



WhatsMiner Air Cooling Miner

Operation Guide

V2.1

MICROBT

Shenzhen MicroBT Electronics Technology Co., Ltd..

Forward

About this Document

This Document introduces the installation, disassembly, management, and maintenance of an air cooling miner. All pictures and other information are merely for illustrative purposes. Read carefully the manual before using the air cooling miner.

Symbol instruction

Symbol	Instruction
	Provides additional information to supplement the text.
	Indicates a potential risk which, if not avoided, could result in miner damage or unpredictable results.

Safeguards instruction

- Please check whether there are obvious physical faults before power-on. Be careful of electric shock.
- The miner should be kept away from the water source and should not be operated in a humid environment.
- Professional maintenance is required for the miner.
- It is forbidden to touch the miner directly by hand under the condition of power-on.
- Please use stable voltage.

Revision history

Version	Revision Content	Release Time
V1.0	First release	20200101
V2.0	Updated content	20250217
V2.1	Updated content	20251020

Legal information

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Product certification

Our product has been certified as follows



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1. Introduction

1.1 Overview

Whatsminer air cooling miner includes multiple models, such as M30 series (M30, M30S, M30S+, M30S++), M50 series (M50, M50S, M50S+, M50S++), M60 series (M60, M60S, M60S+, M60S++), M61 series (M61, M61S, M61S+, M61S++), and M71 (M71, M71S, M71S+, M71S++) series. For M30 series, M50 series, and M60 series, different models of air cooling miners merely differ in performance and specification, such as power ratio, hashrate, and power on wall, but they are the same in appearance, installation and disassembly methods, operation, and maintenance.

For M61 series, they also have the same appearance, installation and disassembly methods, operation and maintenance methods as other air cooling miners. The biggest difference is the power supply used in M61 series, which has a higher power output and can operate at overclocking. M61 series can achieve a maximum power of around 5000 W in a high performance mode.

This Document takes M60S++ as an example for introduction.

1.2 Components

The following figure shows an air cooling miner, which includes many components, such as a power supply interface, an Ethernet interface, and fans.



Figure 1-1



Note:

- Hashboards are placed inside the case.
- The figure is merely for an illustrative purpose. The actual miner may differ.

The following figure shows a M61 air cooling miner, and we can see that there is no difference in components and appearance between it and M60S++ in the above figure.



Figure 1-2

1.3 Parameters

Different models of air cooling miners have different specifications. For specific parameters of different models of air cooling miners, see the corresponding product manual on the official website ([WhatsMiner](#)).

Here are two examples, namely parameters of M61 and M60S++.

The following shows parameters of M61.

Table 1-2

Power Ratio	19.9 J/T ± 5 % @ 25 °C	Hashrate	180 T – 206 T ± 5 %
-------------	-------------------------------	----------	----------------------------

Weight	11.5 kg (Net) 12.6 kg (Gross)	Size	430 mm × 155 mm × 226 mm
Working Temperature	0 °C – 40 °C @ normal mode 0 °C – 35 °C @ high mode	Air Flow	350 CFM
Power On Wall	4000 W ± 10 % @ normal mode 5000 W ± 10 % @ high mode	Power Cable Model	SA2-30, ≥ 25 A
Input Voltage	AC 220 V – 277 V	Internet Connections	Ethernet

The following shows parameters of M60S++.

Table 1-3

Power Ratio	15.5 J/T ± 5 % @ 25 °C	Hashrate	200 T – 226 T ± 5 %
Weight	11.5 kg (Net) 12.6 kg (Gross)	Size	430 mm × 155 mm × 226 mm
Working Temperature	-5 °C – +35 °C	Air Flow	350 CFM
Power On Wall	3230 W – 3570 W ± 10 %	Power Cable Model	IEC C19, ≥ 16 A
Input Voltage	AC 220 V – 240 V	Internet Connections	Ethernet

Different models of air cooling miner have the same parameters in the following aspects.

Table 1-4

No.	Parameter	Description
1	Size of miner	430 mm × 155 mm × 226 mm
2	Size of box	560 mm × 240 mm × 365 mm
3	Maximum air volume	350 CFM
4	Ambient humidity	20 % – 80%
5	Dust requirements	< 0.5 mg/m³

1.4 Workflow

A workflow of an air cooling miner is shown in the following figure.

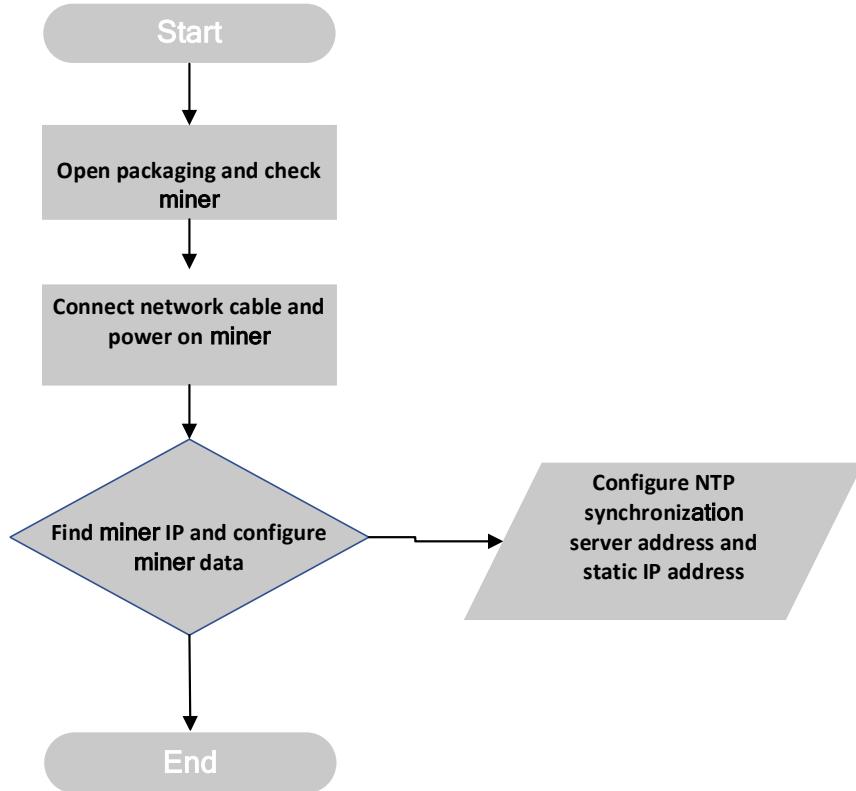


Figure 1-2

2. Precautions before Operating Miner

2.1. Precautions for Miner Components Connection

Before operating an air cooling miner, check whether the power supply, adapter board, fan, hashboard, copper bar, or the like, are connected correctly.



Caution: We will shoulder no responsibility for damage to the power supply, hashboard, adapter board, fan, or the like caused by incorrect connection.



Note: The flat cable cannot be forcefully and reversely inserted into its corresponding slot.

2.1.1 Illustration for Power Supply Flat Cable Connection

A power supply flat cable is 14pin. You can insert it into its corresponding slot as below.

Correct Connection:

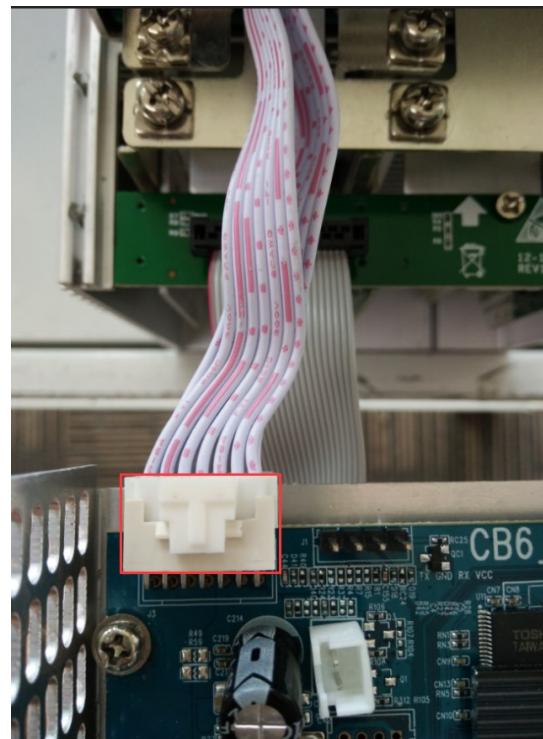


Figure 2-1

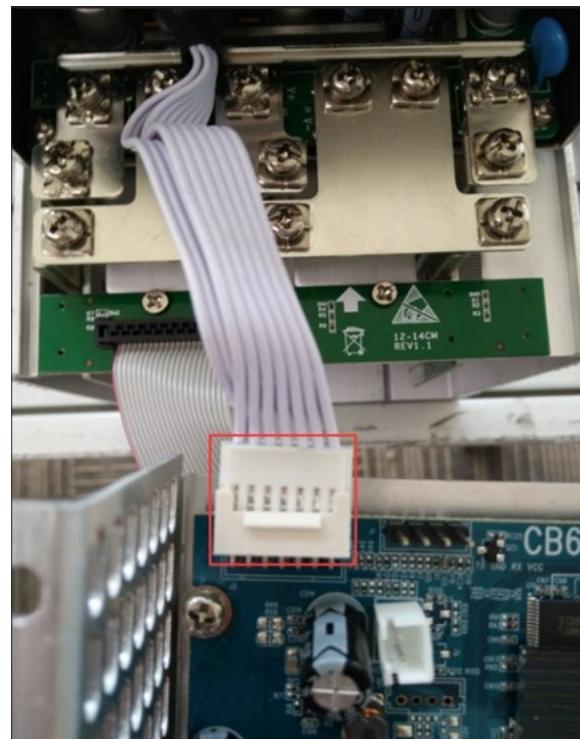
Incorrect Connection:

Figure 2-2

2.1.2 Illustration for Adapter Board Flat Cable Connection

The adapter board flat cable is 22pin. You can insert it into its corresponding slot as below.

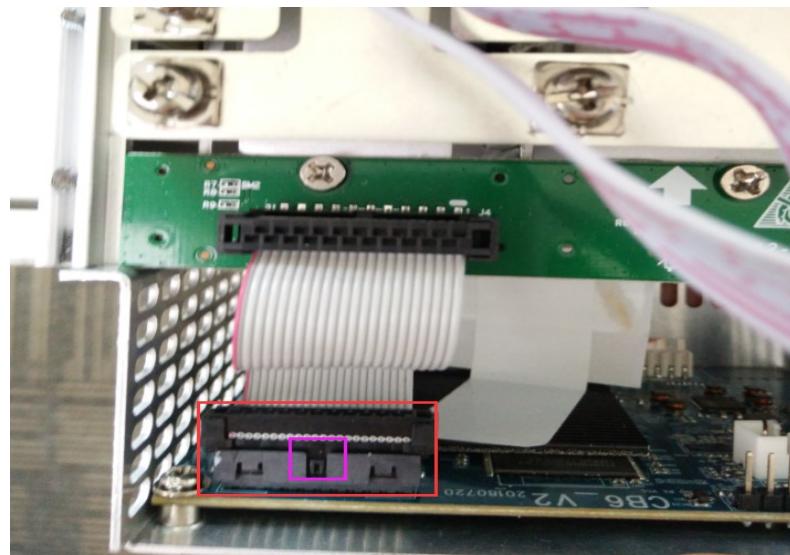
Correct Connection:

Figure 2-3

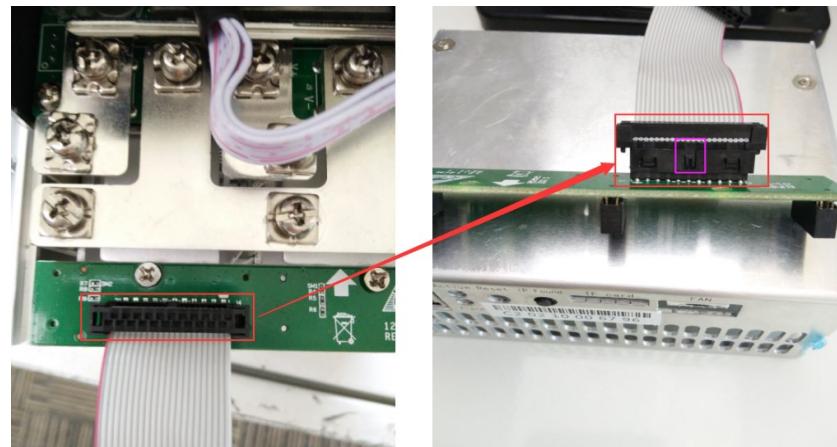


Figure 2-4

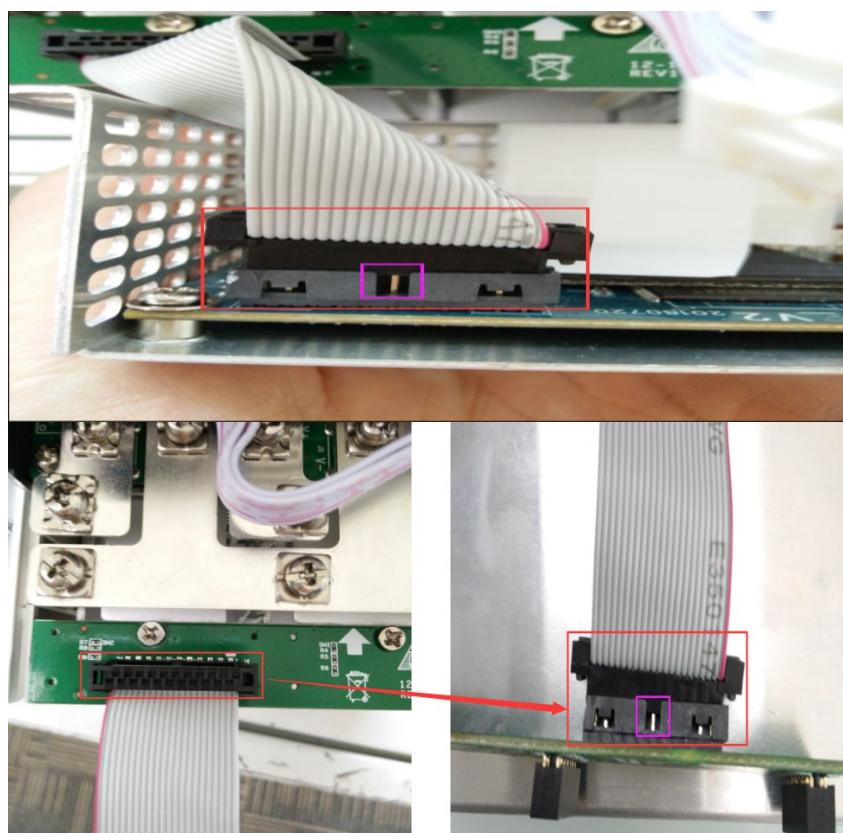
Incorrect Connection:

Figure 2-5

2.1.3 Illustration for Fan Connection Cable Connection

The fan connection cable is 4pin. You can insert it into its corresponding slot as below.

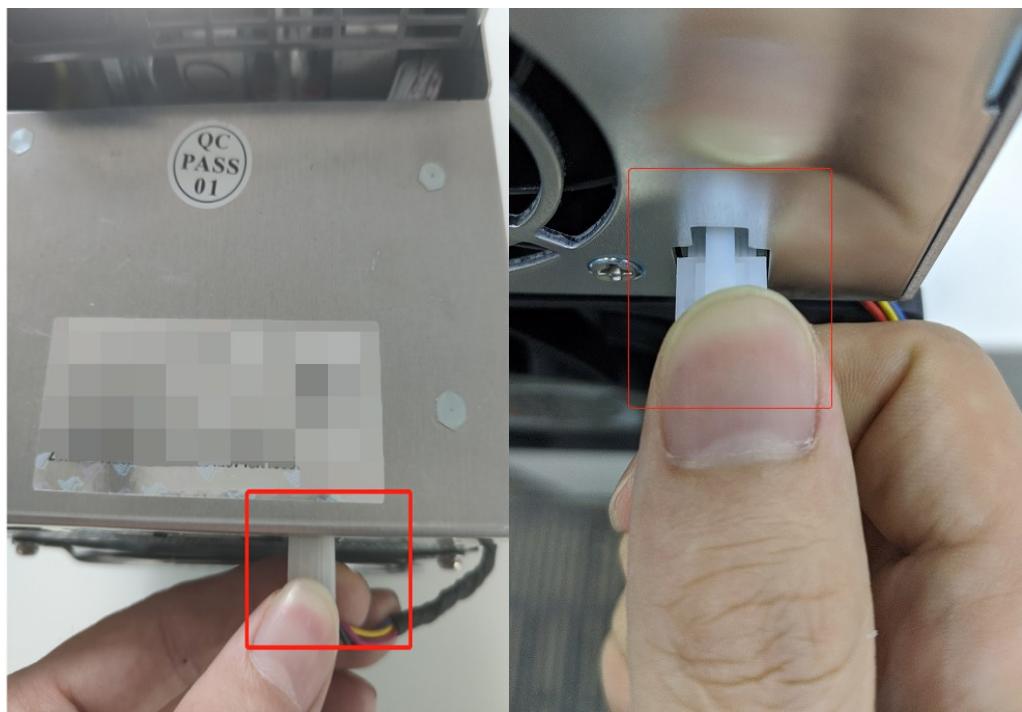
Correct Connection:

Figure 2-6

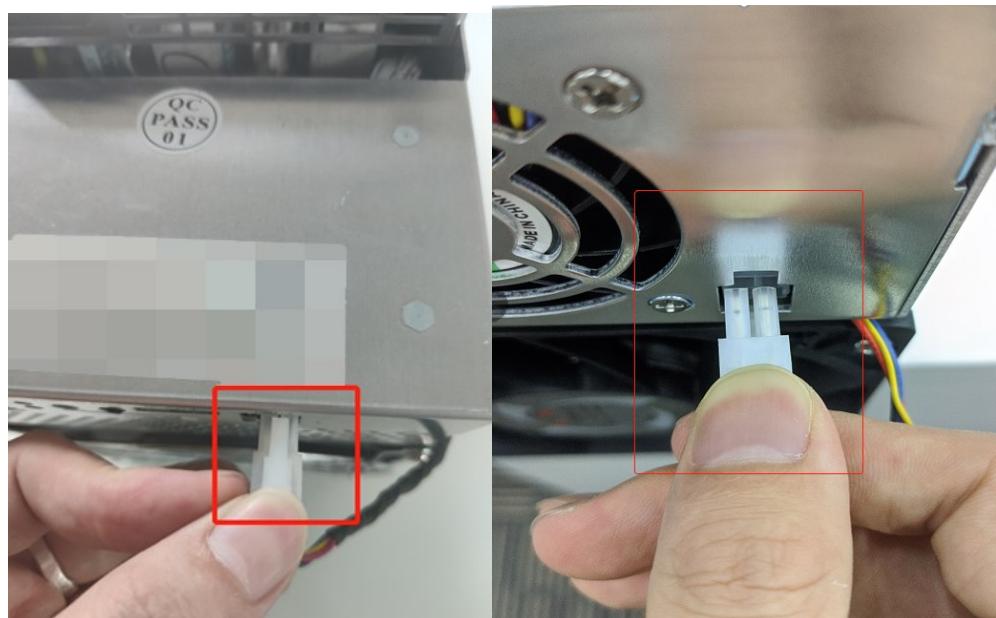
Incorrect Connection:

Figure 2-7

2.1.4 Illustration for Connection between Hashboard and Adapter Board

The sockets of the adapter board must be inserted in place with the pins of the hashboard to avoid contact issues. You can check the connection as below.

Correct Connection:

Figure 2-8

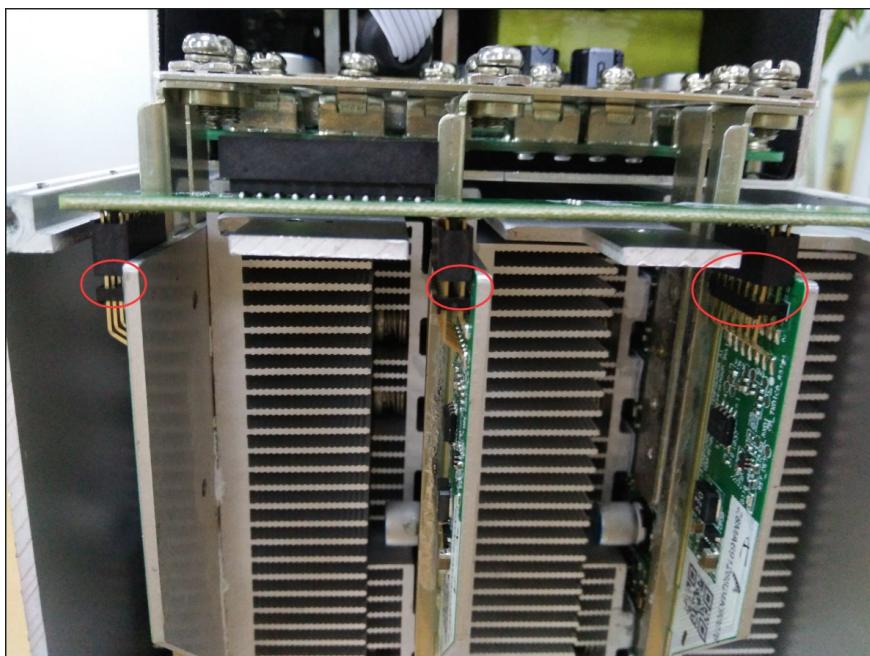
Incorrect Connection:

Figure 2-9

2.1.5 Illustration for Connection of Copper Bar

When connecting the copper bar of the power supply to the hashboard, positive and negative poles of the copper bar should be connected correctly. For some models of air cooling miners, gaskets of screws should be aligned parallel to an edge of the copper bar to avoid short circuiting and burning out the power supply or hashboard. In addition,

screws that fix the copper bar must be tightened to avoid contact issues causing the air cooling miner to malfunction. You can check the connection as below.

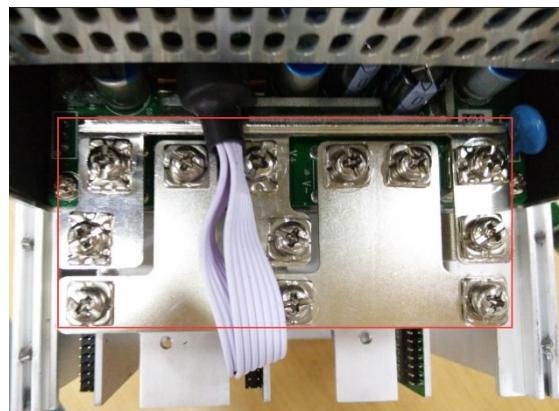
Correct Connection:

Figure 2-10

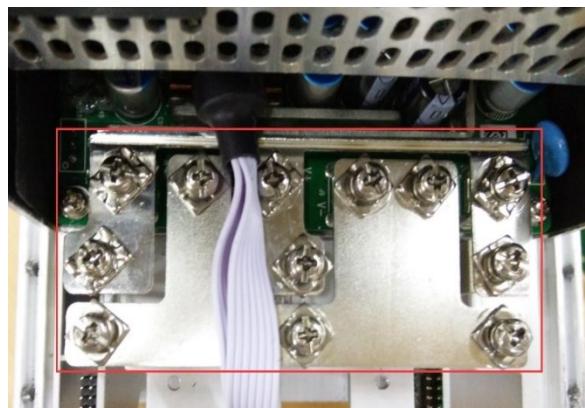
Incorrect Connection:

Figure 2-11

2.2 Precautions for Miner In and Miner Out

When you put an air cooling miner on a shelf, you should first connect a power supply cable to the air cooling miner, and then insert a plug of the power supply cable into socket holes. When you remove the air cooling miner from the shelf, you should first pull the plug of the power supply cable out of the socket holes, and then disconnect the power supply cable from the air cooling miner.

When you move the air cooling miner, you should avoid to use a flat cable or a power supply flat cable or a fan connection cable as a load-bearing handle of the air cooling miner and a power supply to lift them. This will result in damage to connections, loosing of the connections, and physical damage to the control board.



Note: We will shoulder no responsibility for the resulting hardware damage and malfunctions.

2.3 Precautions before Miner Power-On

Before connecting and powering on an air cooling miner, you should shake it gently to check for detached radiators or any other components that have come off, and ensure that there are no radiators or other components that have come off before connecting and powering on the air cooling miner.

Before powering on the air cooling miner, you should check whether it is connected to a power supply cable and a network port is connected to a switch, and ensure that a power supply flat cable, a fan connection cable, and an adapter board flat cable are not loose, and a copper bar is connected correctly.



Caution:

- The power supply flat cable between the control board and the power supply must be connected. Otherwise, output voltage of the power supply may not be controlled, resulting in decreased hashrate.
- A fan must be connected to the control board reliably through the fan connection cable. If the fan connection cable falls off or is poorly connected, the air cooling miner may not be cooled down, resulting in reduced frequency operation of a hashboard, and decreased hashrate.

3. Environment Configuration for Miner

3.1 Device List for Miner Configuration

Table 3-1

No.	Name	Quantity	Description
1	Computer	1	Configuring air cooling miner related parameters and operations.
2	Power Supply	1	Powering an air cooling miner.
3	Network Switch	1	Enabling communication between the air cooling

No.	Name	Quantity	Description
			miner and a computer.  Note: A network switch can connect to an external network.
4	DHCP Miner/Router	1	Providing a dynamic IP address for the air cooling miner when initially powering on it.
5	NTP Miner/Router	1	Providing NTP network time for the air cooling miner.

3.2 Network Environment Configuration for Miner

When an air cooling miner leaves the factory, it defaults to obtaining a dynamic IP address through DHCP (Dynamic Host Configuration Protocol). Therefore, a DHCP server should be configured in a network of a mining farm, or a router enables DHCP to dynamically allocate IP addresses. The operating time of the air cooling miner and the accuracy of hashrate statistics depend on the network NTP (Network Time Protocol) time. The air cooling miner itself is configured by default with multiple public NTP server addresses. In order to accelerate speed of NTP obtaining the network time and improve the time precision, it is recommended to configure a local NTP server in the network of the mining farm.

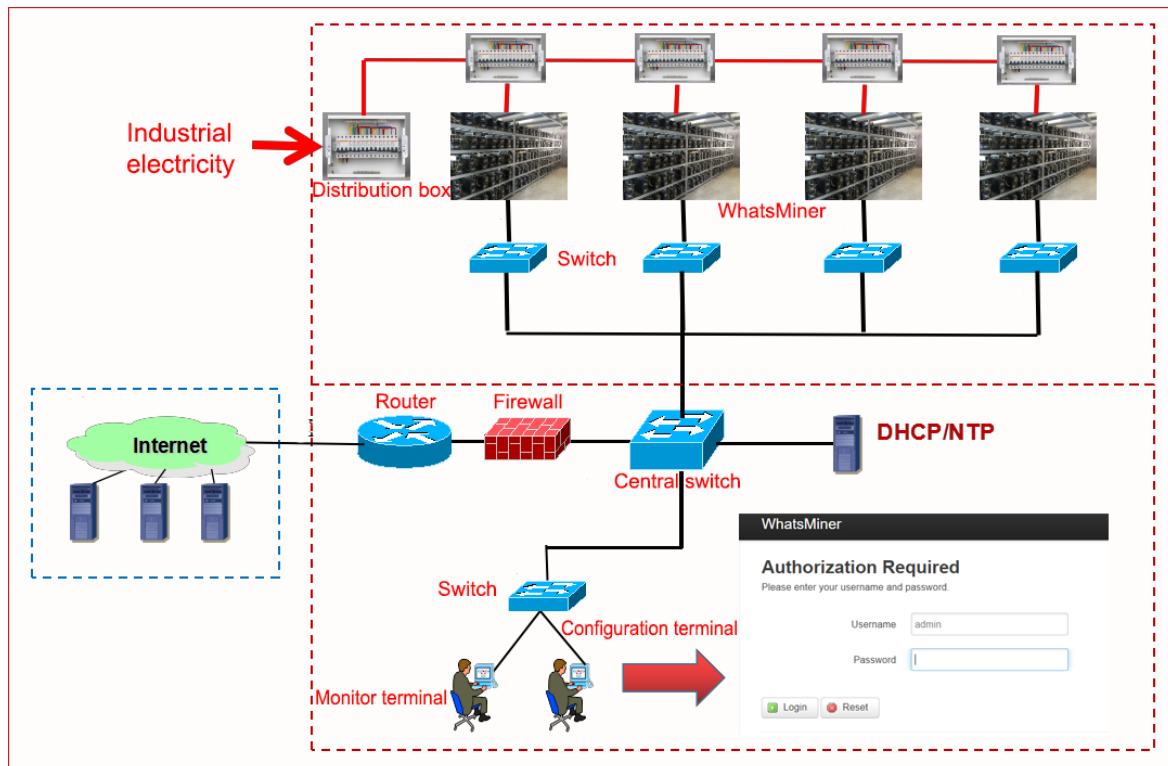


Figure 3-1

3.3 Data Configuration for Miner

You can configure data for an air cooling miner on the webpage.

3.3.1 Querying Dynamic IP Address Obtained by Miner

You can query a dynamic IP address of the air cooling miner on WhatsMinerTool. You can download this software on [WhatsMiner](#).

Before configuring miner data, connect your computer to the same network segment as the air cooling miner.

Step 1 Double-click WhatsMinerTool to enter a main page.



Note: Before operating WhatsMinerTool, download it first.

Step 2 Click **IP Monitor** tab, configure **Room**, **Shelf**, **Layer**, **Place**, and **Step** as needed, and then click **Start**.

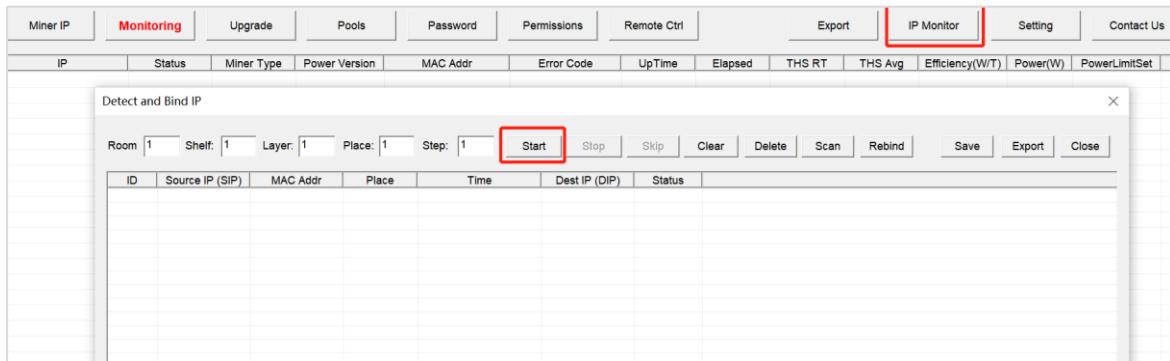


Figure 3-2

3.3.1.1 Checking IP Address Reported by Miner

After the air cooling miner is powered on for about 50 seconds, under normal circumstances, a yellow light on a network port is always on and a green light is flashing. At this time, press **IP Found** button on a control board of the air cooling miner for more than 5 seconds, then two LED lights, **Active** and **Alarm**, will flash a few times, indicating that the air cooling miner has broadcast its IP address and MAC address to the network.

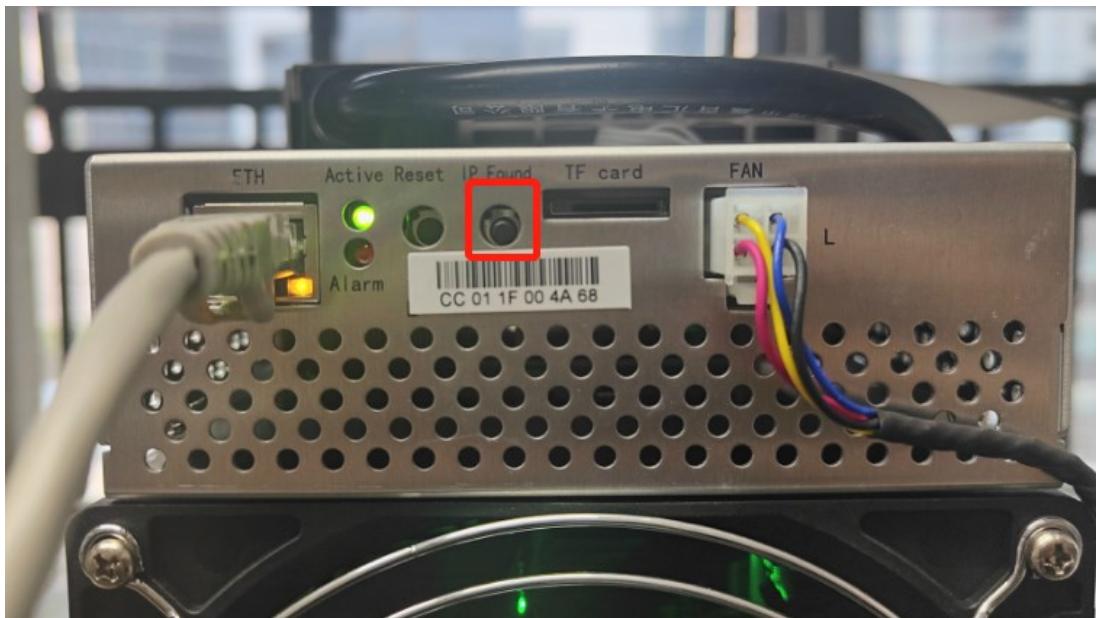


Figure 3-3

You can view the dynamically obtained IP address and MAC address, and miner place reported by the air cooling miner in WhatsMinerTool.

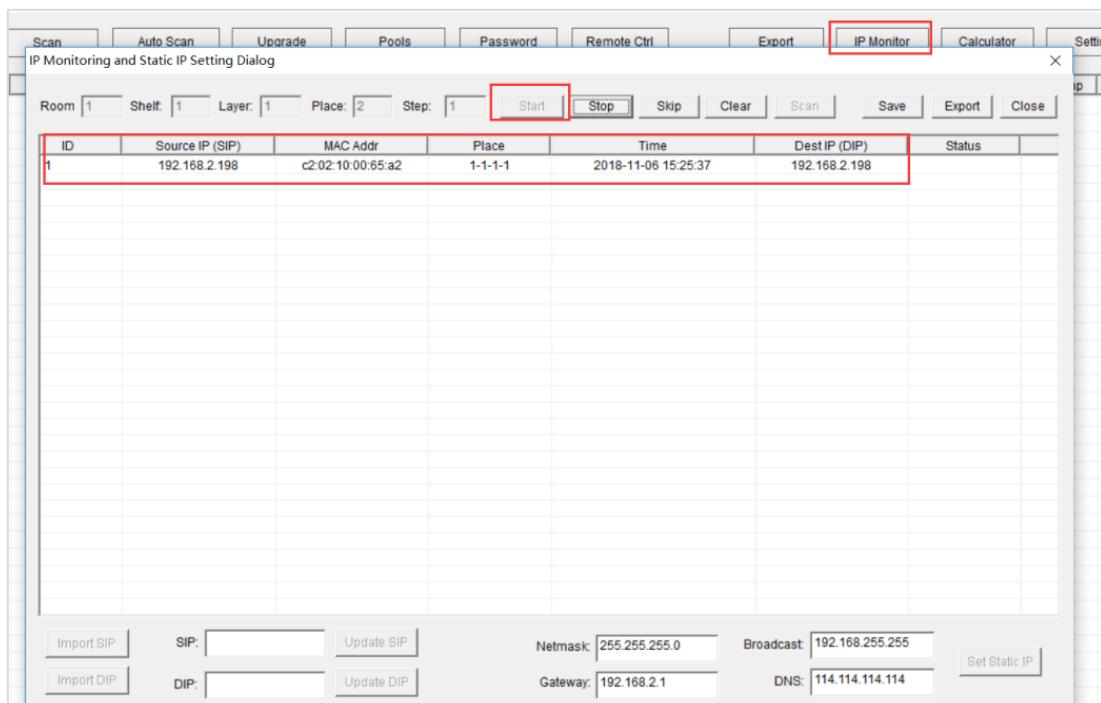


Figure 3-4



Note:

- If all lights on a control board of the air cooling miner are not lit up after power-on, check whether a 16 A power supply cable is connected reliably and correctly.
- If the two LED lights, **Active** and **Alarm**, on the control board of the air cooling miner are lit up, but lights on the network port are not lit up, or the green light is not flashing,

check whether a switch is functioning properly, a network cable is connected reliably, and there is a problem with the quality of the network cable.

- The computer operating WhatsMinerTool and the air cooling miner must be in the same network segment. Otherwise, WhatsMinerTool may not receive a broadcast message from the air cooling miner, so that the IP Address and MAC Address reported by the air cooling miner cannot be queried.
- If the computer and the air cooling miner are in the same network segment and a DHCP service is enabled in the network, but WhatsMinerTool does not query the IP address of the air cooling miner after pressing an **IP Found** button, long press a **Reset** button on the control board for more than 5 seconds to restore factory default configuration, then power off and power on the air cooling miner to restart it, and press the **IP Found** button again to detect the IP address of the air cooling miner after powering on for 50 seconds.
- If the computer is operating WhatsMinerTool, when you click **Start** and do not manually press the **IP Found** button, WhatsMinerTool automatically finds the IP address and MAC address of the air cooling miner, indicating that the **IP Found** button of the air cooling miner may be stuck in the control board, then you need to find a miner corresponding to a MAC address (referring to a MAC address barcode stuck on a case of the air cooling miner) displayed in WhatsMinerTool, then power off the corresponding air cooling miner, and reinstall the control board to ensure that buttons and indicator lights on the control board are exposed and not stuck in the control board.

3.3.1.2 Configuring Pool and Worker

Step 1 Open a browser on a computer, enter the obtained IP address of an air cooling miner in an address bar, and then enter a username and a password to enter a main page of a backend of the air cooling miner.



Note:

- The computer and the air cooling miner should be in the same network segment.
- The username and the password are the same, default is admin.

Step 2 Click **Configuration -> Miner Configuration**, enter a pool name and a worker name as needed, and then click **Save & Apply** to save the configuration.

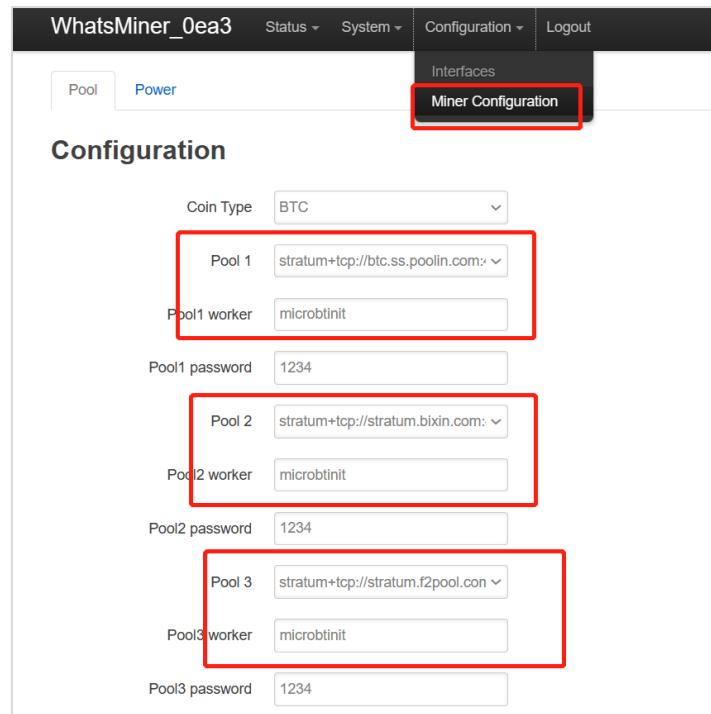


Figure 3-5



Note: After completing the configuration, you need to restart a miner program or a control board to make the configuration effective.

- Restart the miner program: In the main page of the backend of the air cooling miner, click **Status -> Miner Status**, and then click **Restart Miner** to restart the miner program.

Elapsed	GHSav	Accepted	Rejected	FanSpeedIn	FanSpeedOut	Voltage	Power	Power Mode
2m 27s	125328.89	64	0	4,560	4,530	1,207	3,500	Normal

Device	Frequency	GHSav	GHS5s	GHS1m	GHS5m	GHS15m
SM0	661	42206.13	42670.24	40838.86	42488.54	42488.54
SM1	631	40439.90	40575.49	39042.03	40710.52	40710.52
SM2	653	41840.75	42303.21	40355.76	42129.83	42129.83

Figure 3-6

- Restart the control board: In the main page of the backend the air cooling miner, click **System -> Reboot**, and then click **Perform reboot** to restart the control board.



Figure 3-7

After restarting for about half a minute, the page will automatically jump to a login page.

3.3.2 Configuring NTP Synchronization Server Address (Optional)

The air cooling miner has been configured by default with 4 NTP server addresses. You can modify or add an NTP server address when a default NTP server address cannot be connected or you want to connect your own server address as needed.

Step 1 Open a browser on a computer, enter the obtained IP address of an air cooling miner in an address bar, and then enter a username and a password to enter a main page of a backend of the air cooling miner.



Note:

- The computer and the air cooling miner should be in the same network segment.
- The username and the password are the same, default is admin.

Step 2: Click **System -> System**, and then configure an NTP server candidate.



Note: An **Enable NTP client** function is enabled by default.

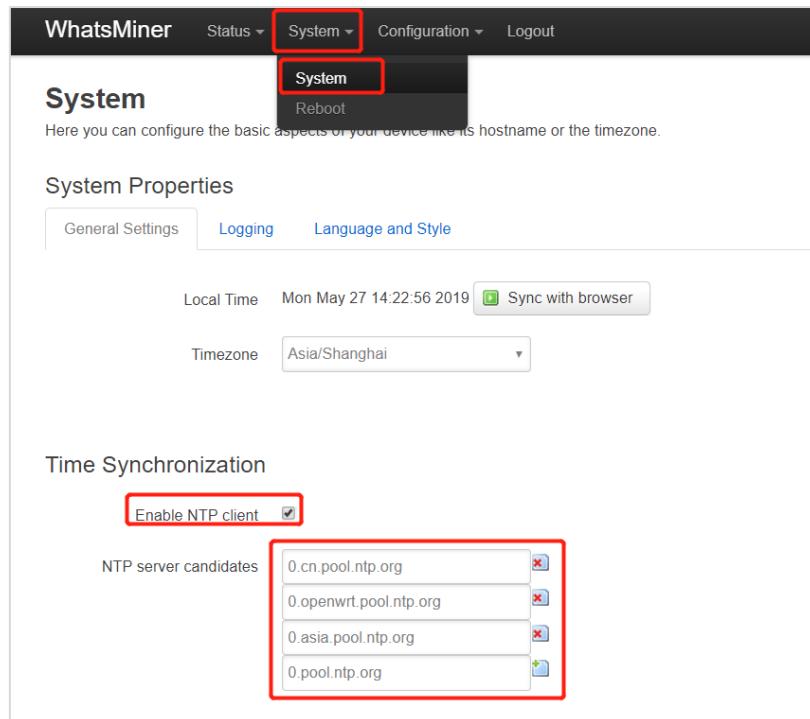


Figure 3-8

Step 3 Click **Save & Apply**.

3.3.3 Configuring Static IP Address (Optional)

You can modify an IP address obtained through DHCP to a static IP address for network planning of miner operation. When there is an IP conflict, configuring the static IP address can avoid not being able to search for the IP address of the air cooling miner.

Step 1 Open a browser on a computer, enter the obtained IP address of an air cooling miner in an address bar, and then enter a username and a password to enter an main page of a backend of the air cooling miner.



Note

- The computer and the air cooling miner should be in the same network segment.
- The username and the password are the same, default is admin.

Step 2 Click **Configuration -> Interface**, and then click **Edit** under **Actions** tab.

WhatsMiner Status System Configuration Logout AUTO REFRESH ON

LAN

Interfaces

Interface Overview

Network	Status	Actions
LAN	Uptime: 7d 18h 23m 8s MAC-Address: C2:08:18:00:00:9C RX: 5.16 GB (85408642 Pkts.) TX: 161.67 MB (482297 Pkts.) IPv4: 192.168.35.10/24	Edit
eth0		

Save & Apply

Figure 3-9

Step 3 In an **Edit** page, select **Static address** from **Protocol**, click **Switch protocol**, and then change an IP address, a mask, a gateway, a broadcast address, and a DNS address to an actual planned address of the air cooling miner.

WhatsMiner Status System Configuration Logout AUTO REFRESH ON

LAN

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.VLANNR (e.g.: eth0.1).

Common Configuration

General Setup	
Status	Uptime: 7d 18h 24m 13s MAC-Address: C2:08:18:00:00:9C RX: 5.16 GB (85417289 Pkts.) TX: 161.73 MB (482497 Pkts.) IPv4: 192.168.35.10/24
Protocol	<input type="button" value="Static address"/>
Really switch protocol?	

Back to Overview Save & Apply

Figure 3-10

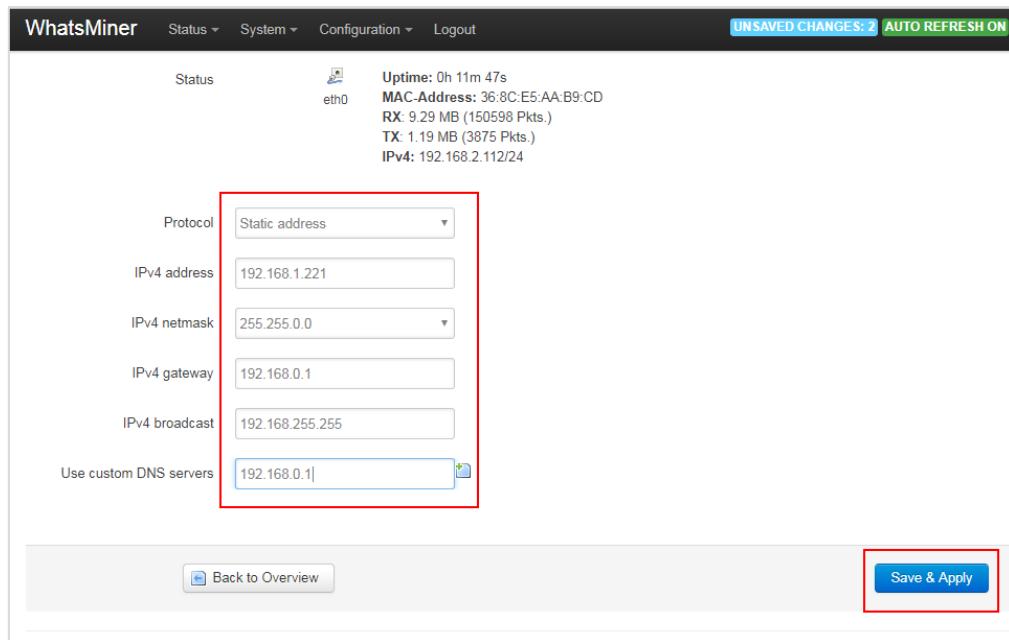


Figure 3-11

Step 4 Click **Save & Apply**.



Note: After saving the configuration, you need to reuse the newly configured static IP address to log in to the air cooling miner, otherwise the page will remain loading until it fails to load.

4. Operation Status Check for Miner

After an air cooling miner is connected to a network, you can log in to the air cooling miner on a computer connected to the same network segment to check its operation status.

Step 1 Open a browser on a computer, enter the obtained IP address of an air cooling miner in an address bar, and then enter a username and a password to enter an main page of a backend of the air cooling miner.



Note:

- The computer and the air cooling miner should be in the same network segment.
- The username and the password are the same, default is admin.

Step 2: Click **Status -> Miner Status** to enter a status page of the air cooling miner.

You can view an overall hashrate of the air cooling miner (see **GHSav** under **Summary** and **Devices** sections), fan speed, pool information, hashboard temperature, power, power mode, or the like as needed.

WhatsMiner_0ea3 Status System Configuration Logout UNSAVED CHANGES: 2

Miner Status Restart Miner
Please visit <https://www.whatstrainer.com> for support.

Summary

Elapsed	GHsAv	Accepted	Rejected	FanSpeedIn	FanSpeedOut	Voltage	Power	Power Mode
30m 47s	125987.72	816	0	4,800	4,830	1,210	3,532	Normal

Devices

Device	Frequency	GHsAv	GHs5s	GHs1m	GHs5m	GHs15m
SM0	661	42745.91	43173.74	42710.41	42723.80	42768.89
SM1	631	40925.49	41008.54	41013.08	40955.59	40958.65
SM2	653	42308.39	42396.35	42315.93	42305.84	42327.02
Total	648	125979.79	126578.63	126039.42	125985.23	126054.56

Device	Status	UpfreqCompleted	EffectiveChips	Temperature
SM0	Alive	1	111	77.75
SM1	Alive	1	111	72.19
SM2	Alive	1	111	76.00

Pools

Pool	URL	Active	User	Status	Difficulty	GetWorks	Accepted	Rejected	Stale	LST
1	stratum+tcp://192.168.2.24:3333	true	microbtinitial	Alive	65536	92	816	0	0	Thu Mar 9 11:38:40 2023

Figure 4-1



Note:

- When the air cooling miner is connected correctly and the network is normal, the air cooling miner will automatically perform a frequency search test after being powered on. The frequency search test takes about 40 minutes, and only after the frequency search is completed will it enter a formal mining phase. At this time, the displayed is a hashrate when the air cooling miner is normally operating. If the frequency search has not ended yet, the displayed will be lower than a hashrate when the air cooling miner is normally operating.
- If the temperature at an outlet of a hashboard is above 80 degrees and the fan speed is above 7000 revolutions per minute, the air cooling miner will run at a reduced frequency and the hashrate will be lower than a normal hashrate. Ventilation and cooling measures need to be taken for an operating environment of the air cooling miner to ensure that the ambient temperature of the air cooling miner is below 30 degrees.
- If a fan connection cable is not reliably connected to a control board, the



corresponding fan speed is 0, causing the temperature of the air cooling miner to be too high, the frequency of the hashboard to decrease, and the hashrate to decrease.

- If the temperature of some hashboards is not displayed in the status page of the air cooling miner, you can power off the air cooling miner first, and then unplug and plug a flat cable connecting the control board and the corresponding hashboard to ensure a reliable connection. In addition, you can also determine whether it is a problem with the hashboard using the following method. For example, when WhatsMinerTool displays an error in the hashboard at position 0, you can exchange the hashboard at position 0 and the hashboard at position 1, then if WhatsMinerTool displays an error in the hashboard at position 1 at this time, it indicates that there is a problem with the original hashboard at position 0 and you need to replace this hashboard.

5. Batch Configuration for Miner Data

You can use WhatsMinerTool for batch configuration of air cooling miners' data, such as upgrading firmware and collocating pool. For details, see *WhatsMinerTool_Operation Guide_V2.0_20250311*.

6. Installation and Disassembly of Components for Miner

When you receive a new air cooling miner, you do not need to assemble it, but when the air cooling miner encounters problems, you may need to disassemble some components of the air cooling miner to resolve the problems. The following will specifically introduce how to disassemble and install these components, including control board, power supply, and hashboard. When you install and disassemble them, attention should also be paid on connection. For details, see 2.1. Precautions for Miner Components.

6.1 Installing and Disassembling Control Board

When indicator lights on a control board are not lit up or when an error code related to the control board is displayed on a main interface of WhatsMinerTool, you can remove the control board and check it. For details about error code and WhatsMinerTool, see *WhatsMinerTool_Operation Guide_V2.0_20250311*.

6.1.1 Disassembling Control Board

Step 1 Unplug a fan connection cable from a control board, and then remove 4 screws that secure a housing of the control board to a case of an air cooling miner.



Figure 6-1

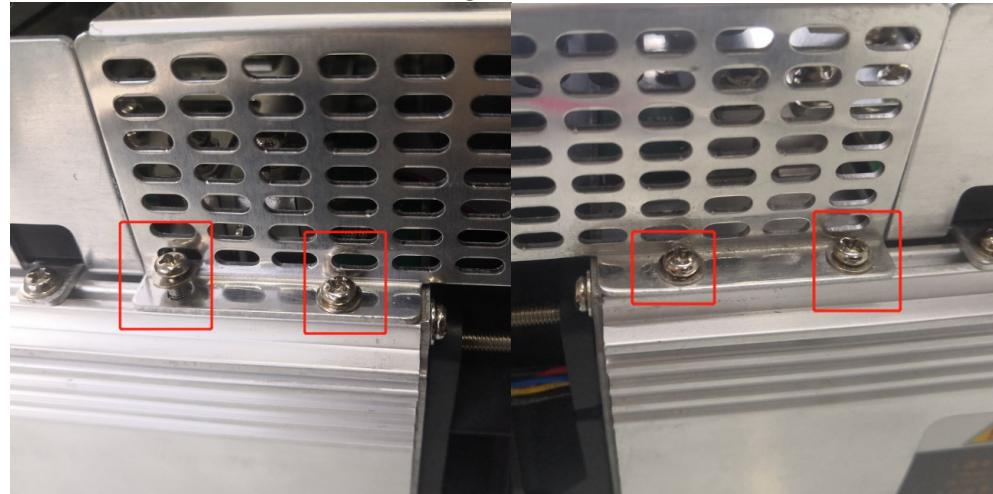


Figure 6-2

Step 2 Unplug a power supply flat cable and an adapter board flat cable connected to the control board.

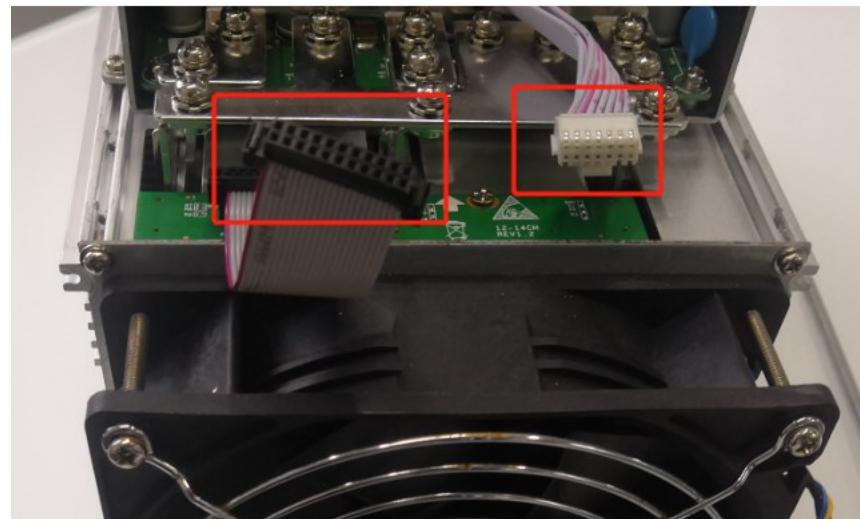


Figure 6-3

Step 3 Remove 4 screws that secure the control board to the housing of the control board, and then remove the control board from the housing of the control board.

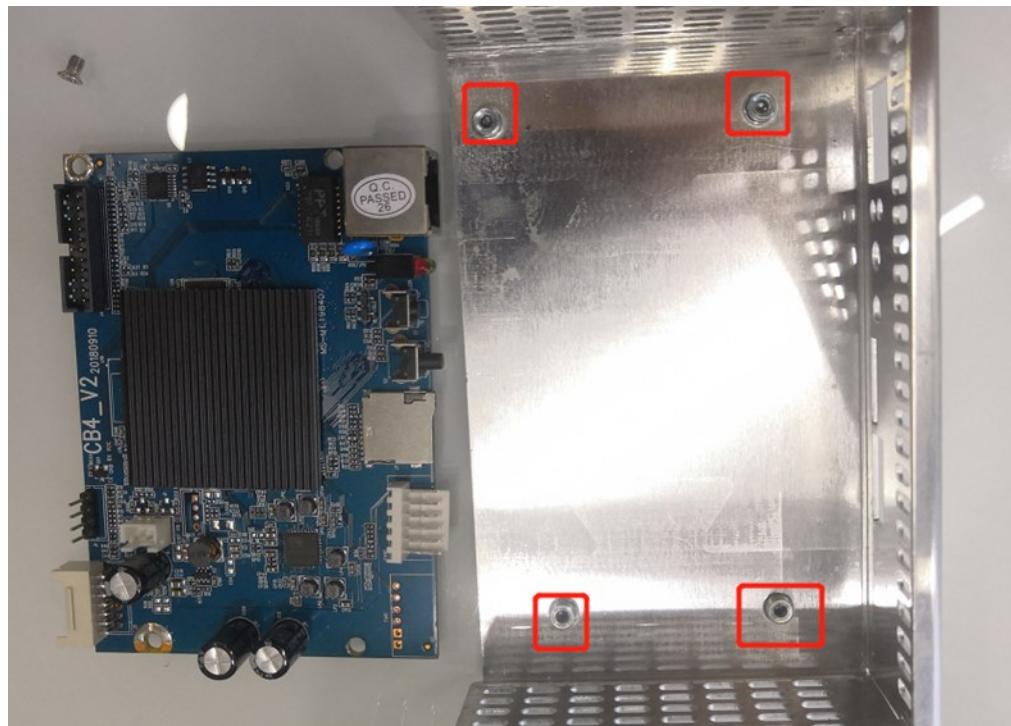


Figure 6-4

6.1.2 Installing Control Board

Step 1 Align holes on a control board with holes on a housing of the control board, and then screw in 4 screws and tighten them.

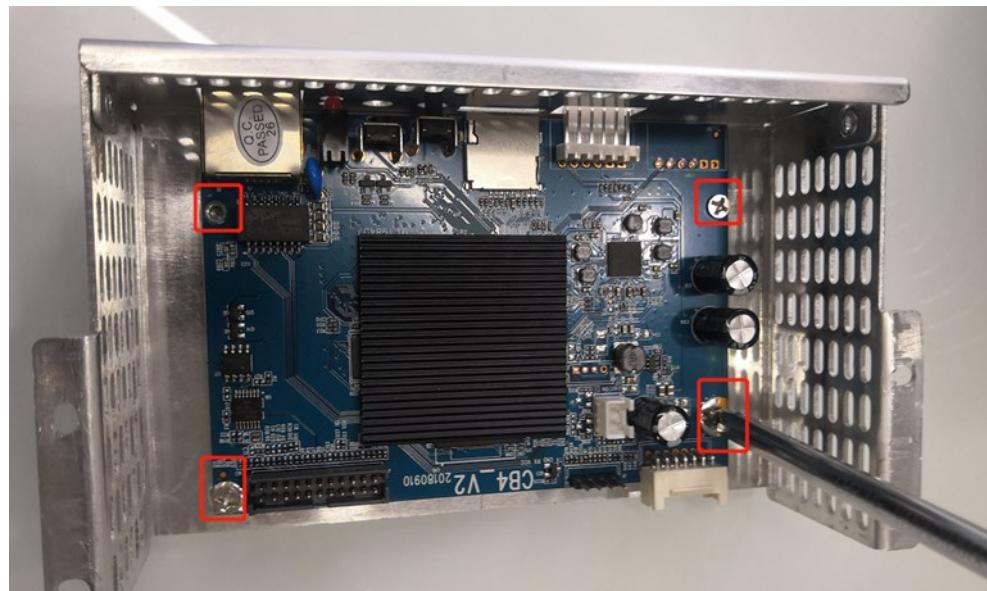


Figure 6-5

Step 2 Insert a power supply flat cable and an adapter board flat cable into corresponding slots on the control board.

Step 3 Screw in 4 screws that secure the housing of the control board to a case of an air cooling miner and tighten them, and then plug a fan connection cable into the control board.

6.2 Installing and Disassembling Power Supply

When a power supply is not working or when an error code related to the power supply is displayed on a main interface of WhatsMinerTool, you can remove the power supply and check it. For details about error code and WhatsMinerTool, see [**WhatsMinerTool_Operation_Guide_V2.0_20250311**](#).

6.2.1 Disassembling Power Supply

Step 1 Remove 4 screws that secure a power supply to a case of an air cooling miner.

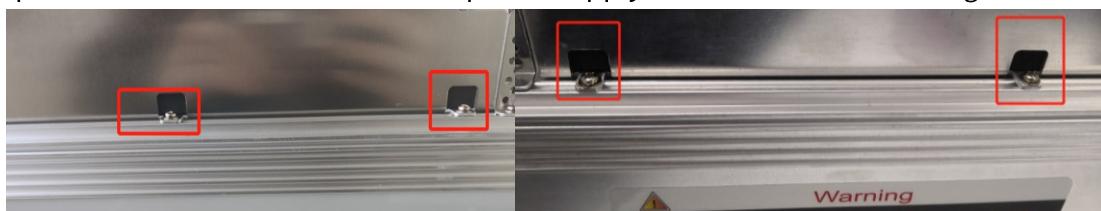


Figure 6-6

Step 2 Remove 6 screws that secure copper bars on the power supply.



Figure 6-7

Step 3 Unplug a fan connection cable from the power supply.

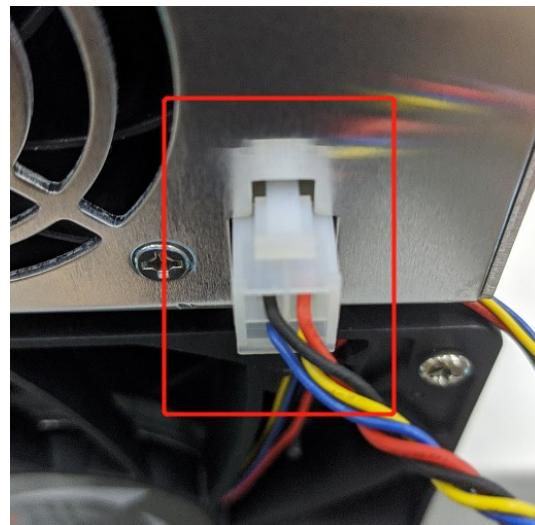


Figure 6-8

Step 4 Gently pull the power supply outward for a distance.



Note: Do not pull out the power supply too far since a power supply flat cable is still connected to the control board.

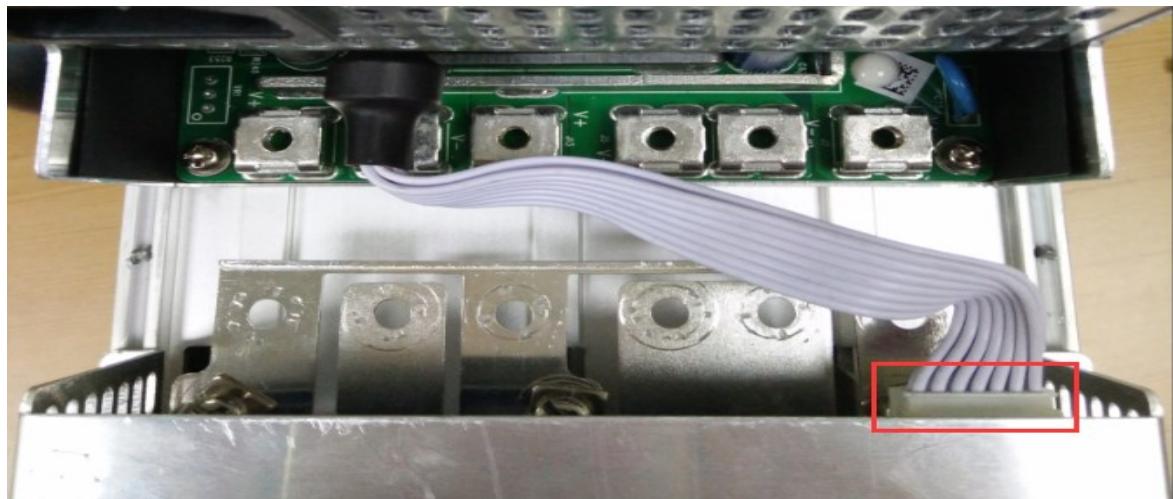


Figure 6-9

Step 5 Unplug the power supply flat cable from a control board to remove the power supply.

6.2.2 Installing Power Supply

Step 1 Plug a power supply flat cable into a corresponding slot on a control board.

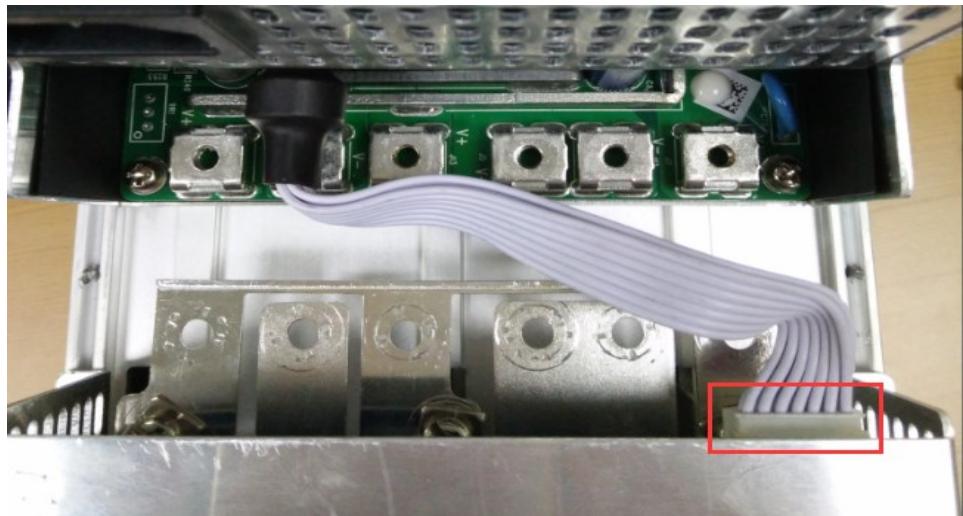


Figure 6-10

Step 2 Align 6 positive and negative terminals to a copper bar, and then screw in 6 screws and tighten them.



Note: For some models, gaskets of screws should be aligned parallel to an edge of the copper bar to avoid short circuiting and burning out a power supply or a hashboard.

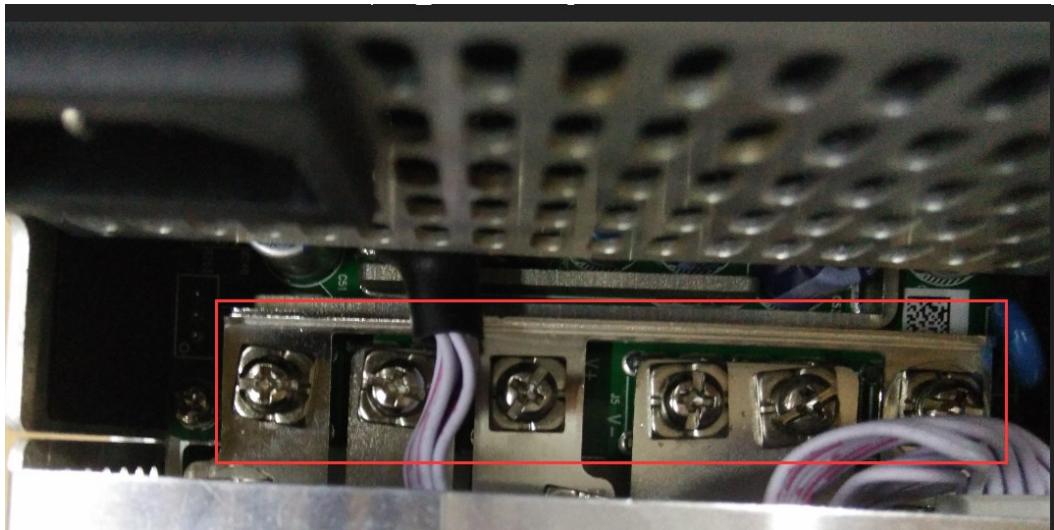


Figure 6-11

Step 3 Screw in 4 screws that secure the power supply to a case of an air cooling miner and tighten them.

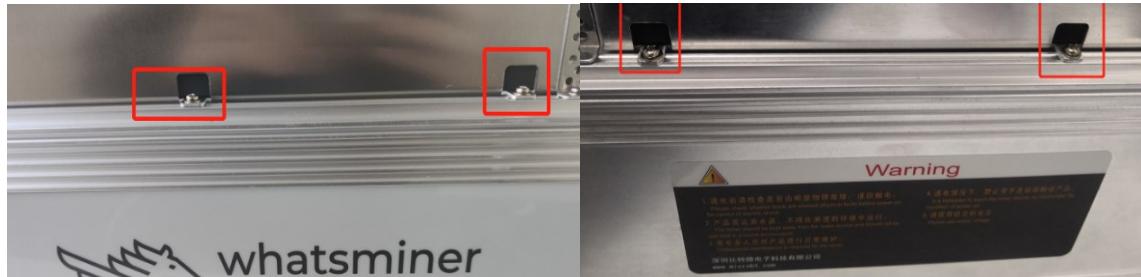


Figure 6-12

6.3 Installing and Disassembling Hashboard

When an error code related to a hashboard is displayed on a main interface of WhatsMinerTool, the code will display which board encounters a problem. You can seek help from our operation and maintenance personnel, who usually provide advice on whether to disassemble the hashboard. For details about error code and WhatsMinerTool, see [*WhatsMinerTool Operation Guide_V2.0_20250311*](#).

6.3.1 Disassembling Hashboard

Each air cooling miner has 3 hashboards, and a serial number of each hashboard can be seen on an adapter board. You can solve a problem by disassembling and replacing the hashboard.



Note: Before removing the hashboard, first remove a control board and an inlet fan.
Step 1 Unscrew 2 screws that secure an adapter board and hashboards, and then remove

a copper bar.

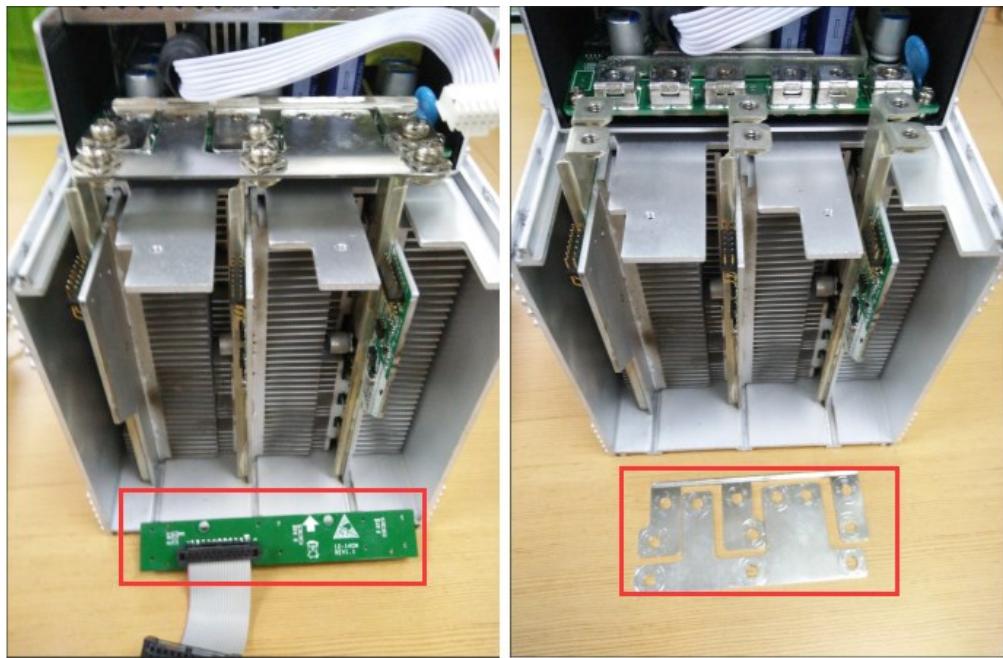


Figure 6-13

Step 2 Pull out a faulty hashboard outward, and then put it on a flat surface.

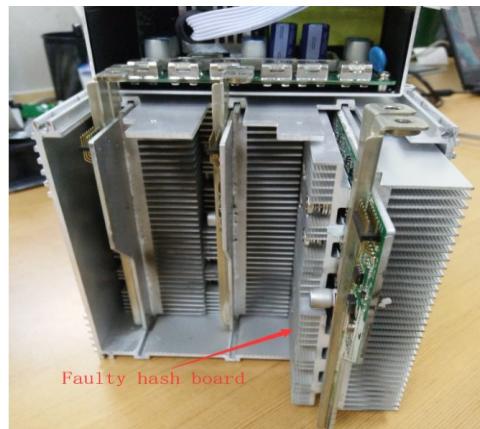


Figure 6-14



Note: After taking out the faulty hashboard, you can directly read the serial number or obtain the serial number by scanning a QR code, and then provide it to the operation and maintenance personnel.



Figure 6-15

6.3.2 Installing Hashboard

Step 1 Carefully insert a hashboard into a slot of the hashboard based on its serial number.

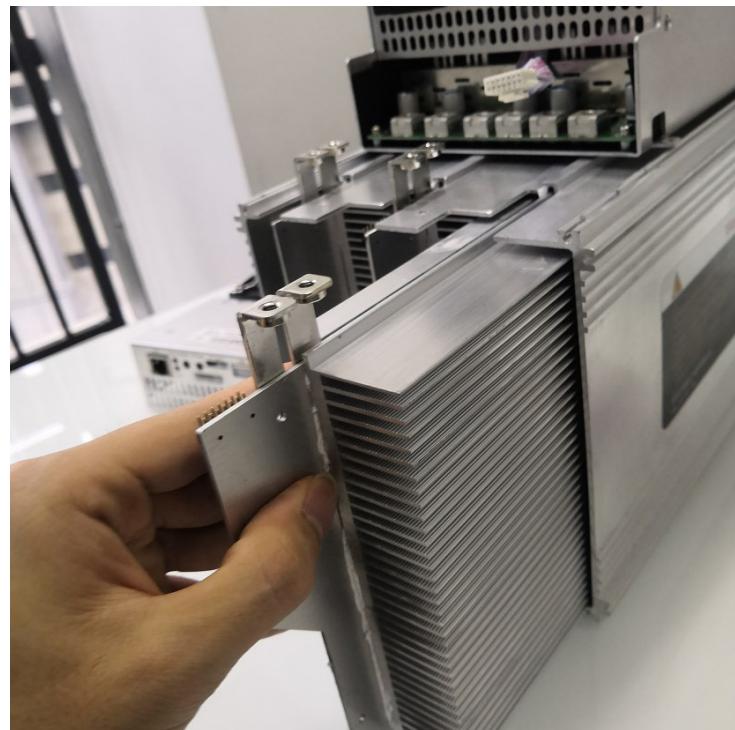


Figure 6-16

Step 2 Align holes of an adapter board with holes of a case of an air cooling miner, and then screw in 2 screws and tight them to install the adapter board.



Note: Pins of the hashboard must be inserted into sockets of the adapter board in place to avoid contact issues.

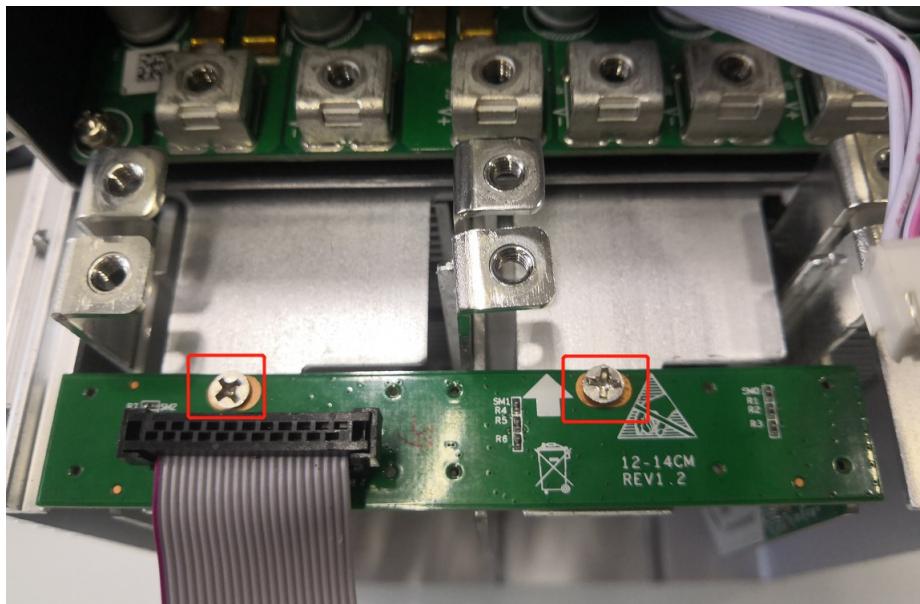


Figure 6-17

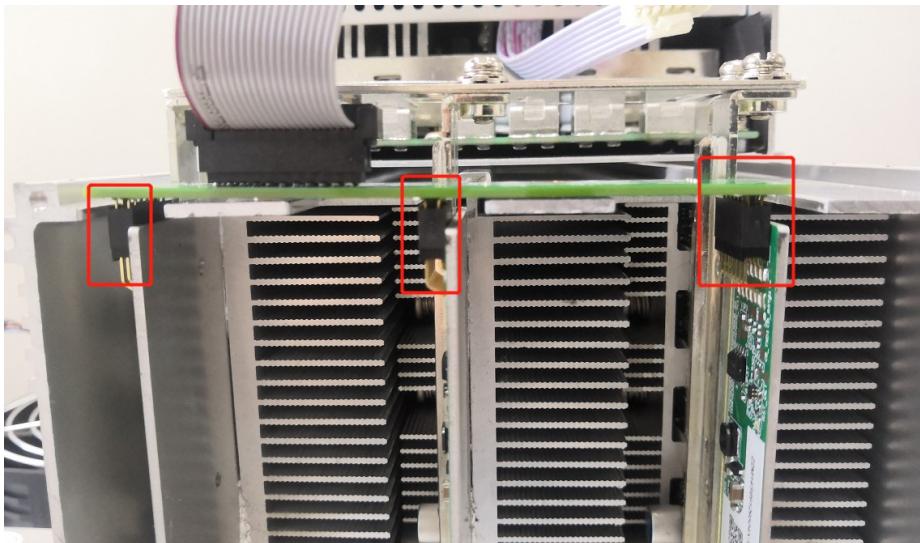


Figure 6-18

Step 3 Place a copper bar in a correct position, and then screw in 12 screws and tighten them to install the copper bar.



Note: When connecting the copper bar to the hashboard, positive and negative poles of the copper bar should be connected correctly. For some models, gaskets of screws should be aligned parallel to an edge of the copper bar to avoid short circuiting and burning out the power supply or the hashboard.

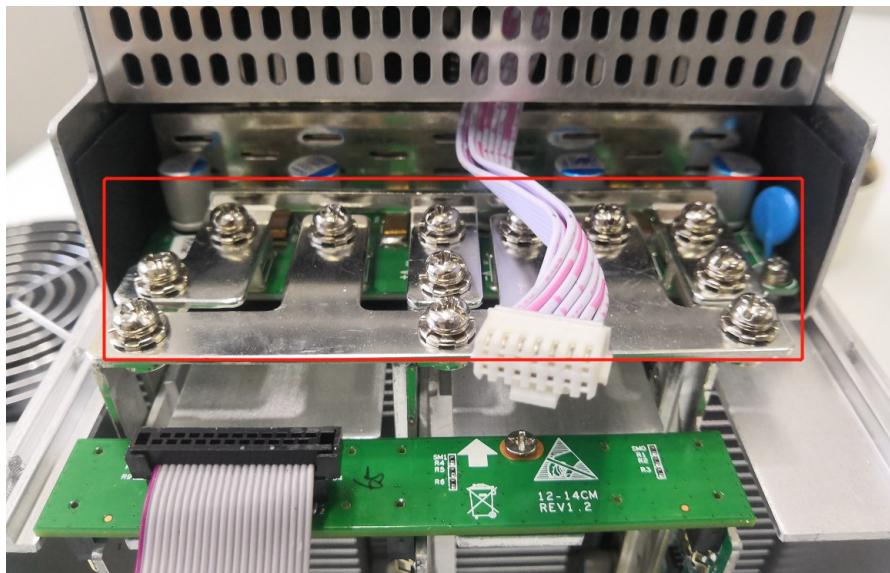


Figure 6-19

Step 4 Install a control board and an inlet fan. For details, see 6.1.2 Installing Control Board.

7. Appendix

7.1 Care and Maintenance

After a miner has been in operation or stored for a period of time (3 - 6 months), dust should be regularly cleaned on a hashboard, a control board, an adapter board, flat cables and other components to prevent corrosion, dusty, moisture, or the like.



Note: We will shoulder no warranty responsibility if the miner has serious corrosion, dusty, moisture, or the like.

7.2 After-Sales Warranty Policy

Integrity is our commitment to you. MicroBT promises you a one-year warranty period and provides free maintenance service under our warranty coverage. After purchase, it is deemed as an agreement to this policy. Please note that products are not covered under our warranty coverage if the following situations occur.

1. Products are damaged due to improper operation and failure to be properly put on a shelf, including but not limited to reverse insertion, insufficient insertion or no insertion of wires.
2. Products are damaged due to failure to use in accordance with product manual or product operation parameter requirements, including but not limited to using incorrect

parameters such as voltage, current, environmental temperature and humidity, dust particles, liquid pressure, liquid pH value, or the like.

3. Products are damaged due to failure to use in accordance with operation guide requirements, including but not limited to improperly on and off a shelf, haphazard pulling, scraping, lifting, or hitting leading to component missing, unstable connections, and open circuit on PCB (Printed Circuit Board).
4. Products are damaged due to disassembly, modification, re-assembly, or maintenance without official written or electronic authorization.
5. Products are damaged due to insufficient hashrate or mismatch by using unofficial accessories, including but not limited to PSU (Power Supply Unit), control board, fan, cable, or the like.
6. Products are damaged due to insufficient hashrate, abnormal hashrate, excessive power consumption, or burnout by using unofficial software.
7. Products are damaged directly or their service life is shortened due to self-modification of operation parameters (such as overclocking).
8. Products are damaged due to on-site environmental issues, including but not limited to humid environments, corrosive environments, high-temperature environments, dust particles, abnormal voltage and current (surges, impacts, instability), low or high AC voltage, or the like.
9. Product labels, serial numbers, or the like, have been modified, defaced, or removed.
10. Products are physically damaged due to deformation, oxidation, corrosion, or the like, including but not limited to extrusion and deformation caused by excessive liquid inlet pressure and non-standard use leading to freezing of cooling plates (hydro-cooling products), corrosion caused by excessive or insufficient pH value of liquid media and failure to use specified liquids (immersion-cooling products), damage caused by excessive conductivity of liquid media, or the like.
11. Products are damaged due to force majeure, including but not limited to earthquakes, fires, heavy rain, lightning, sandstorms, and other extreme environmental factors.

This warranty grants you specific legal rights, and you may also have other rights that vary by country/region. The interpretation of this warranty policy belongs to MicroBT.

7.3 Terms of After-Sales Warranty Fees

During a warranty period, except for warranty restrictions, we will undertake to repair or, at our sole discretion, replace a defective miner, miner part or component with a qualified



miner, miner part or component. You will bear costs associated with returning the miner, miner part, or component to our repair facility. We will bear costs of a part, component, and labor required to perform maintenance and restore the miner to its normal operating status. Upon completion of the repair, we will ship the miner, miner part or component back to you.

You need to return the miner in good condition to our repair facility, and prepay shipping fee, including insurance. If the miner, miner part or component is returned without insurance, you will bear all risks of loss or damage during shipment.

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