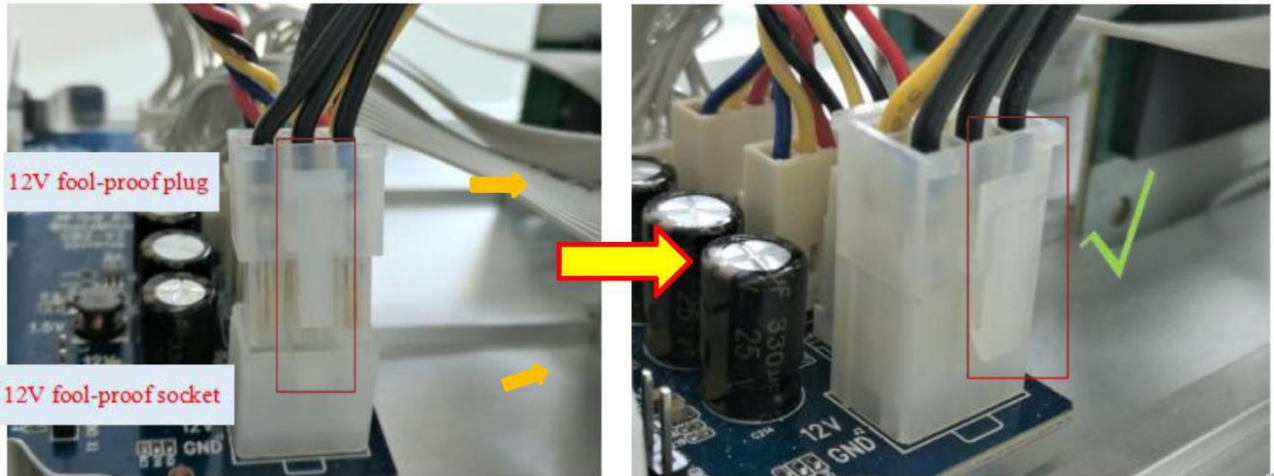
Mine machine 12V power line, power supply control line, fan line must be correctly connected, if due to the connection error, resulting in control board,

force board burning, the whole machine and veneer will not belong to the scope of warranty!

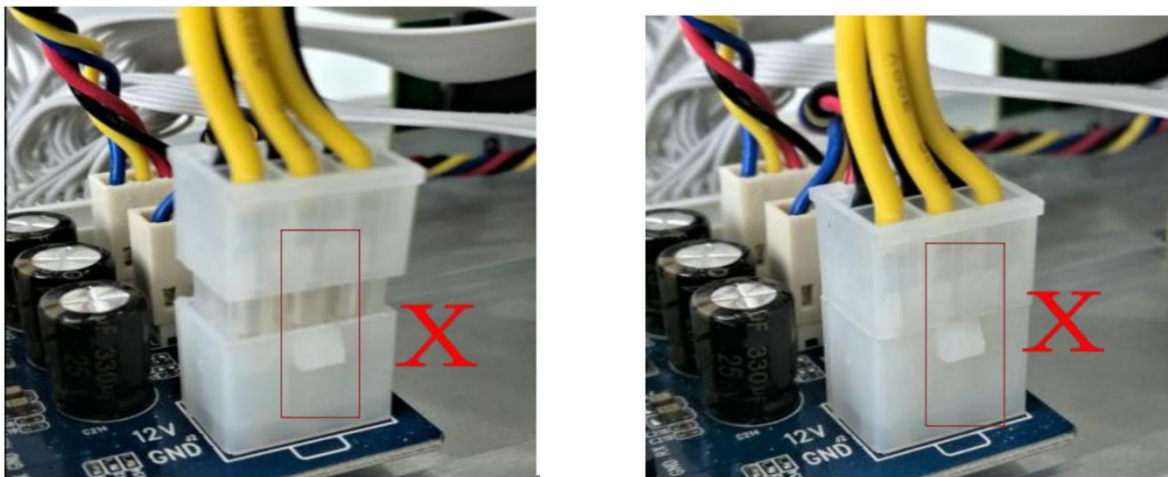
### 2.1.1. Points for attention in connection of Control Panel 12V Power Line

When connecting the power cord of the control board, the plug of the power cord and the clasp at the two ends of the power outlet of the control board must correspond to each other, and the plug of the power cord cannot be inserted into the control board socket by force. If backplugged, power on could burn down the control board and burn out the signal wiring

Correct connection of power cord plugs and sockets:

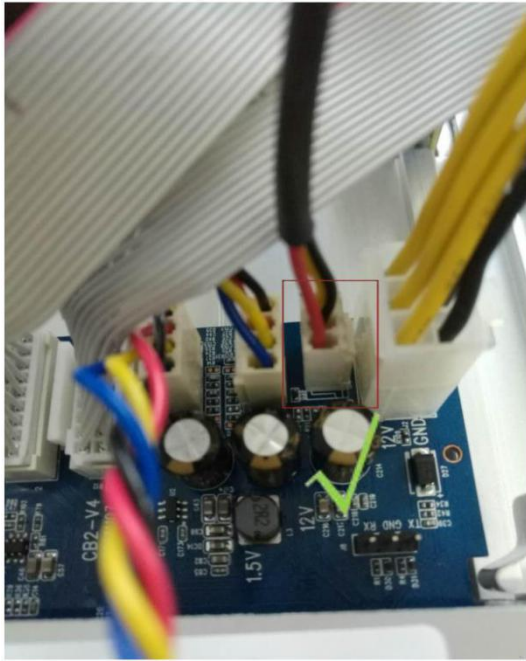


Wrong connection of power cord plugs and sockets:



### 2.1.2. Matters needing attention in connection of Power supply Control Line

The power supply control line is 3pin red, black and yellow wire, 3 small ports face out, the slot is inserted relative bit:

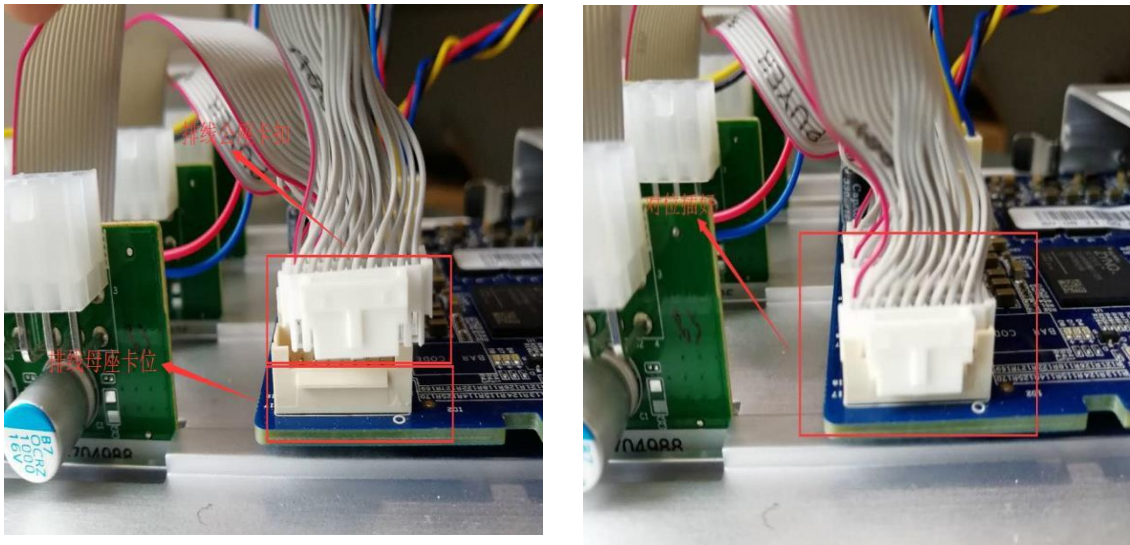


### 2.1.3. Matters needing attention in connection of Fan Line

Fan line is 4pin blue, yellow and red black line, 4 small mouth outside, card slot relative bit insert:



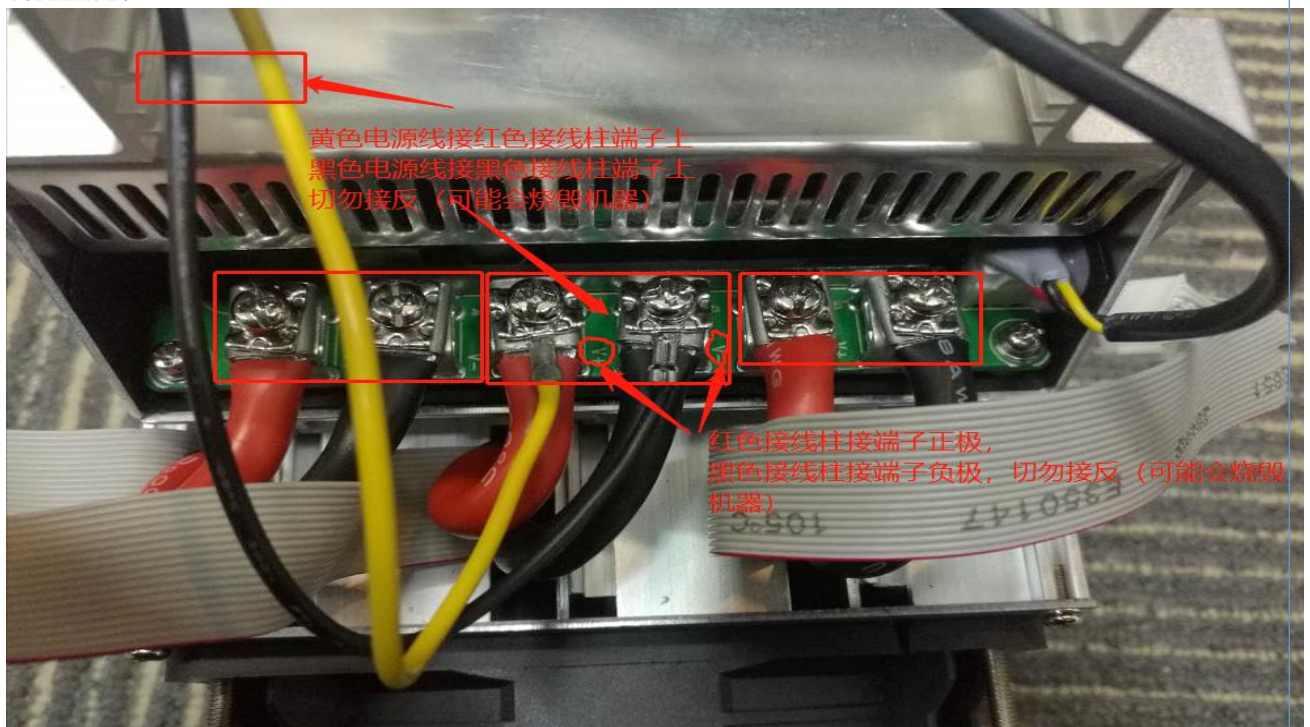
### 2.1.4. Matters needing attention in data wiring connection of Force Plate



### 2.1.5. Matters needing attention in connection of 12V Power Line with Power Plate

When connecting the power cord of the force board, the power cord connecting post and terminal must correspond to each other (yellow power cord is connected to the red cable, and the red pole is connected to the positive pole (V+)). The black power cord is connected to the black pole, and the black pole is connected to the negative pole (V-), which is tightened with screws. If the connection is reversed, the power supply may burn down the machine.

Correct connection method of power cord connecting post and terminal:



## 2.1.6. Machine wiring inspection

After all mine connections are connected, check again to confirm that the connection is correct.



## 2.2. Mining machine handling, on the shelf operation points for attention

In the process of ore machine handling and loading, data wire arrangement, power control line, fan wire are strictly prohibited as lifting handle, lifting machine and power supply. By connecting the teena machine and the power supply, the connection will be damaged, the connection will be loosened, and the control board will be physically damaged over the carrying capacity. The resulting hardware damage and failure will not belong to the scope of warranty!

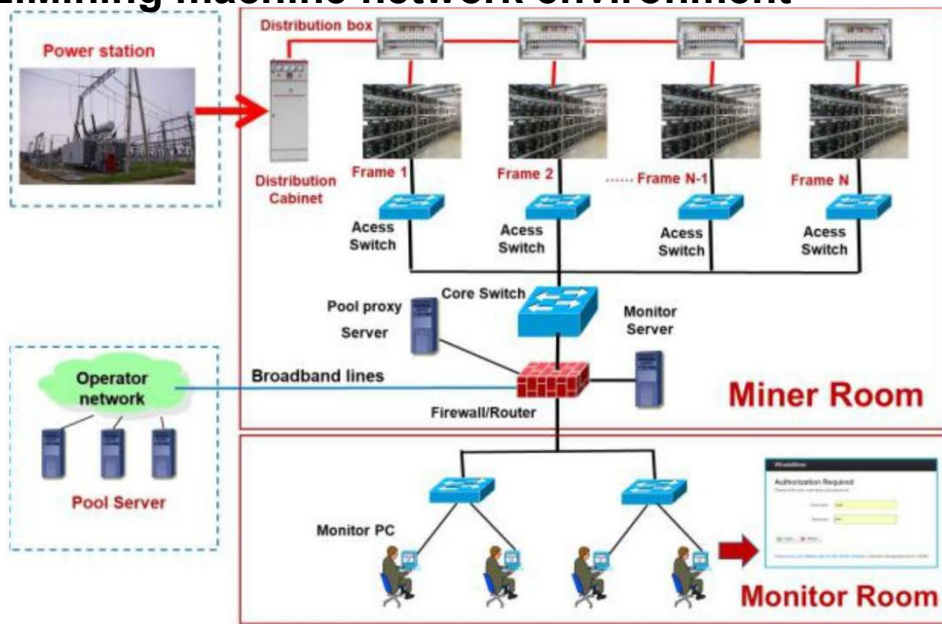


### 3. Mine machine configuration environment preparation

#### 3.1. Mine machine configuration equipment list

Serial	Serial number	Serial	Serial number tool name	Serial number tool
1	1 computer 1	1	1 computer 1 mine	
2	Mine power	1	Configuration of mine	
3	network switch	1	Configuration of mine machines and	Network switches can connect to
4	DHCP/NTP server / router 1, provides dynamic IP address 2 for initial power	DHCP/ NTP server / router	DHCP/NTP server / router 1, provides dynamic IP address 2 for initial power on the mine machine, and ntp	DHCP/NTP server / router 1, provides dynamic IP address 2 for initial power on the mine machine

#### 3.2. Mining machine network environment



By default, DHCP acquires dynamic ip, by default, so DHCP servers must be configured in the mine network, or the dhcp dynamic ip address service must be turned on by the router. The running time of mine machine and the correctness of calculation force statistics depend on the network ntp time. By default, the mine machine has multiple ntp server addresses of public network. In order to speed up the speed of obtaining network time by ntp and improve the time precision, It is recommended that a local ntp server be configured in the mine network.

## 4. Mine machine connection and check before power on

(1) before connection and electrification, the miner shakes the mine machine in accordance with the warning signs on the side of the mine machine to check whether any radiator or other device is off, to ensure that there is no radiator or other period of abscission before connection and power up. (2) the mine machine is connected to the power cord, the network port is connected to the switch, the control line of the power supply is connected to the I2C socket of the control board, and the signal wiring, the power control line and the fan control line are checked, so as to ensure that the connection is correct, In order to power the mine.



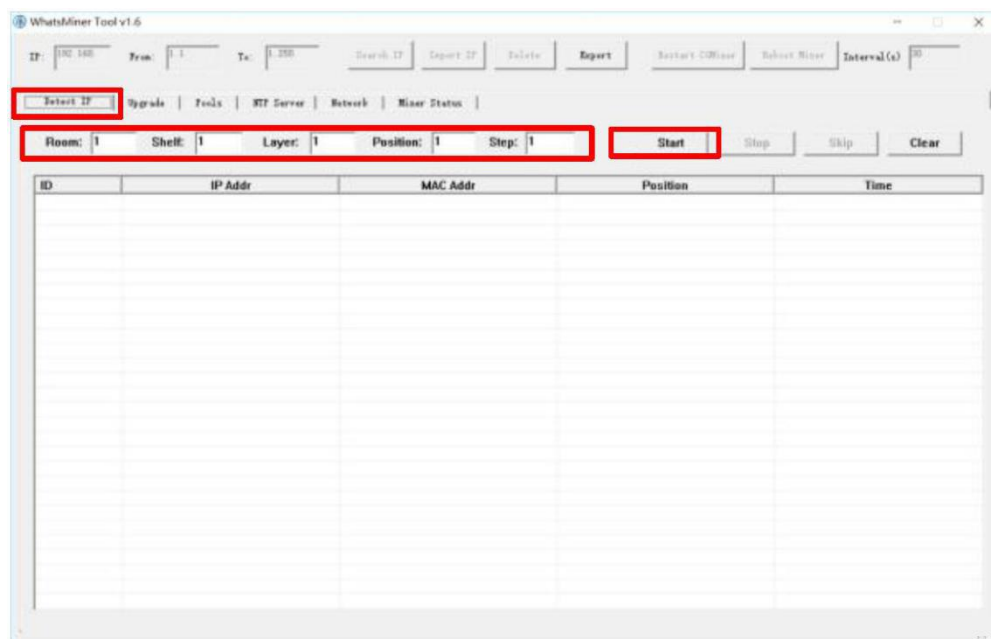
Note: (1) 12V power cord connection post and terminal, control board power cord socket outlet corresponding to ensure the correct connection of the power source positive and negative pole, otherwise the power line positive and negative pole connection, it is possible to burn the power board, control board or power supply, Hardware damage due to power cord connection is not covered by warranty. (2) the power supply control line must be connected between the control board and the power supply, otherwise, the problem of low calculation force may be caused by the failure to control the output of the power supply voltage. (3) the control panel must be reliably connected with the fan line. If the fan line falls off or the connection is bad, it may cause the miner to be unable to cool down, and the load plate can be operated at lower frequency. In 2003, the calculation power decreased.

## 5.Mine data configuration (configured on the web page)

### 5.1.Query dynamic ip address obtained by mining machine

#### 5.1.1.Running WhatsMinerTools Software

The data of mine machine is configured with PC connected to the same network where the miner is located, running the WhatsMinerTools software on PC, selecting the "probe ip" tab, setting the room number, rack number, layer number on the rack, and position number of the layer in which the mine machine is located. Click start.

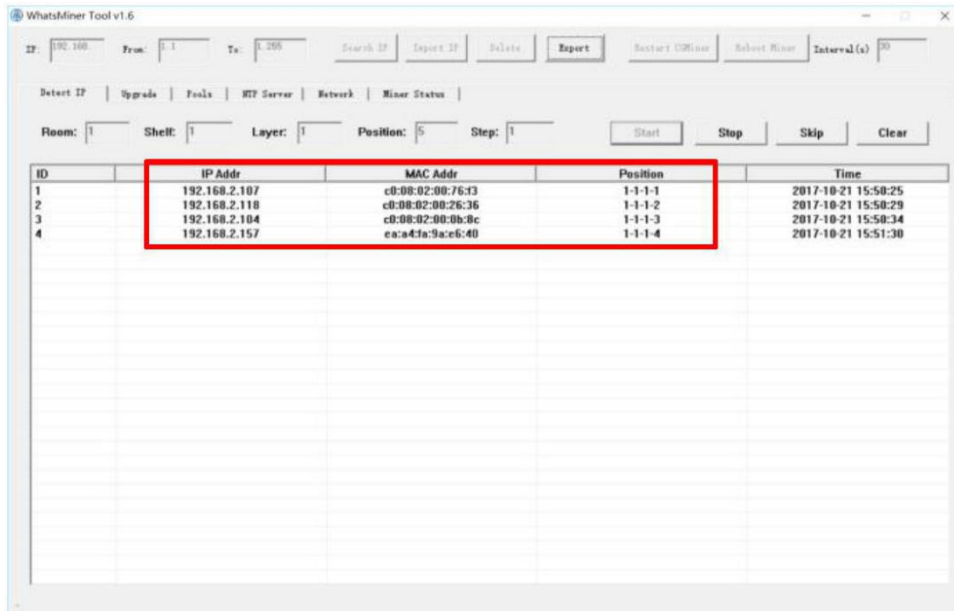


#### 5.1.2.Query the ip address reported by the mine machine

The main results are as follows: (1) after 30 s, the yellow light and green light of the net are always on and the green light twinkles under normal conditions. When the IPFOUND function button (prominent long button) is pressed on the panel of the mine machine control board, the two LED indicator lights on the right flicker several times, indicating that the mine machine has broadcast the IP and MAC addresses of the mine machine to the network.



(2) In the WhatsMinerTools software to view the dynamic access to the mine machine reported IP, MAC address, mining machine location.



ID	IP Addr	MAC Addr	Position	Time
1	192.168.2.107	c8:08:02:00:76:33	1-1-1-1	2017-10-21 15:50:25
2	192.168.2.110	c8:08:02:00:26:36	1-1-1-2	2017-10-21 15:50:29
3	192.168.2.104	c8:08:02:00:0b:0c	1-1-1-3	2017-10-21 15:50:34
4	192.168.2.157	ea:a4fa:9ac6:40	1-1-1-4	2017-10-21 15:51:30

Note: (1) if all the lights in the control panel of the mine machine are not on after the power is turned on, please check the 220V power supply line, the 12V power cord connection is reliable and the connection is correct. (2) if the indicator light on the right side of the mine machine control panel is not on, or the green light does not flash, please check whether the switch is normal, whether the connection is reliable, and whether the quality of the wire is defective. (3) the computer and miner running WhatsMinerTools software must be under the same net segment, otherwise it is possible that the software can not receive the broadcast message from the miner, so that the miner cannot be queried. Ipfound key reported ip address and mac address information. (4) if the computer and the mine machine are under the same network segment, and the dhcp service is turned on in the network, after pressing the ipfound button of the mine machine, the WhatsMinerTools software does not inquire about the ip, length of the mine machine and presses the reset button on the mine machine panel for more than 5s, so that the default configuration of the factory is restored. Then reboot the machine, then press the ipfound button to detect the ip address of the mine machine after 30 s. (5) if the computer is running WhatsMinerTools software, click "start", not manually press the ipfound button, the software automatically found the mine machine's ip address, mac address, at this time, the miner's ipfound key may be stuck by the surface plate, Find the mine machine that shows the mac address in the software (the mine machine panel has mac address bar code), then reinstall the control panel to make sure that the control panel button and indicator light reveal the installation hole, and there is no jam.

## 5.2.Mine Pool & Miner data and configuration NTP

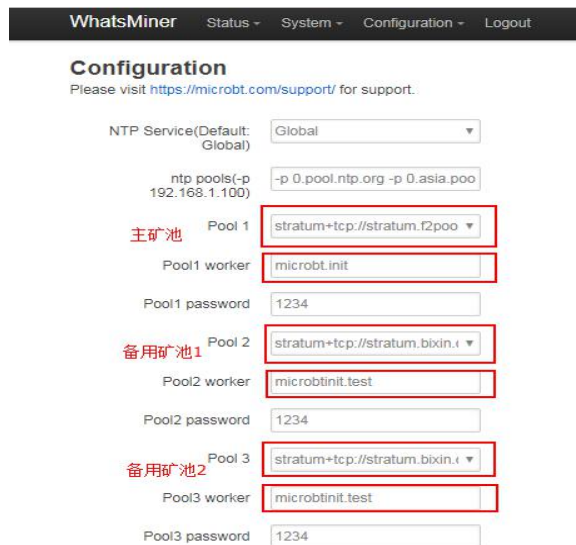
### Server address

#### 5.2.1.Mine Pool & miner disposition

(1) after logging in, go to the Cgminer configuration page. (2) in the Cgminer configuration interface, modify mine pool address, miner name, and after modification, click "Save & Application" in the lower right corner to save the modified configuration.

The name of the miner.

Mine number



**Configuration**  
Please visit <https://microbt.com/support/> for support.

NTP Service(Default: Global)

ntp pools(-p 192.168.1.100)

**主矿池** Pool 1

Pool1 worker

Pool1 password

**备用矿池1** Pool 2

Pool2 worker

Pool2 password

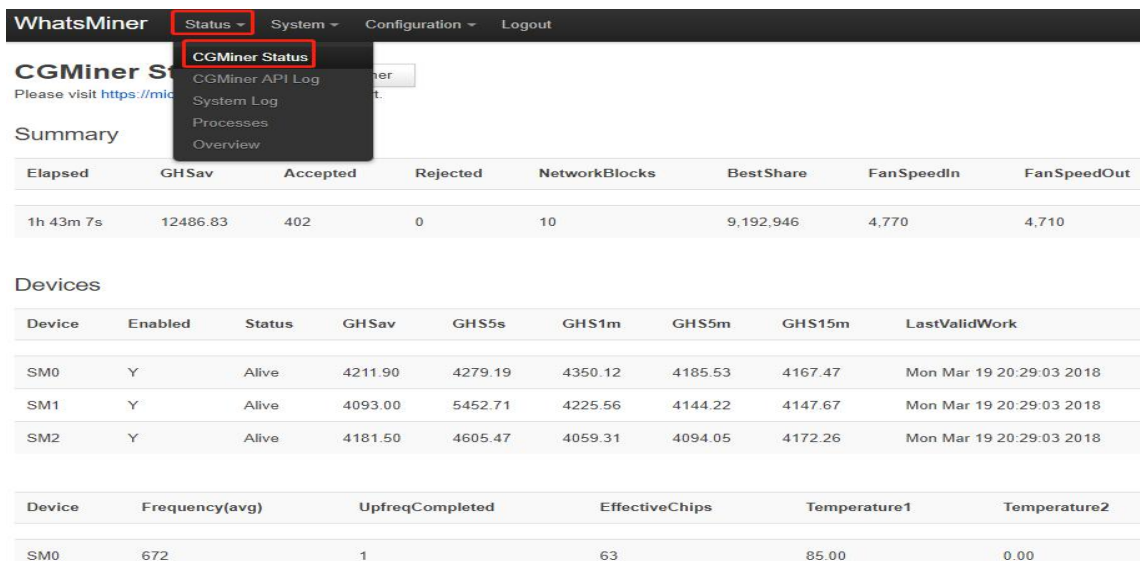
**备用矿池2** Pool 3

Pool3 worker

Pool3 password

After the mine pool configuration is modified, the modified configuration must restart the cgminer program or the control panel before the modified configuration can take effect.

(3) Restart cgminer, to check that configuration changes take effect. In the mine machine interface, select: Status- > CGMinerStatus, into the CGMiner running state interface.



**CGMiner Status**  
Please visit <https://microbt.com/support/> for support.

Summary

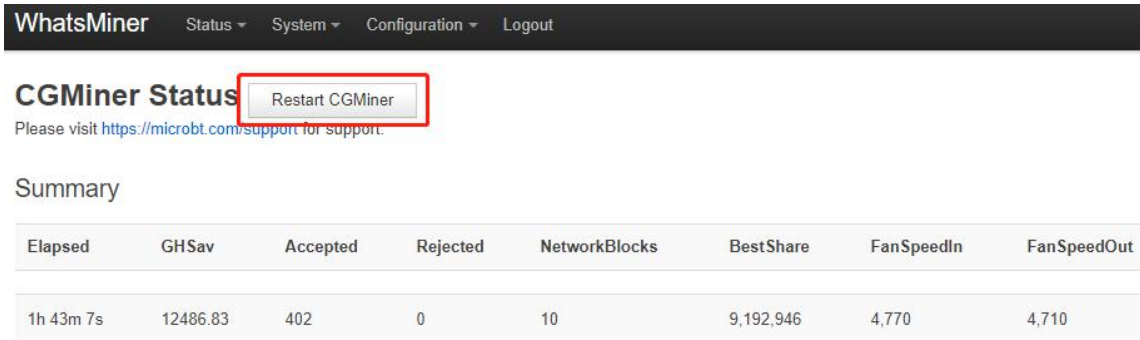
Elapsed	GHSav	Accepted	Rejected	NetworkBlocks	BestShare	FanSpeedIn	FanSpeedOut
1h 43m 7s	12486.83	402	0	10	9,192,946	4,770	4,710

Devices

Device	Enabled	Status	GHSav	GHS5s	GHS1m	GHS5m	GHS15m	LastValidWork
SM0	Y	Alive	4211.90	4279.19	4350.12	4185.53	4167.47	Mon Mar 19 20:29:03 2018
SM1	Y	Alive	4093.00	5452.71	4225.56	4144.22	4147.67	Mon Mar 19 20:29:03 2018
SM2	Y	Alive	4181.50	4605.47	4059.31	4094.05	4172.26	Mon Mar 19 20:29:03 2018

Device	Frequency(avg)	UpfreqCompleted	EffectiveChips	Temperature1	Temperature2
SM0	672	1	63	85.00	0.00

In the cgminer status interface, click RestartCGMiner to restart the cgminer process.



WhatsMiner Status System Configuration Logout

### CGMiner Status

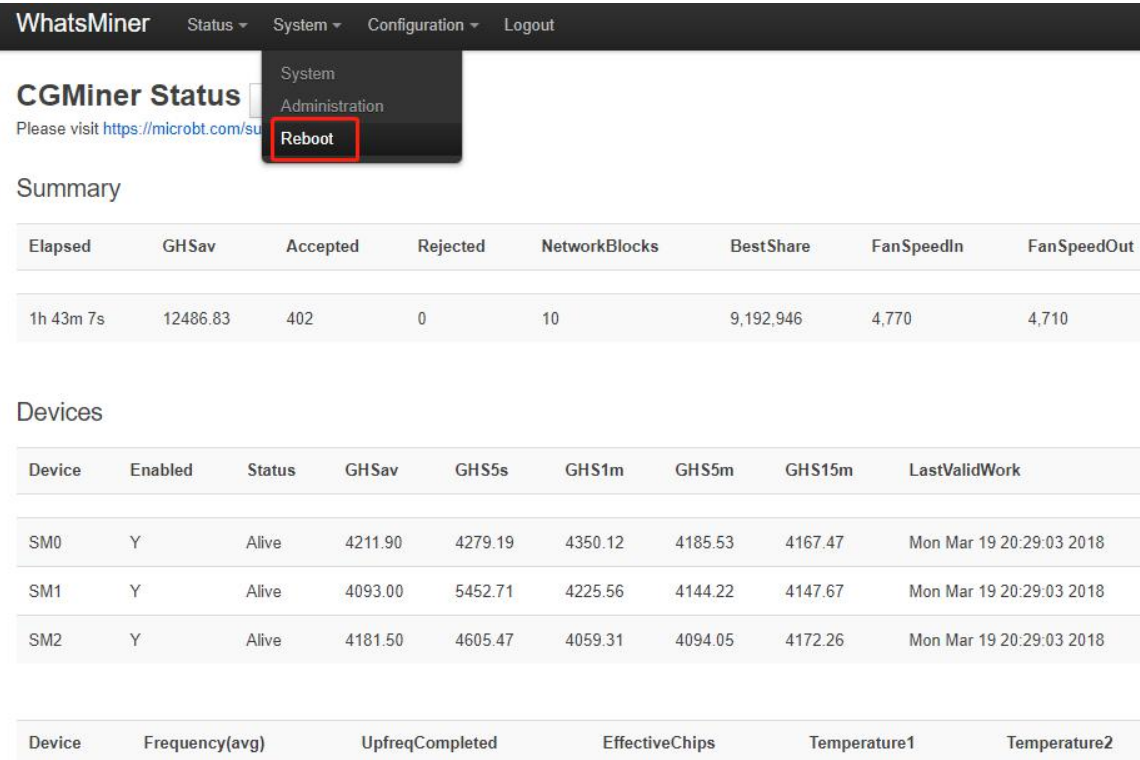
Please visit <https://microbt.com/support> for support.

Restart CGMiner

#### Summary

Elapsed	GHSav	Accepted	Rejected	NetworkBlocks	BestShare	FanSpeedIn	FanSpeedOut
1h 43m 7s	12486.83	402	0	10	9,192,946	4,770	4,710

(4) restart the control panel and check whether the configuration changes are effective. (if you do not choose to restart cgminer, configuration changes saved, you can also restart the control panel, so that the configuration takes effect) in the system interface, click "Reboot".



WhatsMiner Status System Configuration Logout

### CGMiner Status

Please visit <https://microbt.com/support> for support.

System  
Administration  
Reboot

#### Summary

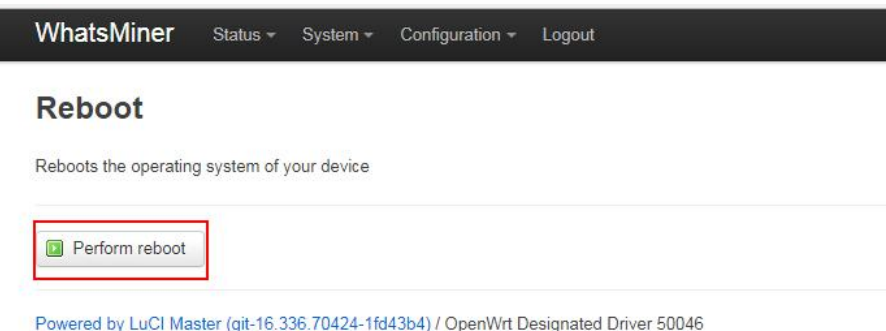
Elapsed	GHSav	Accepted	Rejected	NetworkBlocks	BestShare	FanSpeedIn	FanSpeedOut
1h 43m 7s	12486.83	402	0	10	9,192,946	4,770	4,710

#### Devices

Device	Enabled	Status	GHSav	GHS5s	GHS1m	GHS5m	GHS15m	LastValidWork
SM0	Y	Alive	4211.90	4279.19	4350.12	4185.53	4167.47	Mon Mar 19 20:29:03 2018
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SM2	Y	Alive	4181.50	4605.47	4059.31	4094.05	4172.26	Mon Mar 19 20:29:03 2018

Device	Frequency(avg)	UpfreqCompleted	EffectiveChips	Temperature1	Temperature2
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In the restart screen, click Perform reboot for restart confirmation.



WhatsMiner Status System Configuration Logout

## Reboot

Reboots the operating system of your device

Perform reboot

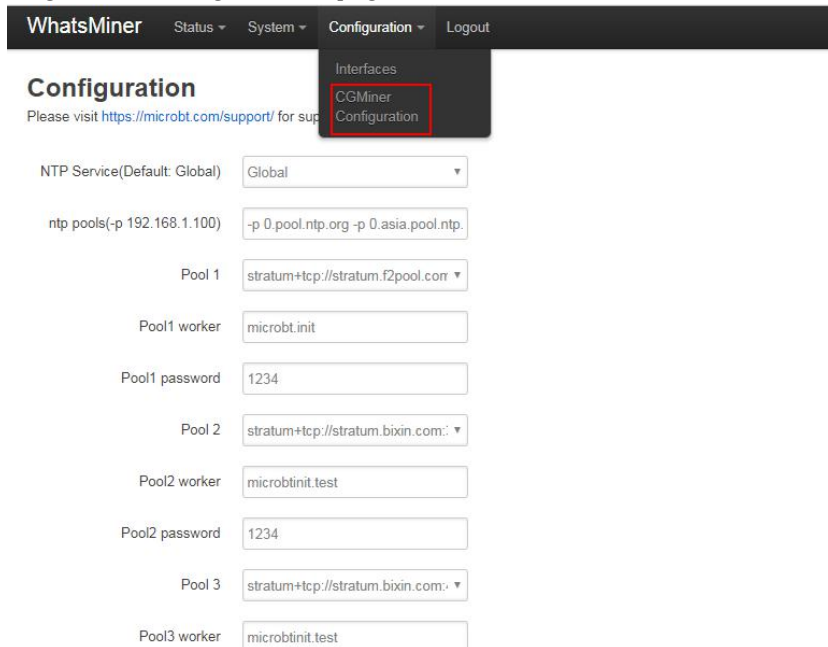
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After restarting about half a minute, the mine machine system will automatically jump to the

login interface.

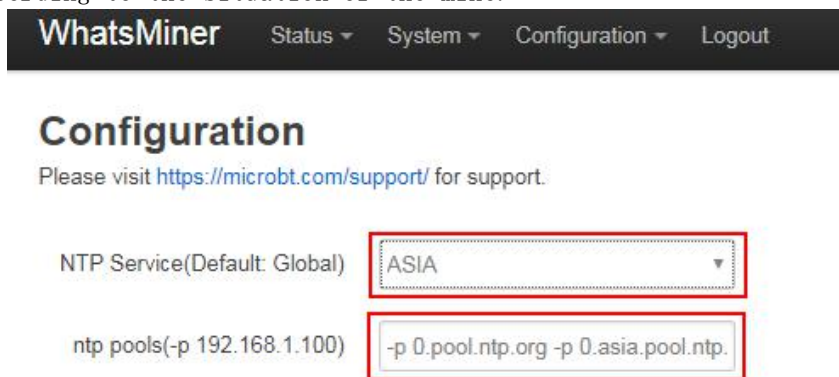
## 5.2.2.Modify the address of the ntp synchronization server (optional)

(1) after login, select: Configuration- > CGMiner Configuration, in the interface to enter the Cgminer configuration page.



The screenshot shows the WhatsMiner Configuration page. The top navigation bar includes 'WhatsMiner', 'Status', 'System', 'Configuration', and 'Logout'. The 'Configuration' menu is open, showing 'Interfaces', 'CGMiner', and 'Configuration'. The 'CGMiner' option is highlighted with a red box. Below the navigation, the 'Configuration' page title is displayed, followed by a link to the support page. The main content area contains several configuration fields: 'NTP Service(Default: Global)' set to 'Global', 'ntp pools(-p 192.168.1.100)' set to '-p 0.pool.ntp.org -p 0.asia.pool.ntp.', 'Pool 1' set to 'stratum+tcp://stratum.f2pool.com', 'Pool1 worker' set to 'microbt.init', 'Pool1 password' set to '1234', 'Pool 2' set to 'stratum+tcp://stratum.bixin.com', 'Pool2 worker' set to 'microbtinit.test', 'Pool2 password' set to '1234', 'Pool 3' set to 'stratum+tcp://stratum.bixin.com', and 'Pool3 worker' set to 'microbtinit.test'.

(2) in the cgminer configuration interface, the address of four ntp servers has been configured by default when the ntp server address is added or modified, and the address of the ntp server can be modified or added to the local ntp server address according to the situation of the mine.



The screenshot shows the WhatsMiner Configuration page. The top navigation bar includes 'WhatsMiner', 'Status', 'System', 'Configuration', and 'Logout'. The 'Configuration' page title is displayed, followed by a link to the support page. The main content area contains several configuration fields: 'NTP Service(Default: Global)' set to 'ASIA', 'ntp pools(-p 192.168.1.100)' set to '-p 0.pool.ntp.org -p 0.asia.pool.ntp.', 'Pool 1' set to 'stratum+tcp://stratum.f2pool.com', 'Pool1 worker' set to 'microbt.init', 'Pool1 password' set to '1234', 'Pool 2' set to 'stratum+tcp://stratum.bixin.com', 'Pool2 worker' set to 'microbtinit.test', 'Pool2 password' set to '1234', 'Pool 3' set to 'stratum+tcp://stratum.bixin.com', and 'Pool3 worker' set to 'microbtinit.test'. The 'NTP Service' dropdown and the 'ntp pools' field are highlighted with red boxes.

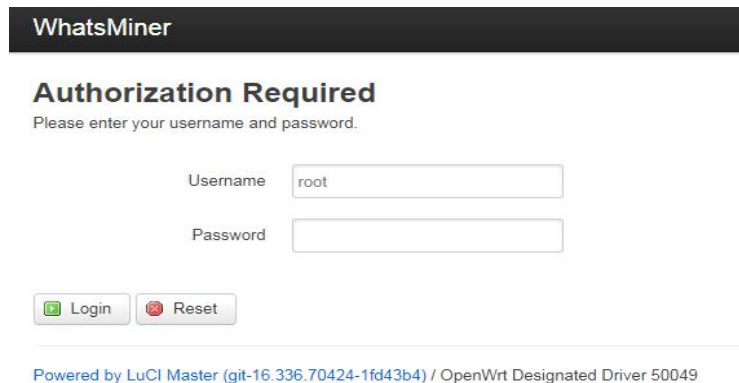
Default ntp server configuration: -p 3.asia.pool.ntp.org -p 2.cn.pool.ntp.org -p 1.cn.pool.ntp.org -p0.cn.pool.ntp.org followed by the ntp server domain name or ip address, The ntp server address can be modified or added according to the situation of the mine.

(3) after modifying the address of the ntp server, click "Save & Application" in the lower right corner.

## 5.3. Configure mine machine static IP address (optional)

The IP address obtained by mine machine DHCP is modified to static IP address of mine operation network planning.

(1) input the queried mining machine dynamic ip, in the browser with root user, default password: root, login mine machine interface.



**WhatsMiner**

### Authorization Required

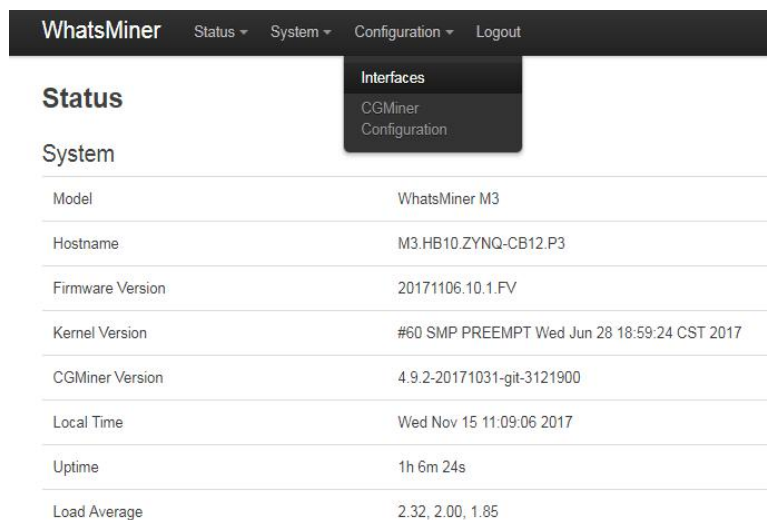
Please enter your username and password.

Username

Password

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(2) after logging into the mine machine, select: Configuration- > Interfaces, to enter the configuration interface of the network interface in the mine machine interface.





Status	
Model	WhatsMiner M3
Hostname	M3.HB10.ZYNQ-CB12.P3
Firmware Version	20171106.10.1.FV
Kernel Version	#60 SMP PREEMPT Wed Jun 28 18:59:24 CST 2017
CGMiner Version	4.9.2-20171031-git-3121900
Local Time	Wed Nov 15 11:09:06 2017
Uptime	1h 6m 24s
Load Average	2.32, 2.00, 1.85

(3) in the "Configuration" interface, click "Edit"

LAN

## Interfaces

### Interface Overview

Network	Status	Actions
<div style="border: 1px solid #ccc; padding: 5px; width: 40px; text-align: center;">  eth0                 </div>	Uptime: 1h 9m 14s MAC-Address: B0:03:20:00:02:07 RX: 40.58 MB (872638 Pkts.) TX: 5.81 MB (16335 Pkts.) IPv4: 192.168.2.172/24	<div style="border: 1px solid #ccc; padding: 2px 5px; display: inline-block;">  Edit                 </div>

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(4) in the interface modification interface, the protocol (protocol) selects "Static address" and then clicks "Switch protocol".

### Interfaces - LAN

On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use `VLAN` notation `INTERFACE.VLANID` (e.g., eth0.1).

#### Common Configuration

General Setup

Status  eth0  
 Uptime: 0h 7m 49s  
 MAC-Address: 36:8C:E5:AA:B9:CD  
 RX: 6.18 MB (100153 Pkts.)  
 TX: 808.22 KB (2554 Pkts.)  
 IPv4: 192.168.2.112/24


Protocol Static address

Really switch protocol?  Switch protocol

[Back to Overview](#)

[Save & Apply](#)

(5) in the static address configuration interface, the IP address, mask, gateway, broadcast address and DNS address are changed to the actual planned address of the mine. Click "Save & Apply" in the lower right corner after modification.

Status  eth0  
 Uptime: 0h 11m 47s  
 MAC-Address: 36:8C:E5:AA:B9:CD  
 RX: 9.29 MB (150598 Pkts.)  
 TX: 1.19 MB (3875 Pkts.)  
 IPv4: 192.168.2.112/24

Protocol Static address

IPv4 address 192.168.1.221

IPv4 netmask 255.255.0.0

IPv4 gateway 192.168.0.1

IPv4 broadcast 192.168.255.255

Use custom DNS servers 192.168.0.1

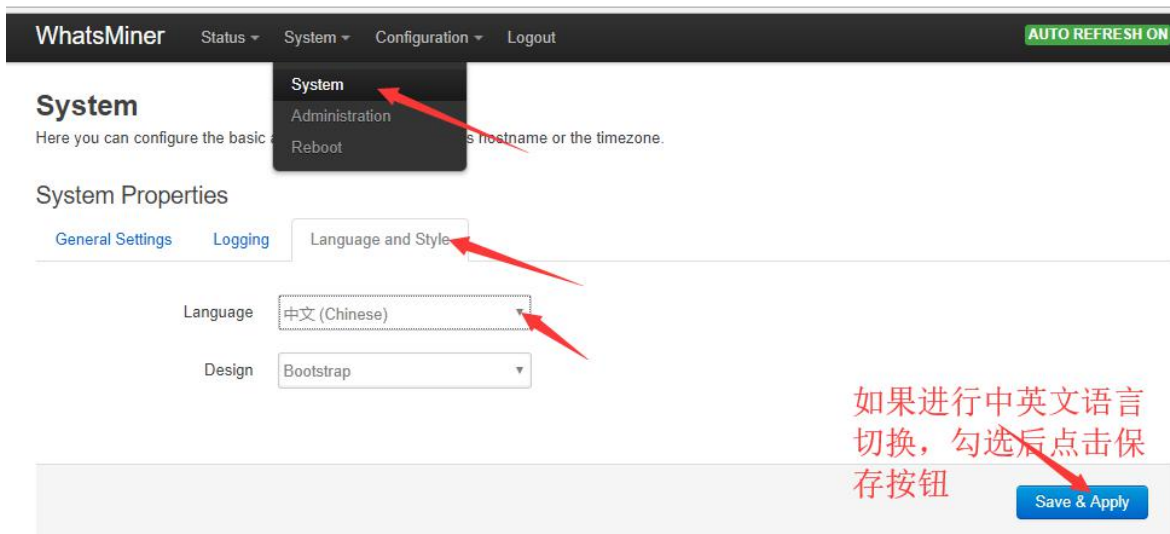
[Back to Overview](#)

[Save & Apply](#)

保存应用后，需要重新用新设置的静态 IP 地址才能登录矿机（否则一直页面显示加载中直到加载失败）。

After saving the application, you need to re-use the newly set static IP address to log in to the mine machine (otherwise, the page appears loaded until the load fails).

## 5.4. English and Chinese language switching of Mining Machine Page



The screenshot shows the 'System' configuration page in the WhatsMiner interface. The 'System' menu is open, and the 'Language and Style' tab is selected. The 'Language' dropdown menu is set to '中文 (Chinese)'. A red arrow points to the 'Save & Apply' button at the bottom right. A red text box with an arrow pointing to the button contains the instruction: '如果进行中英文语言切换，勾选后点击保存按钮' (If switching between Chinese and English language, check the box and click the save button).

## 6. Mine machine running condition check

After the ore machine is connected to the running network, log in the mine machine and check the running state of the mine machine.

- (1) in the mine machine interface, choose: Status- > CGMiner Status, to enter the cgminer running state interface.
- (2) check the whole calculation force of mine machine, the speed of fan before and after, connect mine pool, single board calculation force, single board temperature and so on.

WhatsMiner Status System Configuration Logout

**CGMiner Status** Restart CGMiner  
Please visit <https://microbt.com/support> for support.

Summe: **Total hash rate** **In/Out fan speed**

Elapsed	GHSav	Accepted	Rejected	NetworkBlocks	BestShare	FanSpeedIn	FanSpeedOut
22m 24s	11660.74	127	0	3	3,454,424	6,180	5,700

Devices **Hash rate of each hash board**

Device	Enabled	Status	GHSav	GHS5s	GHS1m	GHS5m	GHS15m	LastValidWork
SM0	Y	Alive	3894.24	4641.29	3634.71	3725.55	3076.84	Wed Oct 25 18:17:07 2017
SM1	Y	Alive	3836.17	4986.14	3979.61	3799.78	3048.78	Wed Oct 25 18:17:07 2017
SM2	Y	Alive	3829.40	3727.72	3987.42	3940.95	3145.07	Wed Oct 25 18:17:07 2017

Device	Frequency(avg)	UpfreqCompleted	EffectiveChips	Temperature1	Temperature2
SM0	635	1	63	86.50	0.00
SM1	635	1	63	85.00	0.00
SM2	635	1	63	85.50	0.00

**Effective chips of each hash board**      **The highest temperature of each hash board**

Pools

Pool	URL	Active	User	Status	Difficulty	GetWorks	Accepted	Rejected	Stale	LST	LSD
0	stratum+tcp://stratum.f2pool.com:3333	true	microbt.init	Alive	65536	106	127	0	0	Wed Oct 25 18:16:49 2017	65536
1	stratum+tcp://stratum.bixin.com:3333	false	microbtinit.test	Alive	0	0	0	0	0	Never	0
2	stratum+tcp://stratum.bixin.com:443	false	microbtinit.test	Alive	0	0	0	0	0	Never	0

**Mine pool connection status**

Events

EventCode	EventCause	EventAction	EventCount	LastTime	EventSource
This section contains no values yet					

Note: (1) if the connection of the mine machine is correct and the network is normal, the frequency search test will begin automatically after the mining machine is powered on. The frequency search test phase will take about 15 minutes. After the frequency search is over, it will only enter the formal mining stage. What is shown here is the calculation force of normal operation. If the search frequency is not over, see the calculation force will be lower than the normal operation of the calculation force.

(2) if the temperature of the outlet is above 85 degrees and the speed of the fan is more than 6100 revolutions, the miner will run at a lower frequency and the calculating force will be lower than the normal one. Ventilation and cooling measures should be done to ensure the mine operation environment. The ambient temperature of the machine is below 40.

(3) if the fan line is not reliably connected to the control board, the corresponding fan rotation speed in the mine machine interface is 0, which leads to the excessive temperature of the mine machine, the reduction of the frequency of the force plate and the decrease of the calculating

force.

(4) (4) if the temperature is not detected in the state interface and the temperature is not detected, it is necessary to lower the electric power line of the mine machine and reinsert the power line of the corresponding force plate, and the two ends of the data wire arrangement (one end of the control board and one end of the force board) to ensure the reliability of the connection.

## **7. Batch data configuration, status check, firmware upgrade**

WhatsMinerTool software can be used for batch data configuration, status check, firmware upgrade, detailed operation see "Shenma mine machine WhatsMinerTool operation guide".

## **8. Disassembly and installation of integrated machine**

### **8.1. Disassembly and installation of Power supply**

#### **8.1.1. Power disassembly machine**

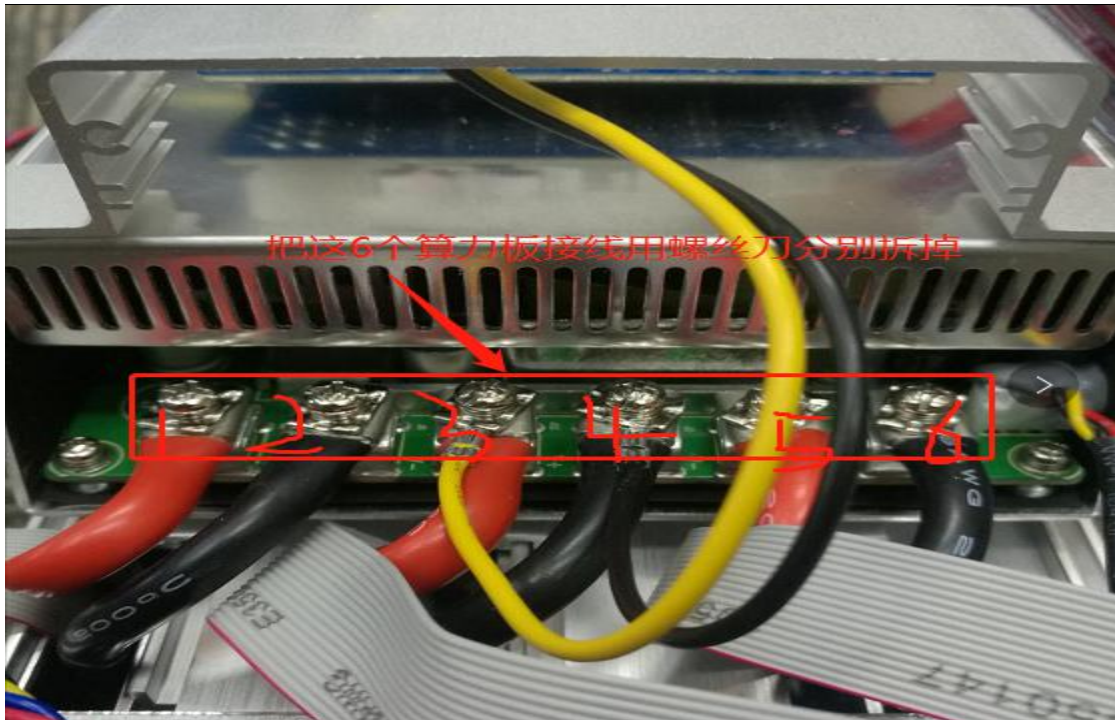
1) .Unplug three load board connections (see figure 1 / 2 / 3), two fan lines (see figure 4 / 5) and one power line (see figure 6) before removing the power supply



After drawing, as shown in the figure:



2) Separate load plate connection columns are removed (at the outlet side) in turn, as shown in the figure:



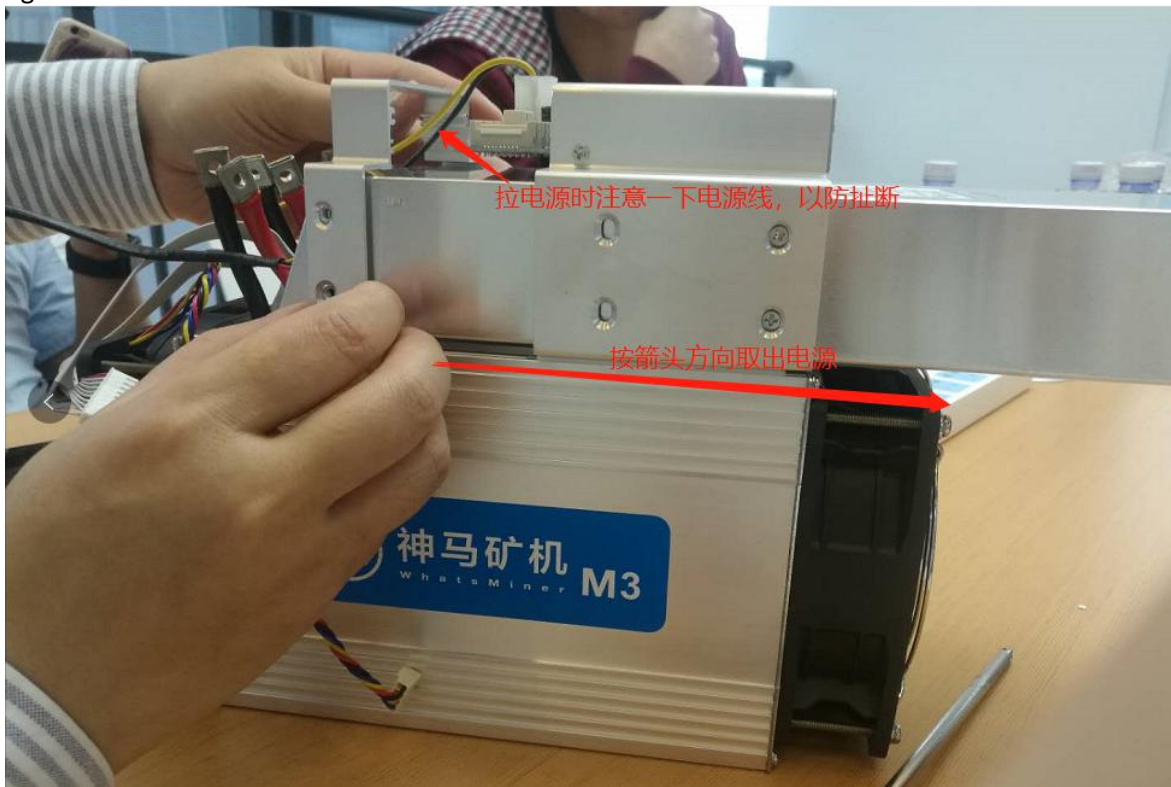
After disassembly, as shown in the figure:



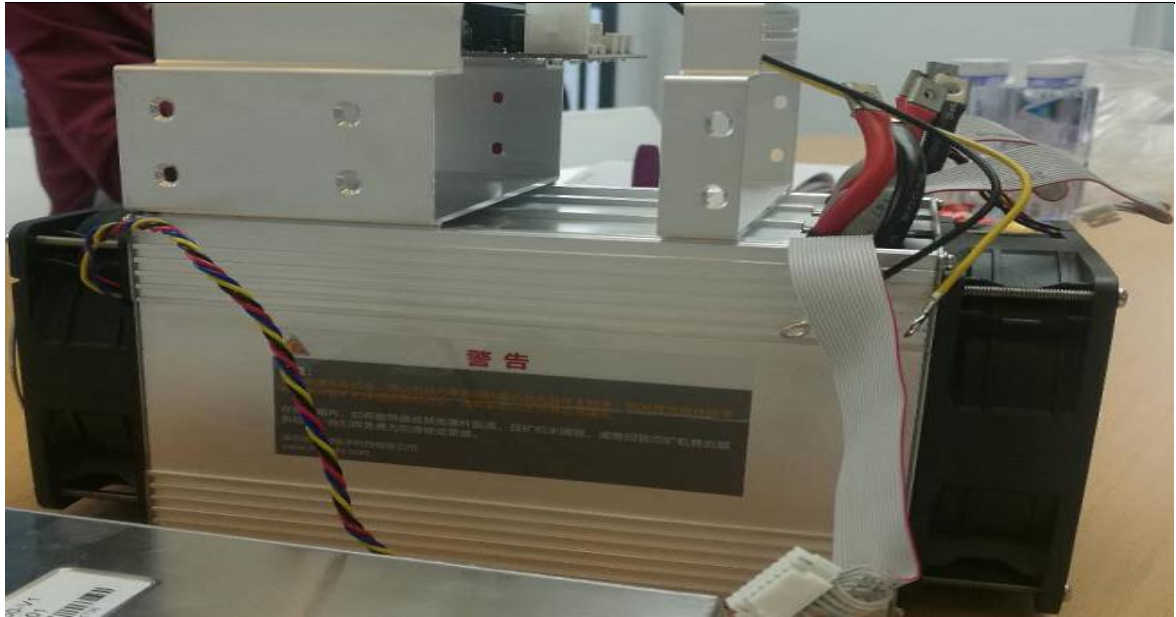
2) The third step is to remove the eight screws on both sides of the fixed power supply, as shown in the figure:



2) .Pull out the power supply from left to right (note that the power cord is not broken), as shown in the figure:



After the power supply is removed, the figure is as follows:

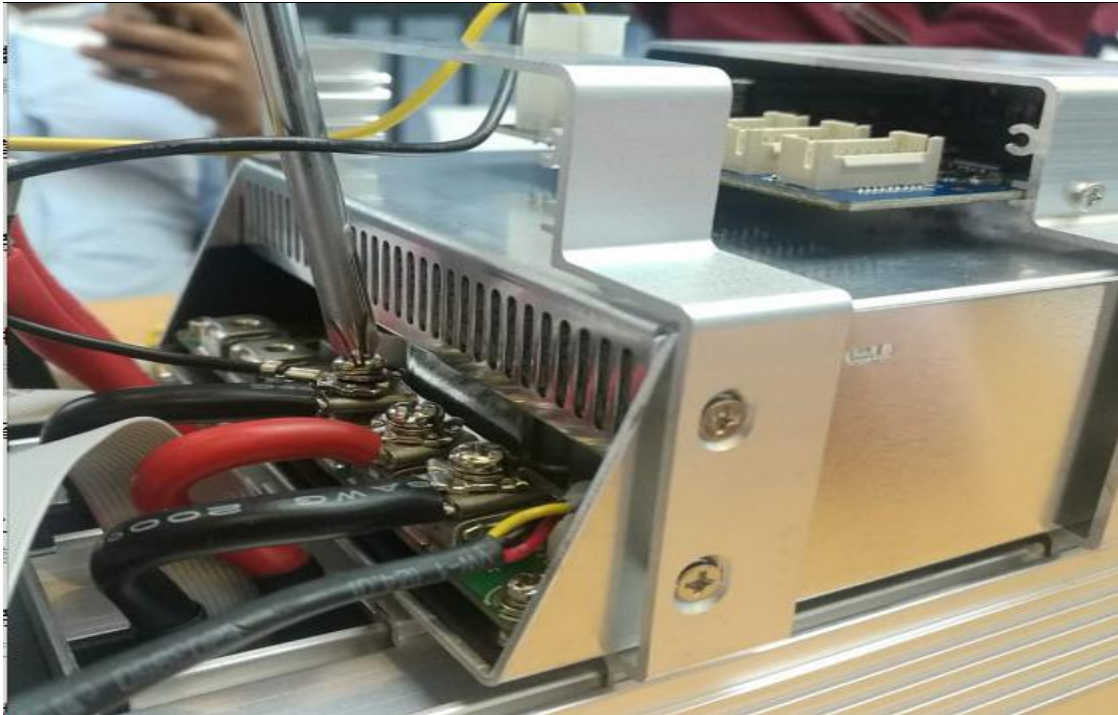


### 8.1.2. Installation of power supply

1) .1) when installing the power supply, fix the 4 screws of the control panel cover bracket first, then adjust the position of the armrest support and then tighten the screw, as shown in figure:



2) make sure to tighten the screws when connecting the bar with the terminal, otherwise it will affect the calculation force, as shown in figure:



3) .The control board of the line corresponding to plug-in, the power installation is complete.

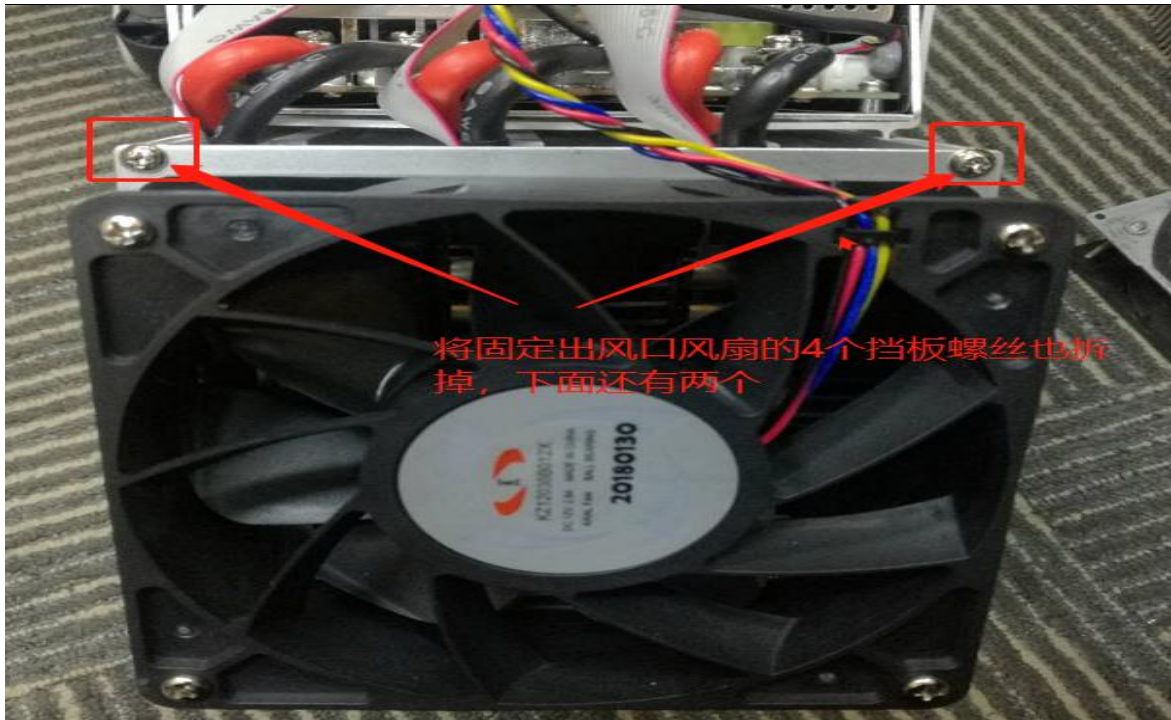
## 8.2.Disassembly and installation of Control Panel

### 8.2.1.Disassembly of control panel

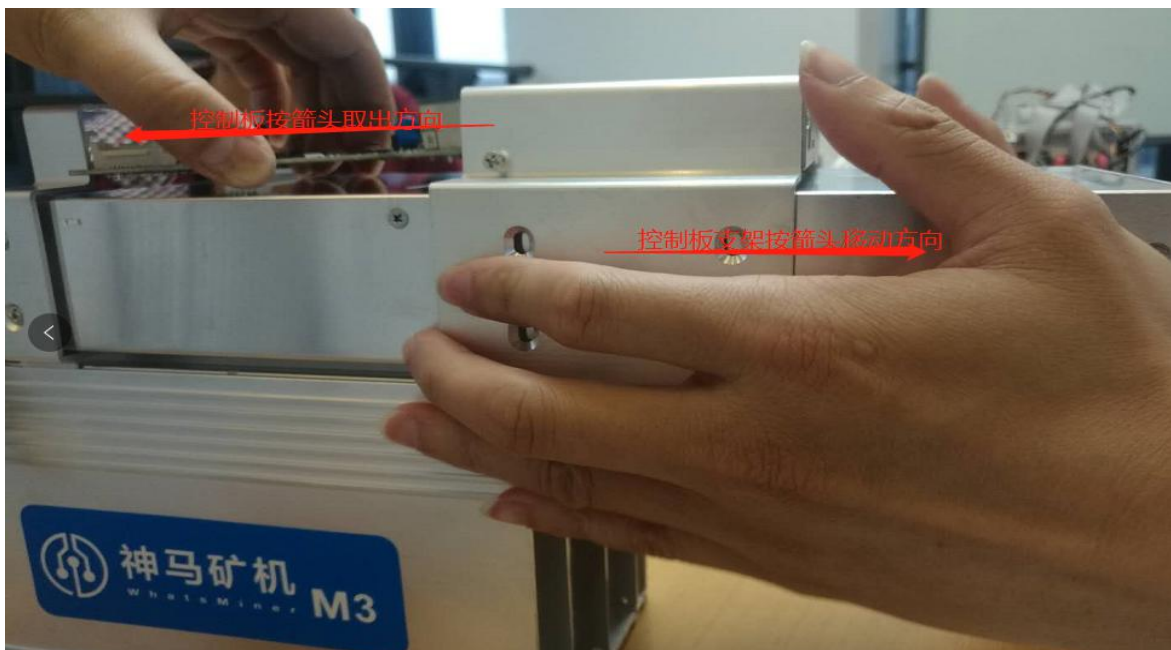
1) .1) remove the 2 screws of the fixed control and the 4 screws of the support of the fixed control plate respectively, as shown in the figure:



2) Remove the four baffle screws from the outlet of the fixed power supply, as shown in the figure:



2) Then move the control panel support from left to right, and the control panel is removed from right to left, as shown below:



### 8.2.2. Installation of control panel

The mounting direction of the control panel is arranged in reverse order according to the control board removal, and the screws are tightened accordingly to prevent the control board from loosening.

## 8.3. Disassembly and installation of Force Plate

### 8.3.1. Disassembly of force plate

1) .There are three force plates on each machine, and the corresponding relationship between the control board and the control board is shown in the figure.:



2) .To remove the problematic force plate, the four baffle screws and the corresponding connecting posts for the fixed outlet fan need to be removed, as shown in the figure:



3) .After the connection column corresponding to the fan and the force plate is removed, the faulty force plate is extracted, as shown in the

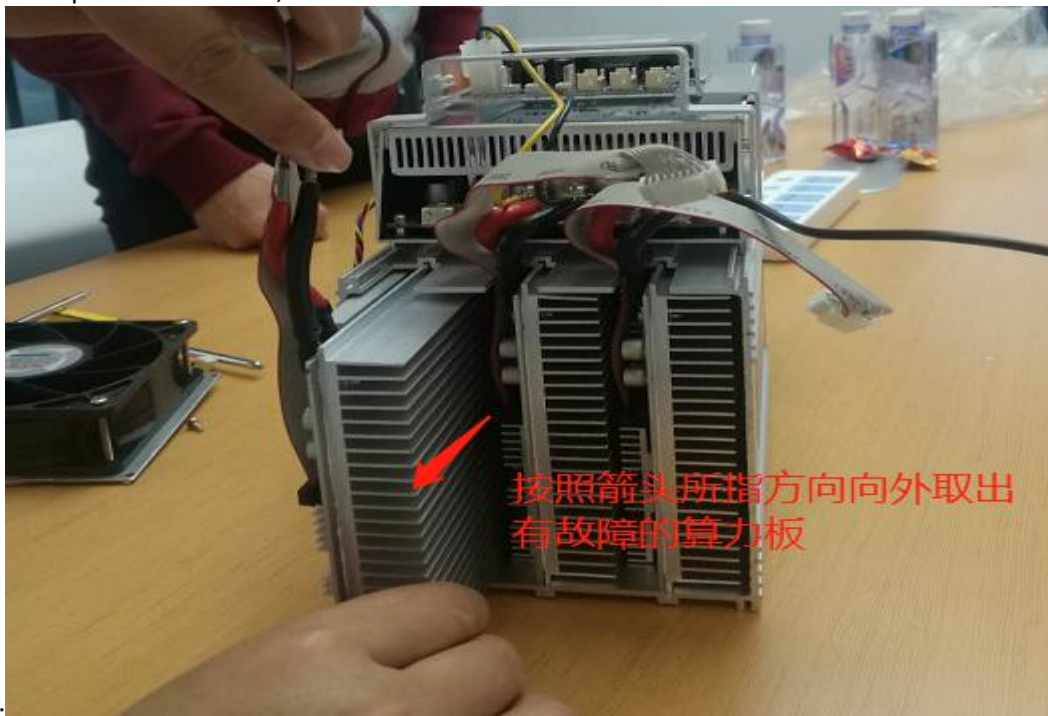
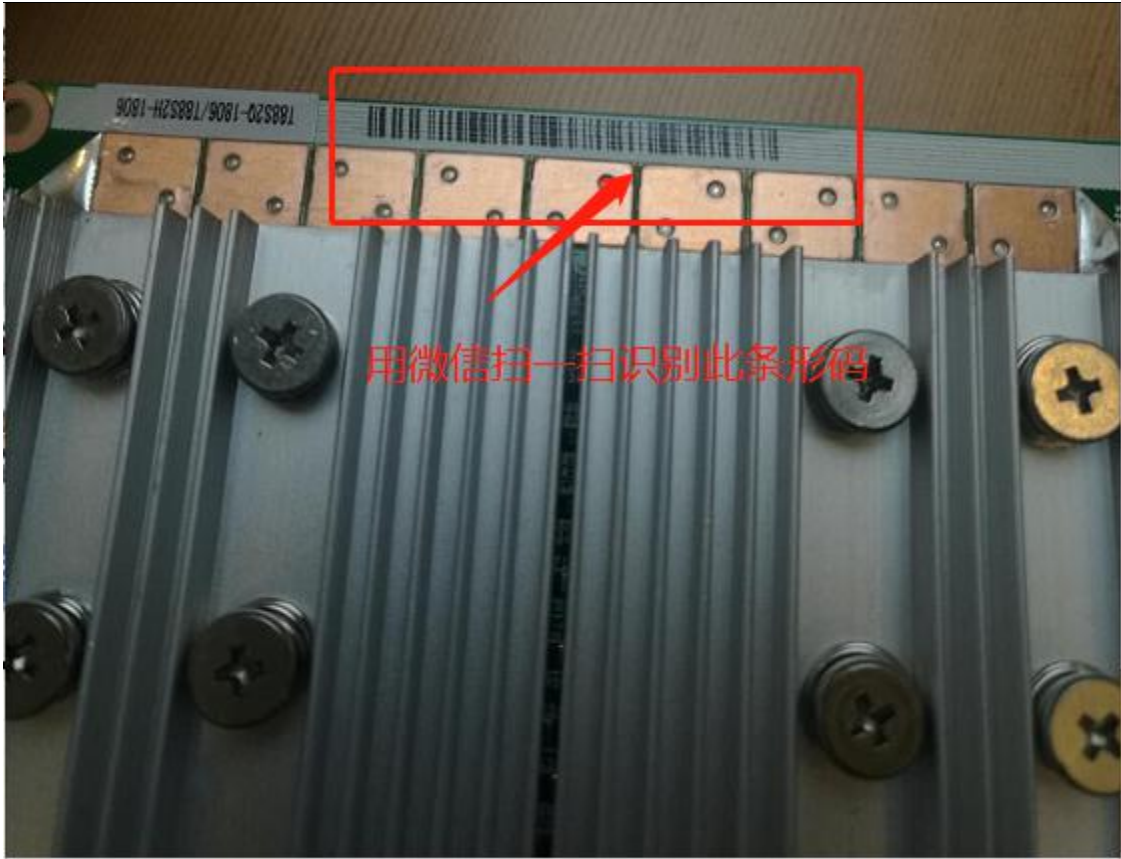


figure:

4) .After taking out the force plate, use WeChat to scan the serial number of the force plate and provide it to the relevant after-sales technicians, as shown in the figure:



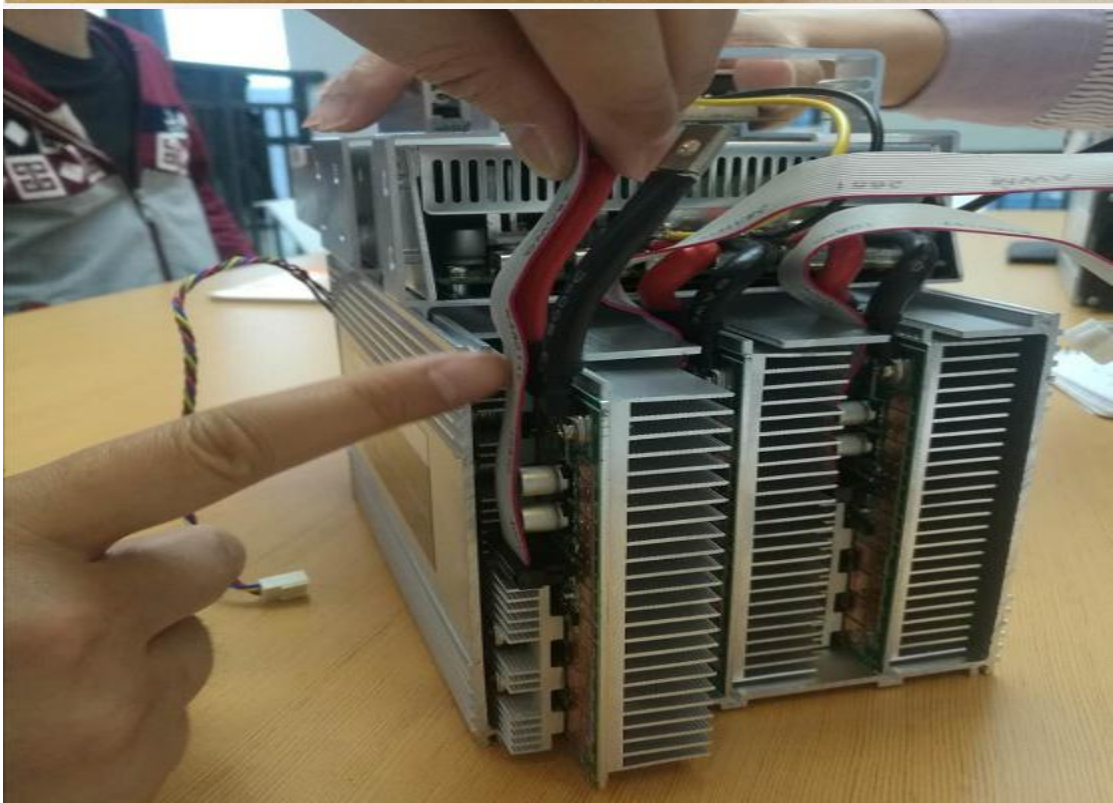
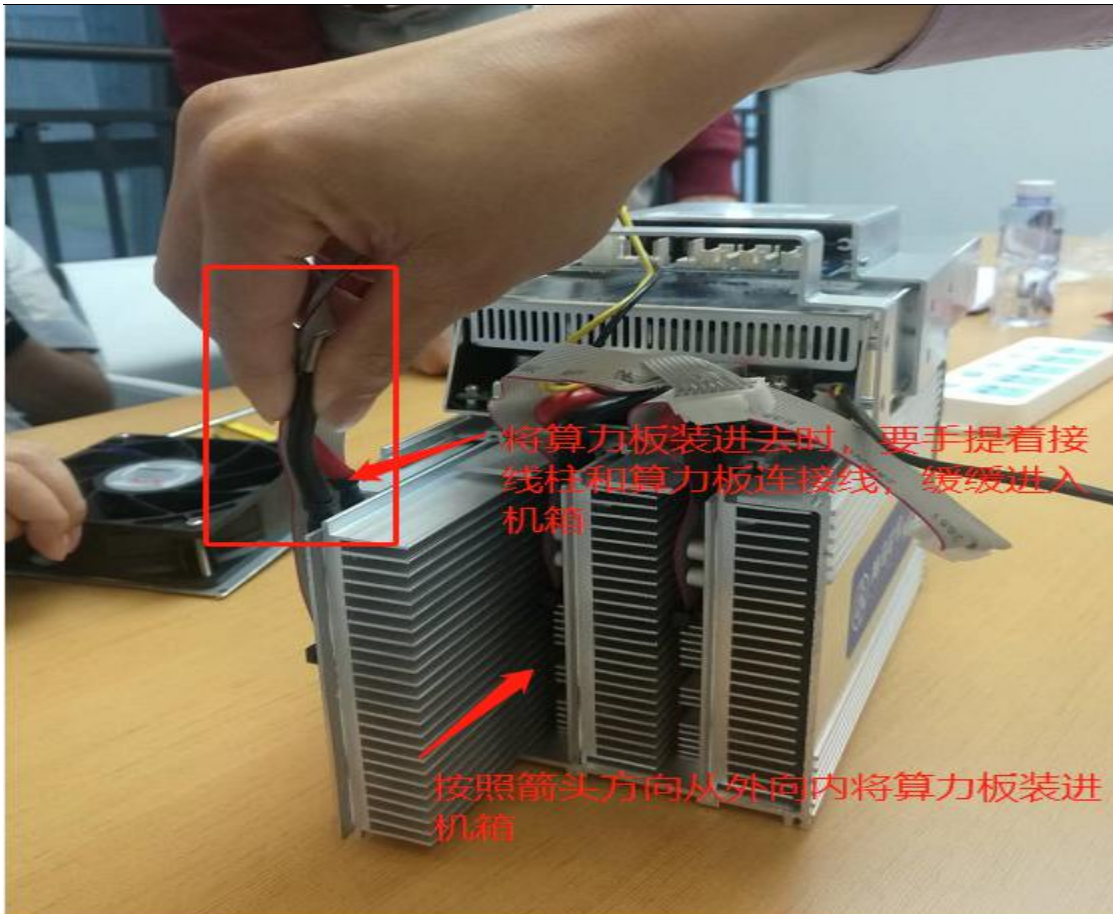
用微信扫一扫识别此条形码





### 8.3.2. Installation of force plate

1) .1) when the force plate is loaded into the chassis, one hand holds the force board into the force board slot, a portable starting force board connecting column and the force board connection line, and the sequence enters the chassis, as shown in figure:



2) .2) after the installation of the force plate, install the fan. When installing the fan, pay attention to the fan connection line on the right, be careful of the wrong direction, or you will need to reinstall, as shown in the figure:

