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S23 Hyd - 580 TH

Product Manual

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1. Overview

The S23 Hyd. server is one of BITMAIN's latest products. The APW11 power supply is a crucial component of the S23 Hyd. server. All S23 Hyd. servers are thoroughly tested and configured before shipping to ensure easy setup.

Figure 1-1 S23 Hyd. server

Caution:

(1) Please refer to the layout above to place your equipment in their designated locations to prevent any damage.

(2) The equipment must be connected to an earthed mains socket. The socket shall be installed near the equipment and shall be easily accessible.

(3) **DO NOT** remove any screws or cables attached to the product.

(4) Please note that the actual server shall prevail.

(5) There must be an external specific surge protection device complying with IEC/EN 61643-11 either in front of the power supply or outside the end system (in a separate distribution box or as part of the building installation).

(6) **DO NOT** plug or remove the device when it is powered on.

(7) The external power supply must have a disconnecting device, which can disconnect L1, L2, and L3 simultaneously.

(8) The server needs to be manually restarted when the hashrate is abnormal.

(9) The S23 Hyd. server shall be used simultaneously with the ANTSPACE seiries. Please click BITMAIN Shop for more details on ANTSPACE seiries.

1.1 S23 Hyd. Server components

The main components and control panel of the S23 Hyd. server are shown in the figure below.

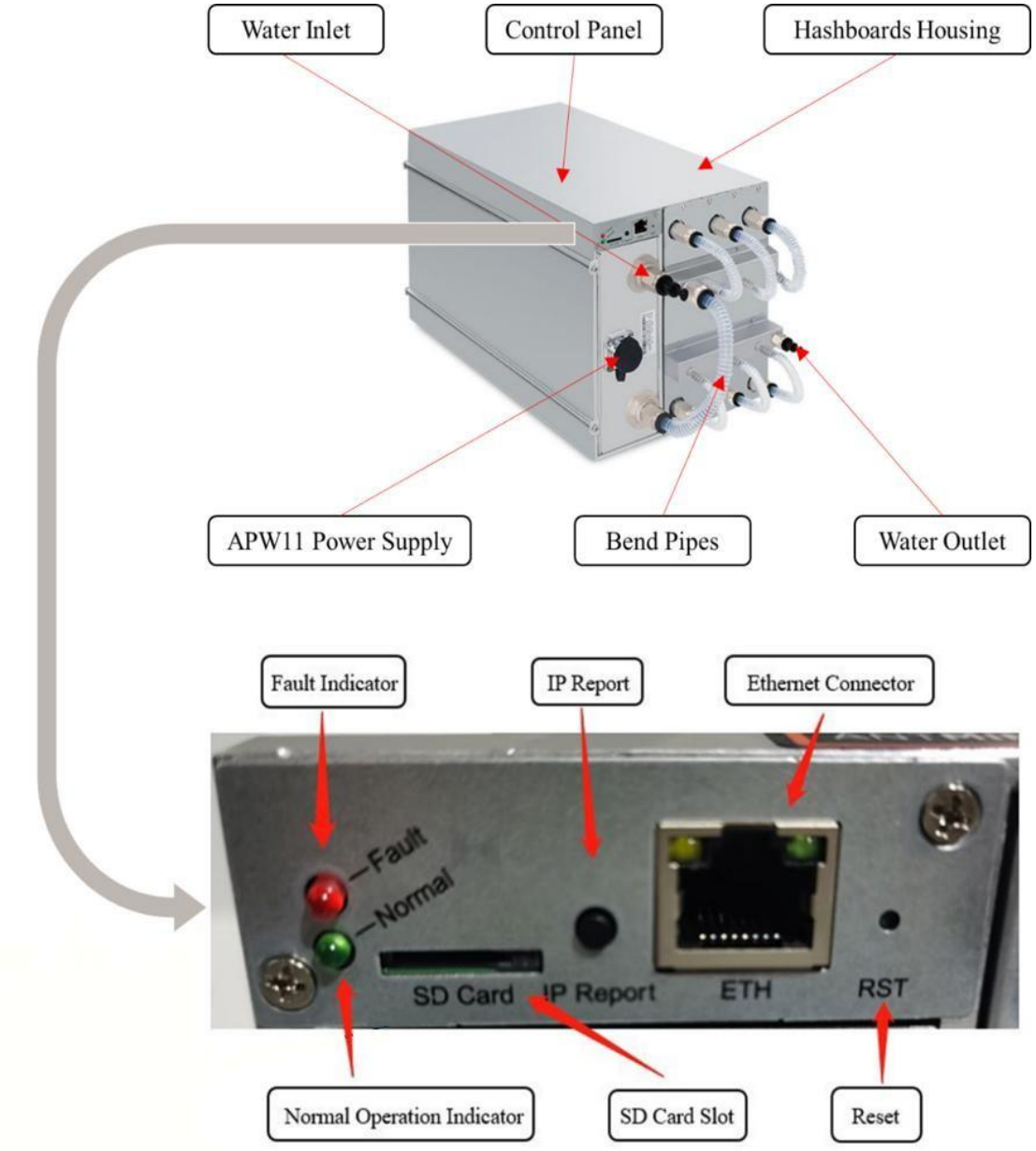
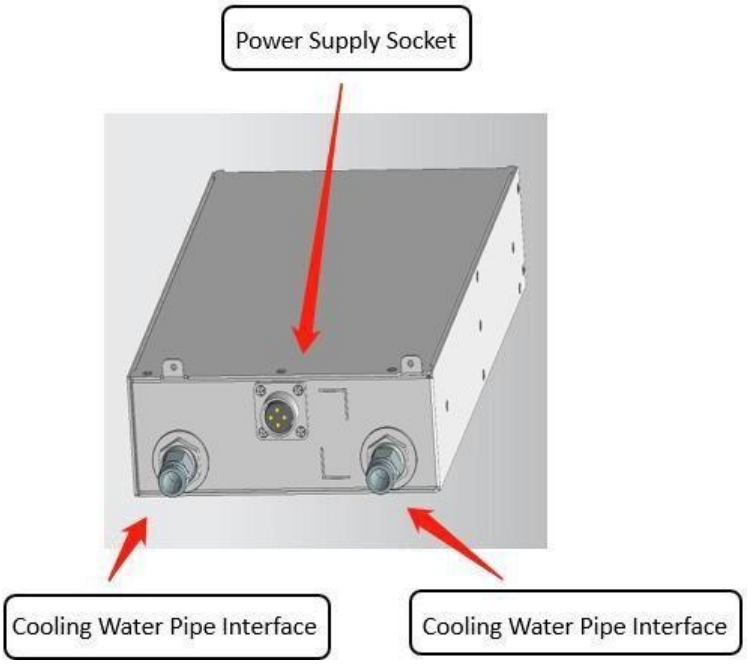


Figure 1-2 Main components and control panel of S23 Hyd. server Figure 1-2 illustrates a type of the S23 Hyd. server control panel.

The following sections provide a detailed description of the function and specific role of each component.



APW11 Power Supply:

Figure 1-3 APW11 power supply

The APW11 power supply serves as the energy source for S23 Hyd. server.

NOTE:

- The power connector is designed to be waterproof.
- For detailed parameters, please refer to the specifications below.

Bend Pipes, Water Inlet and Outlet:

Bend Pipes, water inlet, and water outlet refer to components in a cooling system that control the flow of coolant into and out of the system

NOTE:

- When inserting or removing the bend pipes, ensure they are securely tightened.

Control Panel:

Ethernet mode:

The device is equipped with an RJ45 Ethernet interface that supports data transfer speeds of 10/100 Mbps.

LED Indicators:

The green LED indicates normal operation of the Ethernet interface.

The red LED signifies a fault condition within the Ethernet interface, requiring attention.

Function Activation:

The IP report function can be activated by pressing the raised button.

The reset function can be activated by pressing the recessed button, allowing for quick troubleshooting and maintenance.

SD Card/Micro USB Slot:

The SD Card can be used to connect a SD card for data transfer.

Hashboards Housing:

The hashboards housing is an enclosure designed to store and protect the hashboards. Its primary functions include providing structural support, shielding the hashboards from external environmental factors, and ensuring proper heat dissipation and electrical connections.

1.2 Specifications of Partial Components

Customers can purchase the following parts for the S23 Hyd. on our official website at https://www.bitmain.com. The specifications for the above parts can be found on the parts sales page of our official website.

Table 1-1 Specifications of Partial Components

Item Number	Accessories	Picture
1	Control Board for Hyd. Series	
2	APW111721c,17V-21.6V,RSPri_V1.25，EMC	

3	Manifold (for 3 hashboards)	
4	Corrugated Pipe, D10, L=210mm, Transparent FEP	

1.3 Product Specifications

Table 1-2 Product Glance

Product Glance	Value	
Model	**S23 Hyd.**	
Sub	**440T**	**473T**
Version	**10**	
Crypto algorithm| coins	**SHA256| BTC/BCH/BSV**	
Typical hashrate, **TH/s**(1-1)	**440**	**473**
Power on wall @35℃(1-2), **Watt**(1-1)	**5280**	**5676**
Power efficiency on wall@35℃(1-2), **J/T**(1-1)	**12**	

Table 1-3 Detailed Characteristics of Product

Detailed Characteristics	Value
Power Supply	
Phase	**3**
Input voltage, **Volt**(2-1)	**380~415**
Input frequency range, **Hz**	**50~60**
Input max current, **Amp**	**12**
Hardware Configuration	
Network connection mode	**RJ45 Ethernet 10/100M**
Server size (length*width*height, w/o package), **mm**	**339*173*207**
Server size (length*width*height, with package), **mm**	**570*316*430**
Net weight, **kg**	**13.8**
Gross weight, **kg**	**15.7**
Environment Requirements	

Inlet coolant temperature, **℃**	**20~50**
Coolant flow, **L/min**	**8.0~10.0**
Coolant pressure, **bar**	**≤3.5**
Working coolant(2-2)	**Antifreeze/ Pure water/Deionized water**
Coolant pH value	**Antifreeze: 7.0~9.0** **Pure water: 6.5~7.5** **Deionized water：8.5~9.5**
Diameter of coolant pipe connector, **mm**	**OD10**
Storage temperature, **℃**	**-20~70**
Operation humidity(non-condensing), **RH**	**10~90%**
Operation temperature, **℃**	**-20-50**
Operation altitude(2-3), **m**	**≤2000**

NOTE:

(1-1) The hashrate value, power on wall, and power efficiency on wall are all typical values. The actual hashrate value fluctuates by ±3%, and the actual power on wall and power efficiency on wall fluctuate by ±5%.

(1-2) Inlet coolant temperature.

(2-1) **Caution**: Wrong input voltage may cause server damaged.

(2-2) For detailed working coolant use and maintenance instructions, please refer to *Chapter 2.1 "Requirements of Coolant".*

(2-3) When the server is used at an altitude from 900m to 2000m, the highest operating temperature decreases by 1℃ for every increase of 300m.

2. Cooling System Requirements

2.1 Requirements of Coolant

When purchasing coolant, it is essential to focus on the relevant parameters in Table 2-1. If the requirements are not met, it is necessary to consider refilling and replacing the coolant as appropriate.

(1) The primary focus during regular inspection of coolant should be the pH value. It is not recommended to use the coolant when the pH value is below 7 (a pH indicator can be added to the coolant. When the pH is below 6.8, the coolant will change color for easy observation); the inspection method is shown in the table below.

(2) Secondary focuses during regular inspection of coolant include freezing point, ethylene glycol ratio, total hardness, etc. In the later stage, attention should be paid to whether the content of elements such as Al, Fe, and Cu increases or not, as an increase indicates that contact corrosion has already occurred; the inspection method is shown in the table below.

It is recommended to regularly add corrosion inhibitors according to the supplier's requirements to maintain the coolant.

Table 2-1 Recommended Standard Parameters for Coolant

Items	Index		Recommended reference standards for inspection
Color	**Significant color**		Visual inspection
Exterior	**No odor, sediment, or suspended solids**		Visual inspection
Freezing point	**< Local minimum freezing temperature**		
Boiling point	**108°C (low temperature type)**		
pH value	**7-9**		
Reserve alkalinity	**≥4ml (organic formula) ≥9ml (including inorganic formula)**		
Total hardness	**<120 mg/l**		
Main element content	B	**<20mg/kg**	
	Si	**<20mg/kg**	

	P	**<20mg/kg**	
	Mo	**<20mg/kg**	
	Ca	**<20mg/kg**	
	Al^{3+}	**<50mg/L**	
	Fe^{2+}	**<50mg/L**	
	Cu^{2+}	**<50mg/L**	

Table 2-1 provides the medium requirements for working environments with temperatures below 0°C like glycol. Table 2-2 illustrates the relationship between the concentration of glycol and its freezing point.

Table 2-2 Glycol Refrigerant Concentration vs. Freezing Points

Glycol concentration		Freezing point, °C
Mass concentration, %	Volume concentration, %	
0	0	0
5	4.4	-1.4
10	8.9	-3.2
15	13.6	-5.4
20	18.1	-7.8
25	22.9	-10.7
30	27.7	-14.1
35	32.6	-17.9
40	37.5	-22.3
45	42.5	-27.5
50	47.6	-33.8
55	52.7	-41.1
60	57.8	-48.3

If the working environment temperature is consistently above 0°C, deionized water or purified water can be used as the secondary side internal circulation medium with corresponding requirements listed in Table 2-3.

Table 2-3 Recommended standards for deionized water

Index	Deionized water	Reference standards	Remarks
pH value	**8.5-9.5**	**Intel 632983**	
Sulfide	**<1 ppm**	**TC9.9/Intel 632983**	
Sulfate	**<10 ppm**	**TC9.9/Intel**	

		632983	
Chloride	<5 ppm	TC9.9/Intel 632983	
Bacterial community	<100 CFUs/ml	TC9.9/Intel 632983	
Total hardness (as $CaCO_3$)	<20 ppm	TC9.9/Intel 632983	
Conductivity	<20us/cm (reference value, not mandatory)	TC9.9	High conductivity is not necessarily unacceptable, such as 1000us/cm, as corrosion inhibitors and fungicides will both lead to an increase in water conductivity. It is necessary to understand the reasons behind the sharp increase in conductivity trend during circuit operation.
Residues after evaporation	50 ppm	TC9.9/Intel 632983	
Turbidity	<20 NTU	TC9.9/Intel 632983	
Iron content	0.1 ppm	Industry standards	
Copper content	10 ppm	Industry standards	
Carbon steel corrosion rate	3mpy (0.075mm/a)	GB/T 50050-2017	
Corrosion rate of copper or stainless steel	0.2mpy (0.005mm/a)	GB/T 50050-2017	

NOTE:

- The coolant must be configured strictly in accordance with the lowest possible temperature in the environment. If the coolant is not configured according to the instructions and the ambient temperature is lower than the freezing point of the coolant, causing the heat exchanger to freeze and crack, our company will not bear any responsibility.

2.2 Maintenance Requirements of Cooling System

As the core unit of the container water cooling system, it is recommended to regularly track and record the coolant, at least once a year (pH value should be tested every six months).

To ensure long-term reliable operation, when using deionized water or purified water as the internal circulation medium, check every 1-2 weeks and replace the internal coolant every 1-2 months.

When using deionized water as the internal circulation medium, please strictly comply with the usage environment above 0°C. Otherwise, if the temperature is below freezing point, unexpected power outage will cause the internal pipes of the system to freeze and cause the pipes to burst.

When using deionized water/pure water, the pH value, conductivity, and related index parameters of the coolant must be regularly tested and recorded. When the requirements in Table 2-3 are exceeded, or there are abnormal changes, new deionized water/pure water that meets the requirements must be replaced in time.

3.Installation and Rack Management

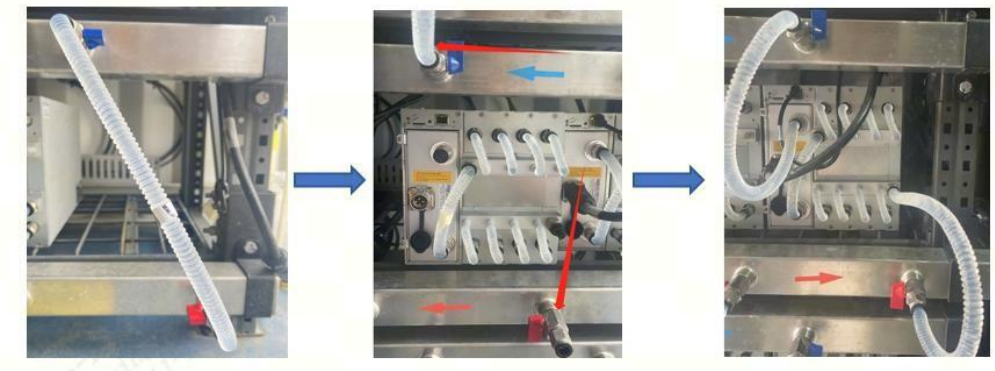
3.1 Installation Location

The S23 Hyd. should be installed on the racks in our water-cooled container, with the water and electrical interfaces facing the aisle of the water-cooled container.

3.2 Loading Hydro-cooling miner

First connect the water, then the power supply, and proceed from the top to the bottom in sequence.

1. Water flows: First, close all the inlet and outlet water valves, then insert the water pipes into the machine's quick connectors, with the upper connector for inlet and the lower one for outlet. Make sure the water pipes are fully inserted to ensure a tight seal. Then, open all the water pipe valves and check for any leaks.
2. Power: The miner’s power plug is an aviation plug, and the button can be fully reset to complete insertion.
3. Network: Insert the corresponding network cable below the miner into the miner, and each network cable has a location code.



3.3 Unloading Hydro-cooling miner

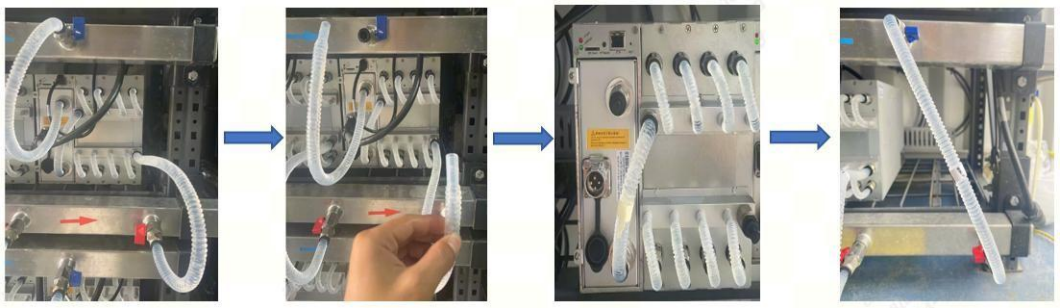
First cut off the power, then cut off the water, from the lower level to the higher level in sequence.

1. Power: Turn off the corresponding air switch of the miner.
2. Water flows:

   Step 1: close all the inlet and outlet valves of the miner to ensure they are fully closed. Then, slowly pull out the inlet and outlet water pipes, and lower the water pipe mouth to allow the liquid inside the miner to flow into the bucket until no water droplets flow out.

   Step 2: check the power plug and network cable head, confirm that there is no liquid on the head, and then unplug and remove the miner.

   Step 3: unplug the water pipe and block the quick connect plug of the miner with a water stop plug. The residual miner coolant should be left in the miner (if repair is required, all the miner coolant should be drained and the residual coolant inside the miner should be blown dry with an air pump). After removal from the rack, the water inlet and outlet of the original miner position should be kept connected.
3. Network: Pull out the network cable from the miner and bend it down to avoid scratching the network cable when removing the miner.
4. After all the above operations are completed, the miner can be taken out and removed from the rack.



3.4 Precautions

1. **Before water filling**: Check the water pipes to ensure they are securely connected to prevent leaks during water filling.
2. **Power connections**: Ensure that the power connections are securely plugged in to avoid sparks when powering on. Before plugging in or unplugging the AC power input line, please ensure that the server is powered off.
3. **Powering on**: First, fill the system with water, wait for 20 seconds, and then confirm that the flow rate and water temperature meet the standards before powering on.
4. **Powering off**: First, disconnect the power, wait for 20 seconds, and then confirm that the server is powered off before disconnecting the water.

5. **In case of water spillage**: If there is water splashing or spraying from the water-cooled server, do not power on the device directly. Please contact the after-sales service center.
6. **Operating below 0°C**: If the water-cooled server operates in an environment below 0°C, antifreeze must be used inside; otherwise, there is a risk of freezing and cracking the server.
7. **In case of thunderstorms**: Unplug the device during thunderstorms or when not in use for an extended period. This will protect the server from damage caused by power fluctuations. Do not overload the power outlet and power cord. Overloading may result in fire or electric shock.
8. **In case of strange odors, sounds, or smoke:** If the server emits strange odors, sounds, or smoke, immediately disconnect the power and contact the service center. Under no circumstances should you hit or drop the server. Ensure that all connection cables are securely connected and properly aligned.
9. The miner can only be energized after all of the above operations have been completed.
10. When performing batch shelving operations: it is necessary to load the miner from the upper layer to the lower layer in order to avoid the impact of residual water in the water pipe on the miners in the lower layer.
11. For transfer in batches, all the cooling liquid of the miner should be discharged, dried with an air pump, and packaged in original carton boxes for transportation and transfer.

4.Setting up the Server

NOTE:

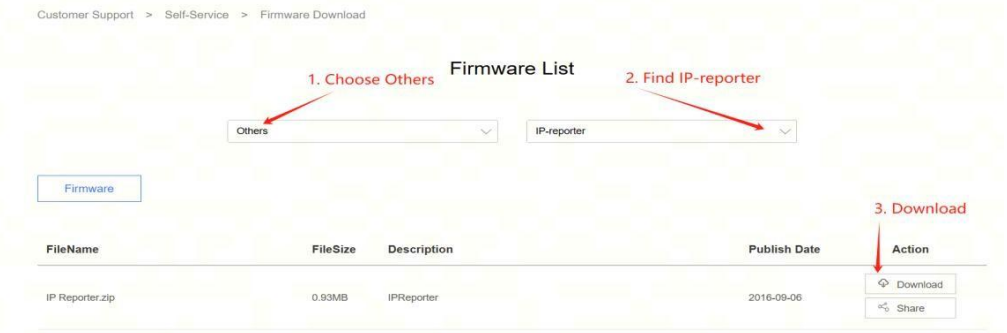
- The file IPReporter.zip is supported by Microsoft Windows only.

4.1 Setting up the Server

To set up the server:

4. Go to the following site:

https://file12.bitmain.com/shop-product/firmware/IP%20Reporter.zip.
If the link is invalid, please visit the official firmware download page (https://service.bitmain.com/support/download) and select as shown in the image to download IPReporter.zip.

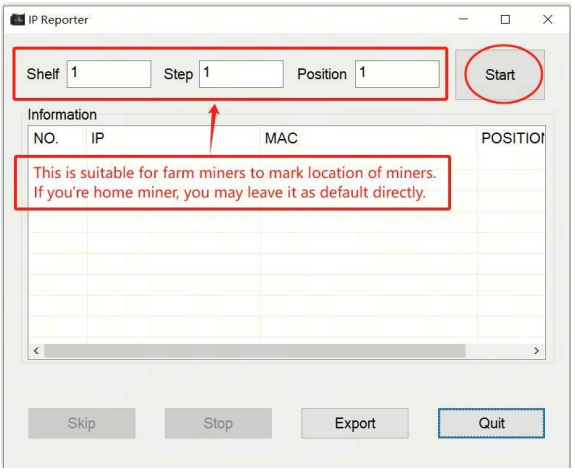


5. Download the following file: IPReporter.zip.
6. Extract the file.

NOTE:

- The default DHCP network protocol distributes IP addresses automatically

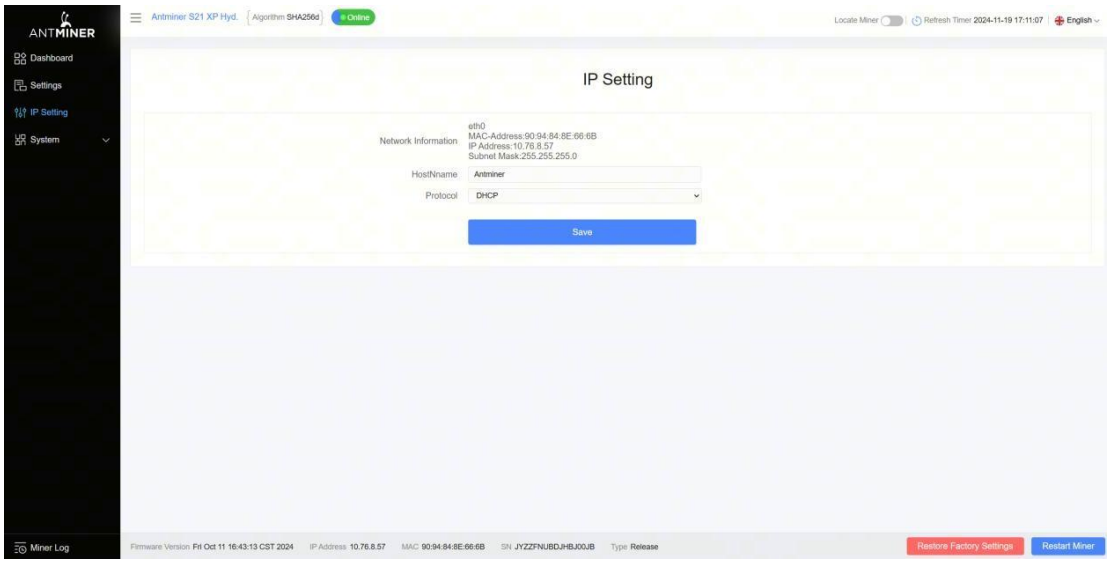
7. Right-click **IPReporter.exe** and run it as Administrator.
8. Select one of the following options:
   - **Shelf, Step, Position** – suitable for farm servers to mark the location of the servers.
   - **Default** – suitable for home servers.
9. Click **Start**.



10. On the control panel, click the IP Report button (its location is shown in Figure 1-2). Hold the button down until it beeps (about 5 seconds).

    The IP address will be displayed in a window on your computer screen.

11. In your web browser, enter the IP address provided.
12. Proceed to login using **root** for both the username and password.
13. In the Protocol section, you can assign a Static IP address (optional).
14. Enter the IP address, Subnet mask, gateway and DNS Server.
15. Click “Save”.
16. Click https://support.BITMAIN.com/hc/en-us/articles/360018950053 to learn more about gateway and DNS Server.

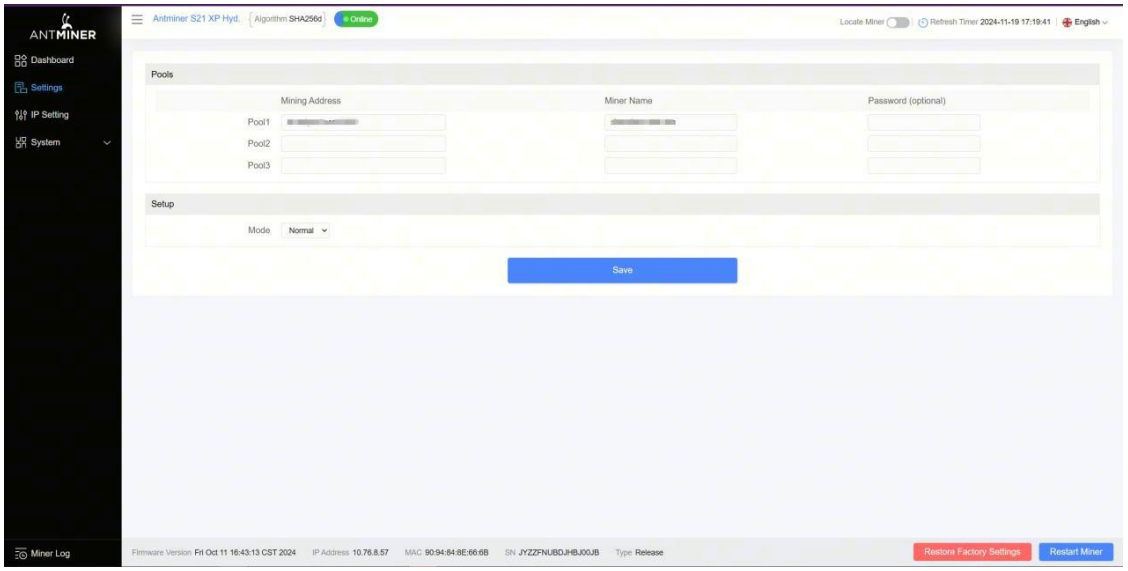


4.2 Configuring the Server

Setting up the Pool

To configure the server:

1. Click **Settings** as below.



2. Set the options according to the following table:

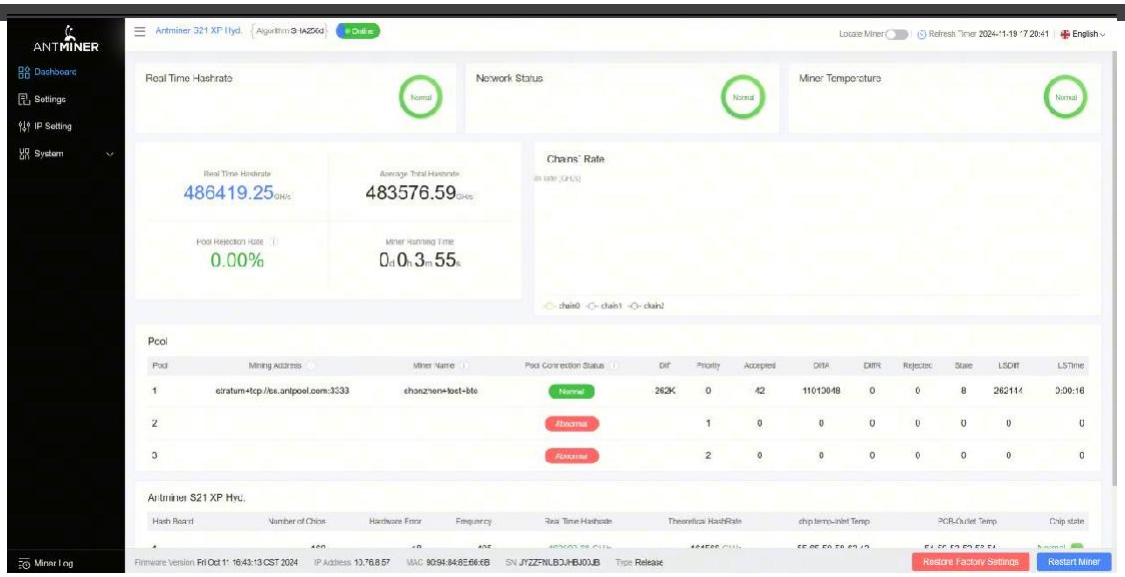
Option	Description
Mining address	Enter the address of your desired pool. The S23 Hyd. servers can be set up with three mining pools, with decreasing priority from the first pool (pool 1) to the third pool (pool 3). The pools with low priority will only be used if all higher priority pools are offline.
Name	Your worker ID on the selected pool.
Password (optional)	The password for your selected worker.

3. Click **Save** after the configuration.

4.3 Monitor your Server

To check the operating status of your server (taking S23 Hyd. 473T as an example):

1. Click **dashboard** marked below to check the server status.



2. Monitor your server according to the descriptions in the following table:

Option	Description
Number of chips	Number of chips detected in the chain.
Frequency	ASIC frequency setting.
Real Hashrate	Real-time hashrate of each hash board (GH/s).
Inlet Temp	Temperature of the inlet (°C).
Outlet Temp	Temperature of the outlet (°C).
Chip state	One of the following statuses will appear: ● **The Green Icon** - indicates normal ● **The Red Icon**- indicates abnormal

3. Monitor your server according to the LED indicator light:

Status	Fault Indicator(RED)	Normal Indicator(GREEN)
Normal	OFF	ON
Over temperature	ON	OFF
Network disconnection	ON	OFF

NOTE:

➢ The frequency of the S23 Hyd. server is fixed at 495 MHz. The firmware will stop running when the Temp (PCB) reaches 80℃ or the water temperature is either

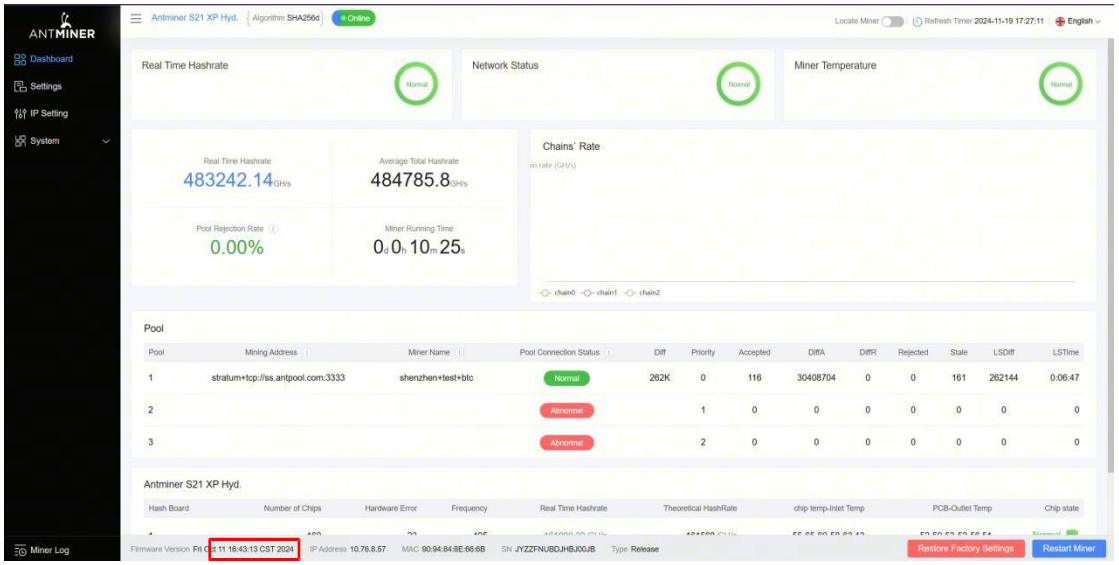
greater than 50℃ or lower than 20℃. An error message, “Fatal Error: Temperature is too high!” will be shown at the bottom of the Kernel log page.

4.4 Administering your Server

4.4.1 Checking your Firmware Version

To check your firmware version:

1. Enter the backend of your server, find the firmware version at the bottom.
2. File System Version displays the date of the firmware your server uses. In the example below, the server is using firmware version **202410111643**.

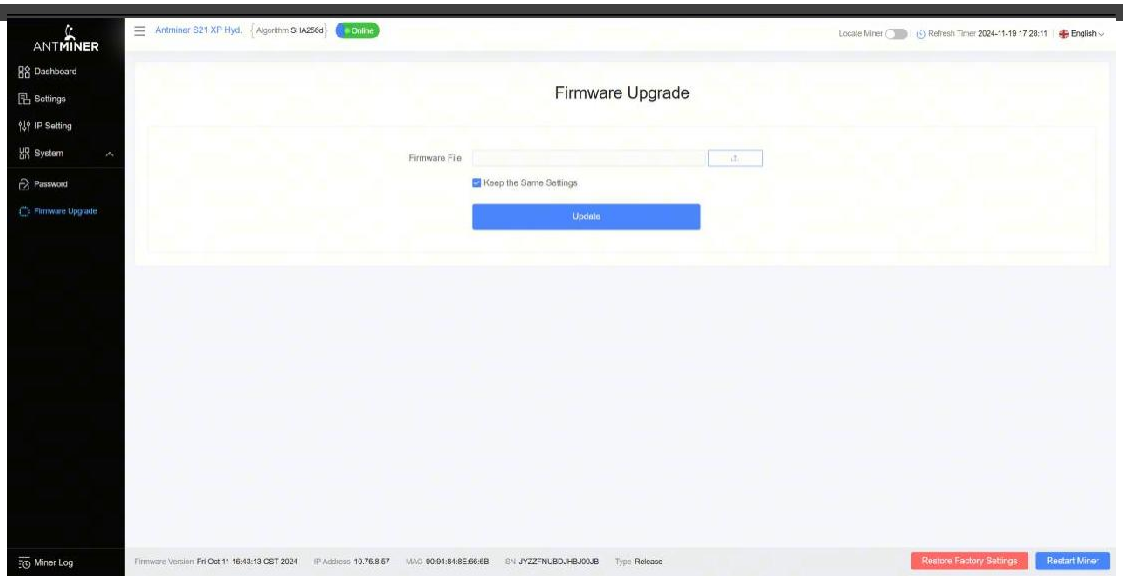


4.4.2 Upgrading your System

Caution: Make sure that the S23 Hyd. server remains powered during the upgrade process. If power fails before the upgrade is completed, you will need to return it to BITMAIN for repair.

To upgrade the server’s firmware:

1. In System, click Firmware Upgrade.

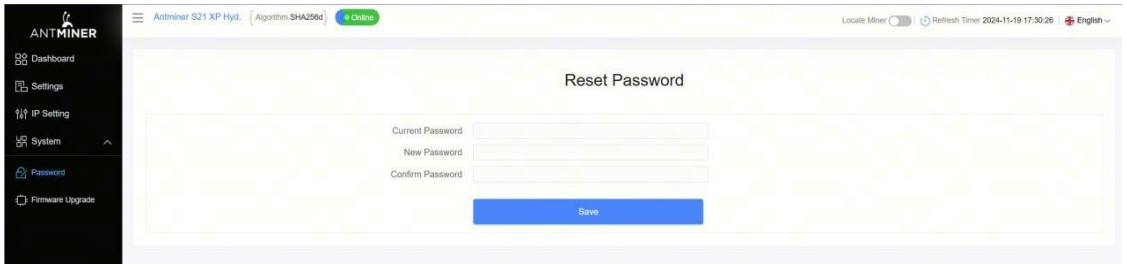


2. For Keep Settings:
   (1) Select "**keep settings**" to keep your current settings (default).
   (2) Unselect "**keep settings**" to reset the server to default settings.
3. Click the  button and navigate to the upgrade file. Select the upgrade file, then click Update.
4. When the upgrade is completed, restart the server. It will return to the settings page.
5. Click one of the following options:
   - **Reboot** - to restart the server with the new firmware.
   - **Go Back** - to continue mining with the current firmware. The server will load the new firmware next time it is restarted.

4.4.3 Modifying your Password

To change your login password:

1. In System, click the Password tab.
2. Set your new password, then click **Save**.



4.4.4 Restoring Initial Settings

To restore your initial settings

1. Turn on the server and let it run for 5 minutes.

2. On the controller front panel, press and hold the **Reset** button for 10 seconds.

Caution: Resetting your server will reboot it and restore its default settings. The red LED will automatically flash once every 15 seconds if the reset is operated successfully.

4.4.5 Error Code

Here is the server error code and the corresponding reasons and suggestions:

Error Code	Reason	Suggestion
R:1	Average total hashrate is low	Update the firmware to the latest version, replace the power supply, or return to factory for repair
R1:1	Chain1 is broken or has low hashrate	Check if chain1 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
R2:1	Chain2 is broken or has low hashrate	Check if chain2 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
R4:1	Chain3 is broken or has low hashrate	Check if chain3 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
R8:1	Chain4 is broken or has low hashrate	Check if chain4 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J1:1	Chain1 has bad ASIC	Update the firmware to the latest version, replace the power supply, or return to factory for repair
J2:1	Chain2 has bad ASIC	Update the firmware to the latest version, replace the power supply, or return to factory for repair

J4:1	Chain3 has bad ASIC	Update the firmware to the latest version, replace the power supply, or return to factory for repair
J8:1	Chain4 has bad	Update the firmware to the latest version,
	ASIC	replace the power supply, or return to factory for repair
N:1	Average total hashrate exceeds the sale hashrate too much	Update the firmware to the latest version
N:2	Frequency is reduced too much	Update the firmware to the latest version
V:1	Power initialization error or power output voltage error	Check power output wiring, update the firmware to the latest version, replace the power supply, or return to factory for repair
V:2	Power supply is not calibrated	Update the firmware to the latest version, replace the power supply, or return to factory for repair
J:8	The number of hashboards is less than the design	Check if the hashboard connection is normal, or replace the hashboard

P:1	High temperature protection	Check if the environment temperature is normal, or check if the gel on the hashboard is effective
P:2	Low temperature protection	Check if the environment temperature is normal
J1:4	Chain1 EEPROM data error	Redo the factory test for chain1
J2:4	Chain2 EEPROM data error	Redo the factory test for chain2
J4:4	Chain3 EEPROM data error	Redo the factory test for chain3
J8:4	Chain4 EEPROM data error	Redo the factory test for chain4
J:6	Temperature sensor error	Check if the hashboard connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J1:5	Chain 1 PIC error	Check if chain1 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J2:5	Chain 2 PIC error	Check if chain2 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair

J4:5	Chain 3 PIC error	Check if chain3 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J8:5	Chain 4 PIC error	Check if chain4 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
M:1	Memory allocation error	Update the firmware to the latest version, replace the control board, or return to factory for repair
J1:2	The number of chain1 chips is less than the design	Check if chain1 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J2:2	The number of chain2 chips is less than the design	Check if chain2 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J4:2	The number of chain3 chips is less than the design	Check if chain3 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J8:2	The number of chain4 chips is less than the design	Check if chain4 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair

L1:1	Chain1 voltage or frequency exceeds the limit	Update the firmware to the latest version, or return to factory for repair
L2:1	Chain2 voltage or frequency exceeds the limit	Update the firmware to the latest version, or return to factory for repair
L4:1	Chain3 voltage or frequency exceeds the limit	Update the firmware to the latest version, or return to factory for repair
L8:1	Chain4 voltage or frequency exceeds the limit	Update the firmware to the latest version, or return to factory for repair
L:2	Cannot find the mixed level	Update the firmware to the latest version, or return to factory for repair
L1:2	Chain1 voltage or frequency mismatch	Update the firmware to the latest version, or return to factory for repair
L2:2	Chain2 voltage or frequency mismatch	Update the firmware to the latest version, or return to factory for repair
L4:2	Chain3 voltage or frequency	Update the firmware to the latest version, or return to factory for repair
	mismatch	
L8:2	Chain4 voltage or frequency mismatch	Update the firmware to the latest version, or return to factory for repair
N:4	Network connecti on is lost	Check if the network connection is normal

5. Environmental Requirements

Please ensure that your server operates in accordance with the following environmental requirements.

5.1 Basic Environmental Requirements

5.1.1 Site Requirements of the Server Running Room

Please ensure that the server operating room is kept away from industrial pollution sources:

(1) For heavy pollution sources such as smelters and coal mines, maintain a distance of more than 5 km.

(2) For moderate pollution sources such as chemical industries, rubber, and electroplating industries, maintain a distance of more than 3.7 km.

(3) For light pollution sources such as food factories and leather processing factories, maintain a distance of more than 2 km. If unavoidable, choose a site in the perennial upwind direction of the pollution source.

Please do not set up your location within 3.7 km of the seaside or a saltwater lake. If this is unavoidable, ensure that the structure is as airtight as possible and equipped with air conditioning for cooling.

5.1.2 Electromagnetic Environmental Conditions

Please keep your site away from transformers, high-voltage cables, transmission lines, and high-current equipment. For example, there should be no high-power AC transformers (>10KA) within 20 meters, and no high-voltage power lines within 50 meters. Additionally, keep your site away from high-power radio transmitters; for example, there should be no high-power radio transmitters (>1500W) within 100 meters.

5.2 Other Environmental Requirements

The server running room shall be free of explosive, conductive, magnetically conductive and corrosive dust. The requirements of mechanical active substances are shown below.

5.2.1 Mechanical Active Substances

Table 5-1 Requirements of mechanical active substances

Mechanical Active Substance	Requirement
Sand, **mg/m³**	**≤30**

Dust (suspended), **mg/m³**	**≤0.2**
Dust (deposited) , **mg/ m²h**	**≤1.5**

5.2.2 Corrosive Gas

Table 5-2 Requirements of corrosive gas

Corrosive Gas	Unit	Concentration
H2S	**ppb**	**< 3**
SO2	**ppb**	**< 10**
Cl2	**ppb**	**< 1**
NO2	**ppb**	**< 50**
HF	**ppb**	**< 1**
NH3	**ppb**	**< 500**
O3	**ppb**	**< 2**
Note: **ppb** (part per billion) refers to the unit of concentration, 1**ppb** stands for the volume ratio of part per billion.		

6.Regulations

6.1 Federal Communications Commission (FCC)

FCC Notice:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

6.2 Industry Canada

CAN ICES-003(A) / NMB-003(A)

6.3 European Community

Warning: Operation of this equipment in a residential environment could causeradio interference.

EU WEEE: Disposal of Waste Equipment by Users in Private Household in the European Union

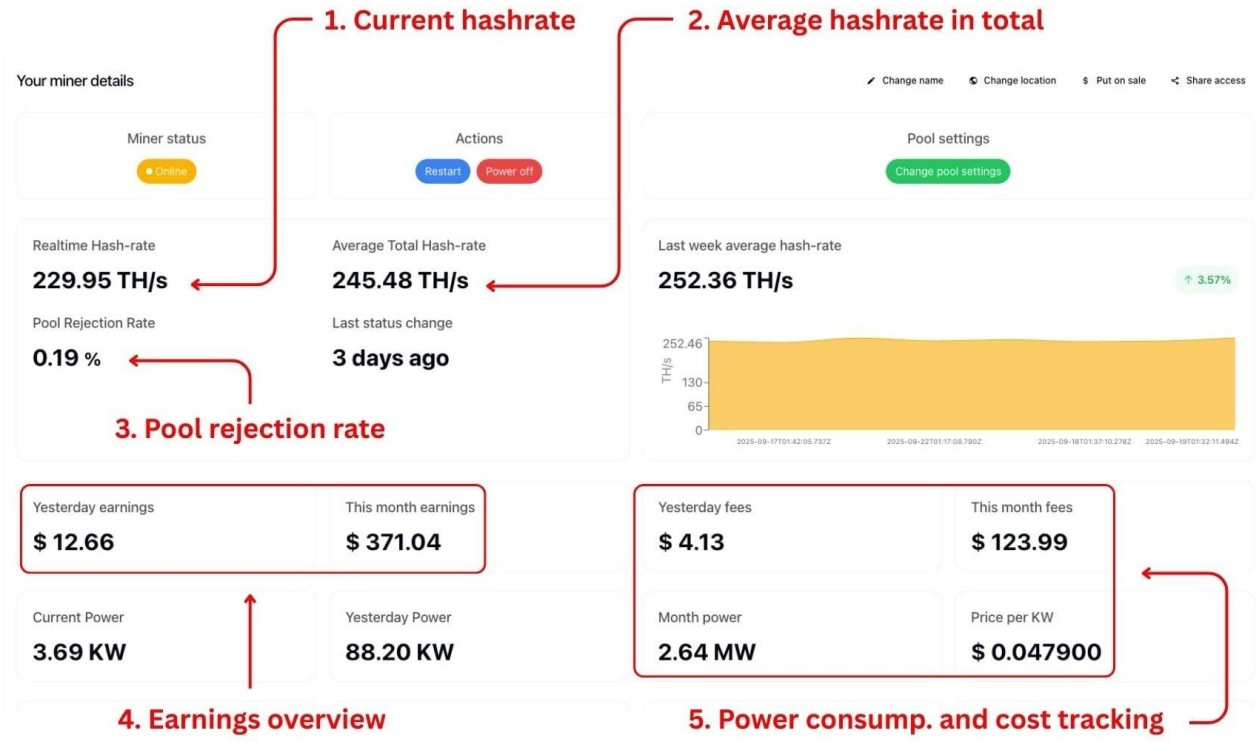
This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handling it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

OneMiners Enhanced Manual

(Official Bitmain manual with integrated OneMiners platform insights)

Note: *All illustrations and values shown are for demonstration purposes only. Actual figures in the OneMiners platform may vary depending on the specific ASIC miner model and configuration.*
www.oneminers.com

Miner Details (OneMiners Platform)



1. *OneMiners Platform v1.2 - Miner Details*

1. Realtime Hash-rate

- Displays the current hashrate of the miner in terahashes per second (TH/s).
- This value fluctuates in real time depending on network stability, hardware performance, and pool communication.

2. Average Total Hash-rate

- Shows the miner's average hashrate over a longer period, typically 24 hours.
- Provides a more reliable measure of overall performance compared to realtime spikes.

3. Pool Rejection Rate

- Percentage of submitted shares rejected by the mining pool.
- A low rejection rate (below 1%) indicates stable pool communication and efficient mining.
- Higher rates may suggest network latency, misconfiguration, or hardware issues.

4. Earnings Overview

- Displays estimated earnings for the selected period (daily, weekly, or monthly).
- Earnings are calculated based on accepted shares submitted to the mining pool.

5. Power Consumption and Cost Tracking

- Shows real-time and historical energy usage of the miner in kilowatts (kW) and megawatts (MW).
- Tracks electricity costs based on your configured price per kWh, helping you calculate net profitability.

6. How to Interpret These Numbers

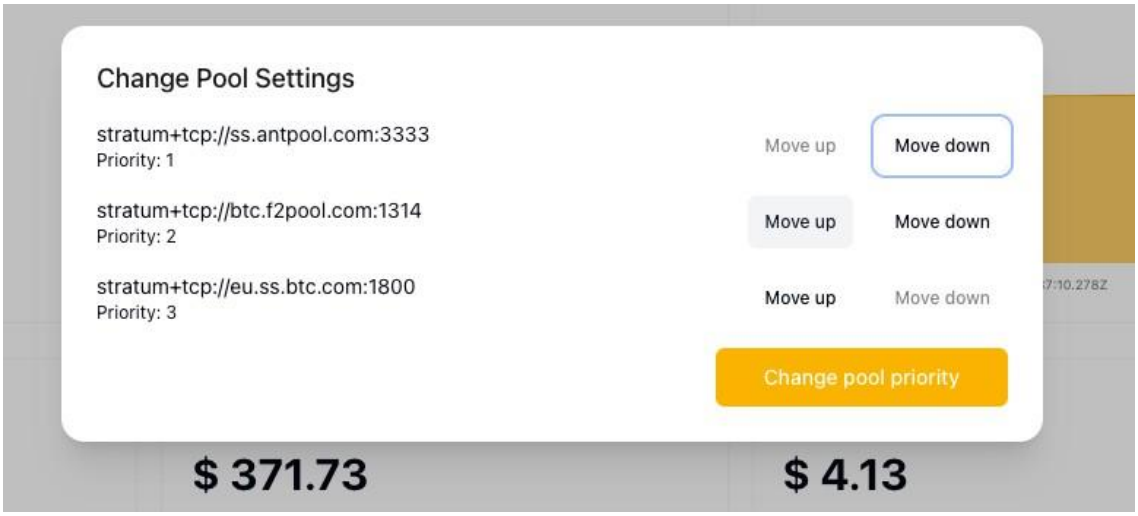
- Compare realtime and average hashrates to ensure consistent performance.
- Keep rejection rate as low as possible to maximize earnings.
- Track electricity usage and costs regularly, as power efficiency is crucial for ROI.
- Use earnings vs. costs comparison to determine whether adjustments in hosting or settings are needed.

2. Packaging of Antminer S23 Hyd - 580 TH in person.

3. Antminer S23 Hyd - 580 TH in person.

Pool Settings

- The miner can be connected to up to three mining pools at once.
- Pools are listed in order of priority: if the first pool is unavailable, the miner will automatically switch to the second, and then to the third.
- Priority is set by simply arranging the pools in order; the top position is always the primary pool.



4. OneMiners platform v1.2 - Pool Settings

Earnings & Fees

Earnings

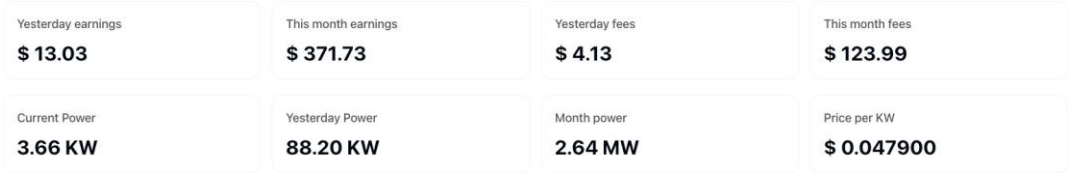
- Shows daily, monthly, and cumulative mining rewards in USD (or selected currency).
- Based on the miner's hashrate, accepted shares, and pool performance.

Fees

- Displays pool or platform fees deducted from earnings.
- Calculated on a daily and monthly basis for transparency.

Net Result

- The difference between gross earnings and fees represents your net mining income.
  Allows you to quickly assess profitability at a glance.



5. OneMiners platform - Earnings & Fees

Hardware Status

Network Status

- Indicates whether the miner is successfully connected to the selected pool(s).
- Any disconnection warnings should be addressed immediately to avoid downtime.

Fan Speed

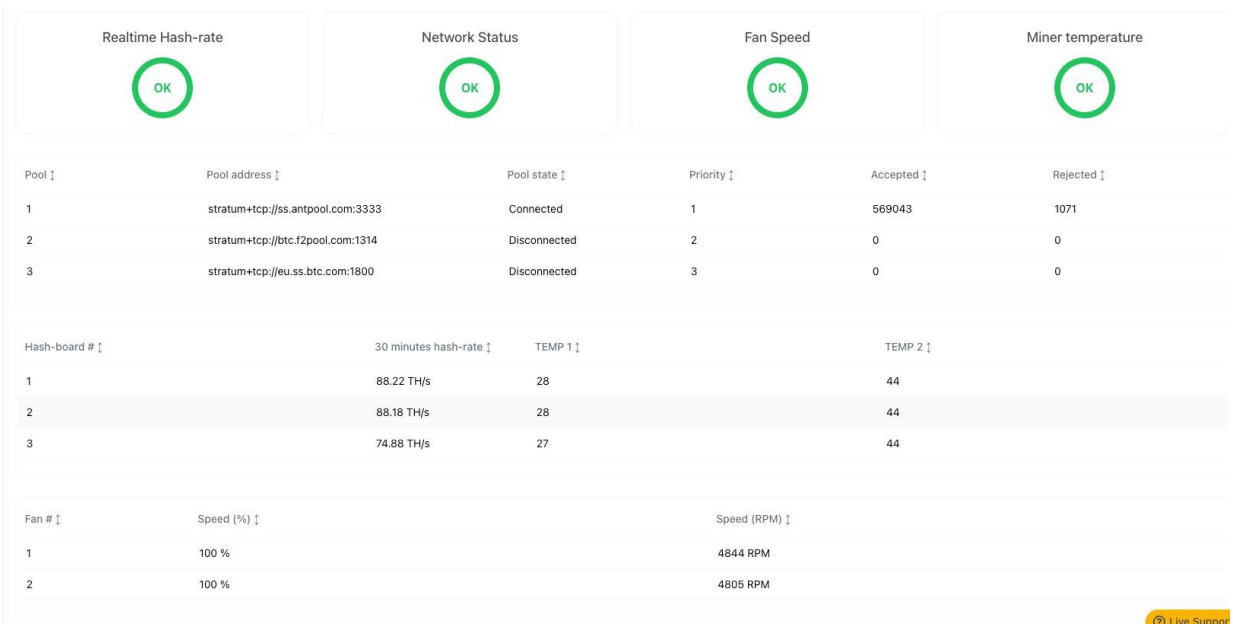
- Displays percentage and RPM of each cooling fan.
- Proper airflow is critical for maintaining optimal temperature and preventing overheating.

Miner Temperature

- Reports the current operating temperature of each hash board.
- Keeping temperatures within recommended ranges ensures stability and extends hardware lifespan.

Hash-board Level Monitoring

- Provides detailed performance data per board, including hashrate and temperature.
- Useful for diagnosing imbalances or early signs of hardware degradation.



6. OneMiners platform v1.2 - Hardware status

OneMiners Warranty

7-Year Extended Warranty

- All mining machines hosted within OneMiners data centers are eligible for up to **7 years of extended warranty coverage**.
- The warranty applies exclusively when the machines are operated inside officially managed facilities, ensuring professional maintenance, stable electricity, and optimal environmental conditions.

Circlehash Group Data Centers

- The same **7-year warranty** may also apply when machines are operated within data centers managed by trusted partners from the Circlehash Group.

Warranty Coverage

- Covers manufacturing defects, hardware malfunctions, and replacement of faulty components under normal operation.
- Requires that miners are used in compliance with official guidelines and maintained within the hosted environment.

Exclusions

- Machines operated outside OneMiners or Circlehash Group data centers are not eligible for extended warranty.
- Damage caused by unauthorized modifications, external tampering, or improper usage is not covered.

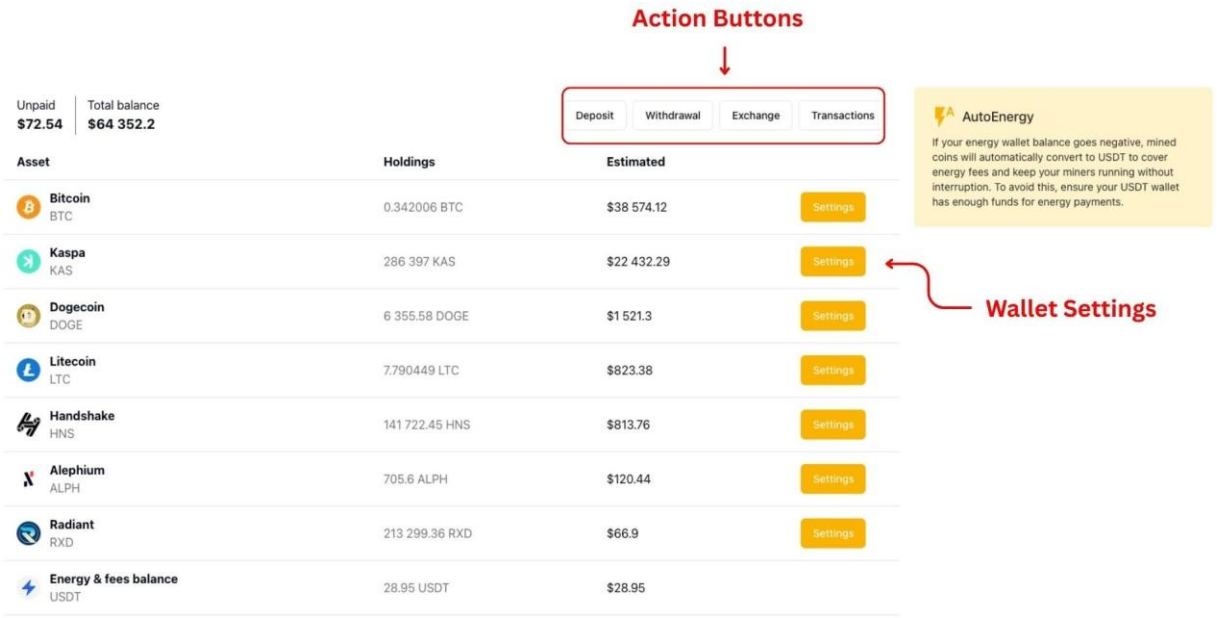
Claim Process

- To initiate a warranty claim, customers must contact OneMiners support with the machine's hosting details and service ID.
- Repairs or replacements will be processed through OneMiners' repair service team.

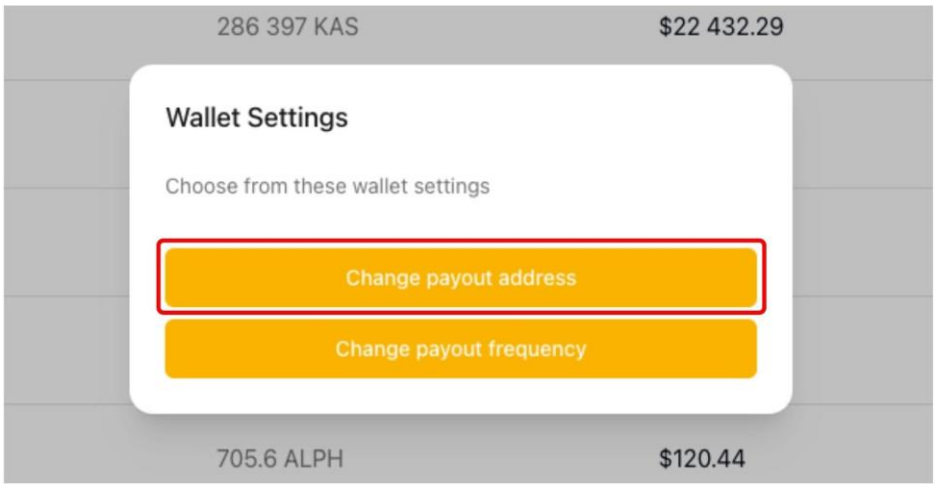
Wallet

Automatic Mining Balance

- From the very first moment your miner is installed and activated, it begins generating mining rewards.
- Even if no energy payments are preloaded into your wallet, mining continues.
- In such cases, the system automatically deducts energy costs and fees from the generated rewards.
- If funds are preloaded into the wallet in advance, earnings are credited without automatic deductions.
- You are able to change your wallet address in the wallet settings.



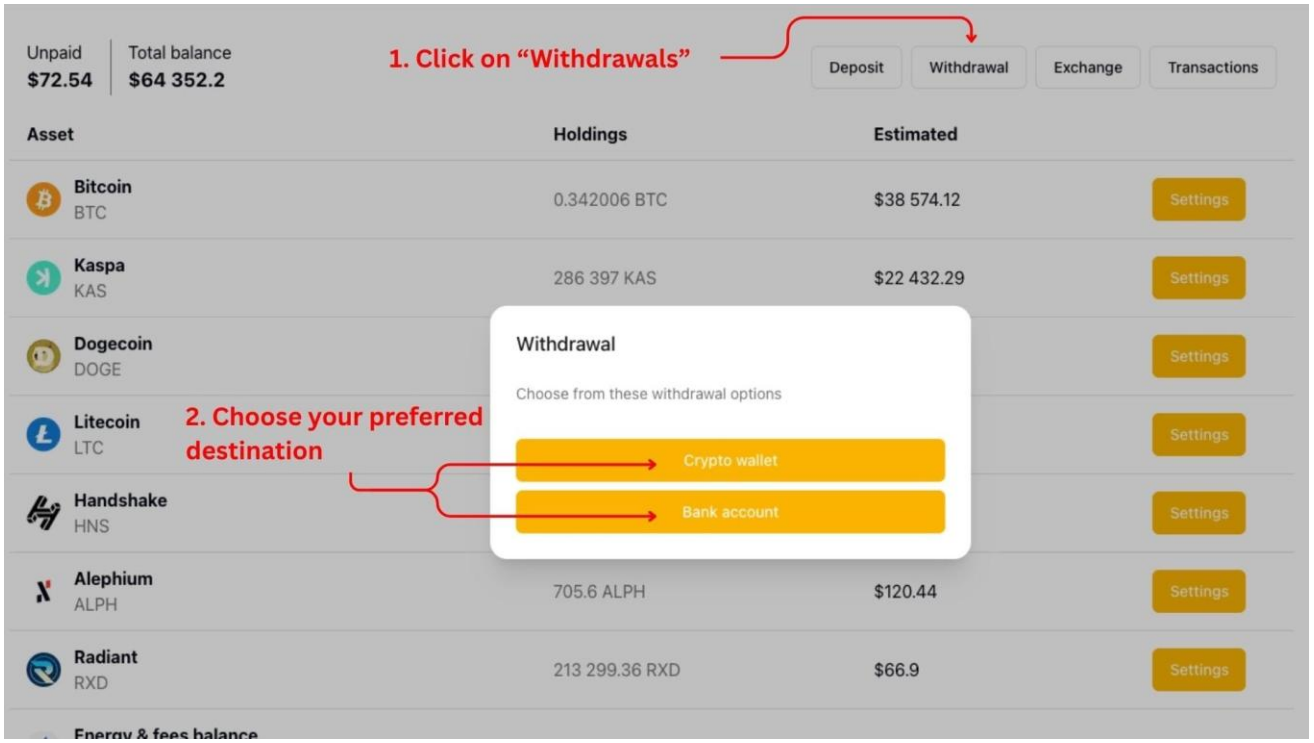
7. OneMiners Platform v1.2 - Wallet Section.



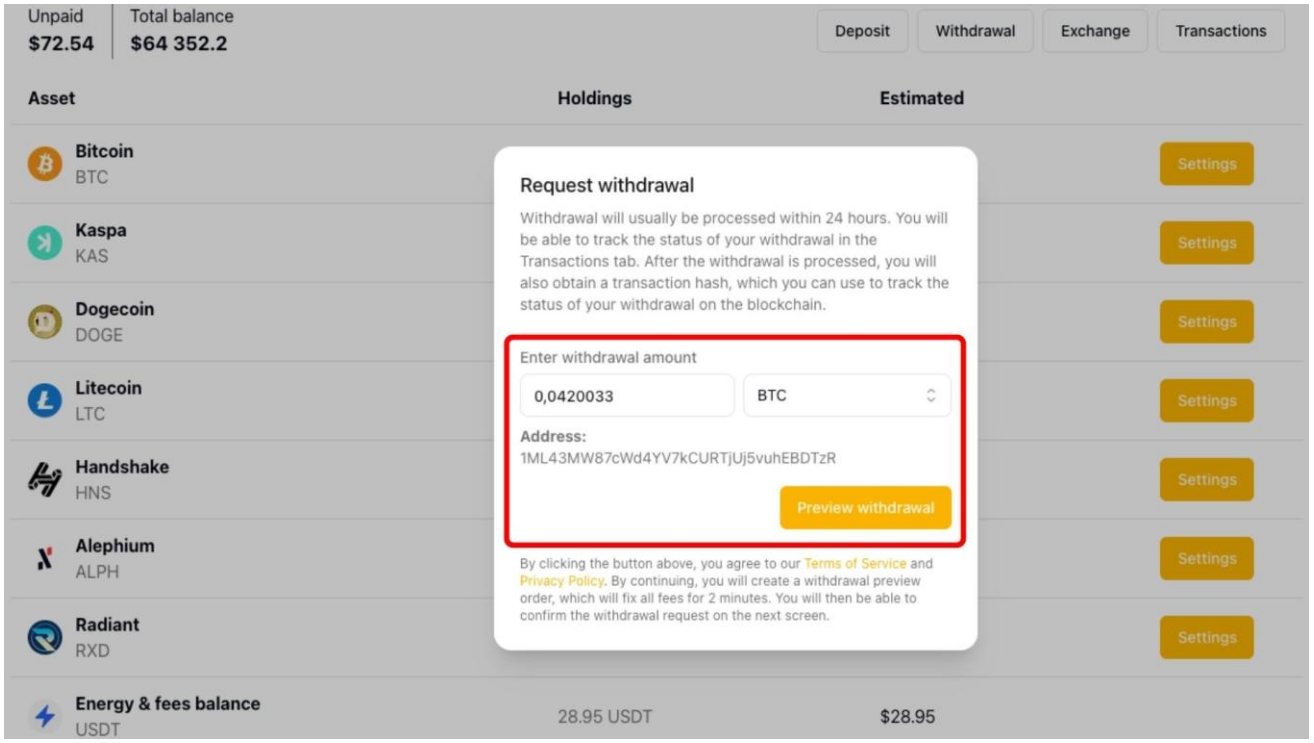
8. OneMiners Platform v1.2 - Changing your payout wallet address.

Withdrawal

- Navigate to: **Wallet > Withdrawal**
- Add a **crypto wallet address** or **bank account**.
- Select the **currency**, enter the **amount**, and confirm.
- Funds will be withdrawn quickly and securely to your chosen destination.



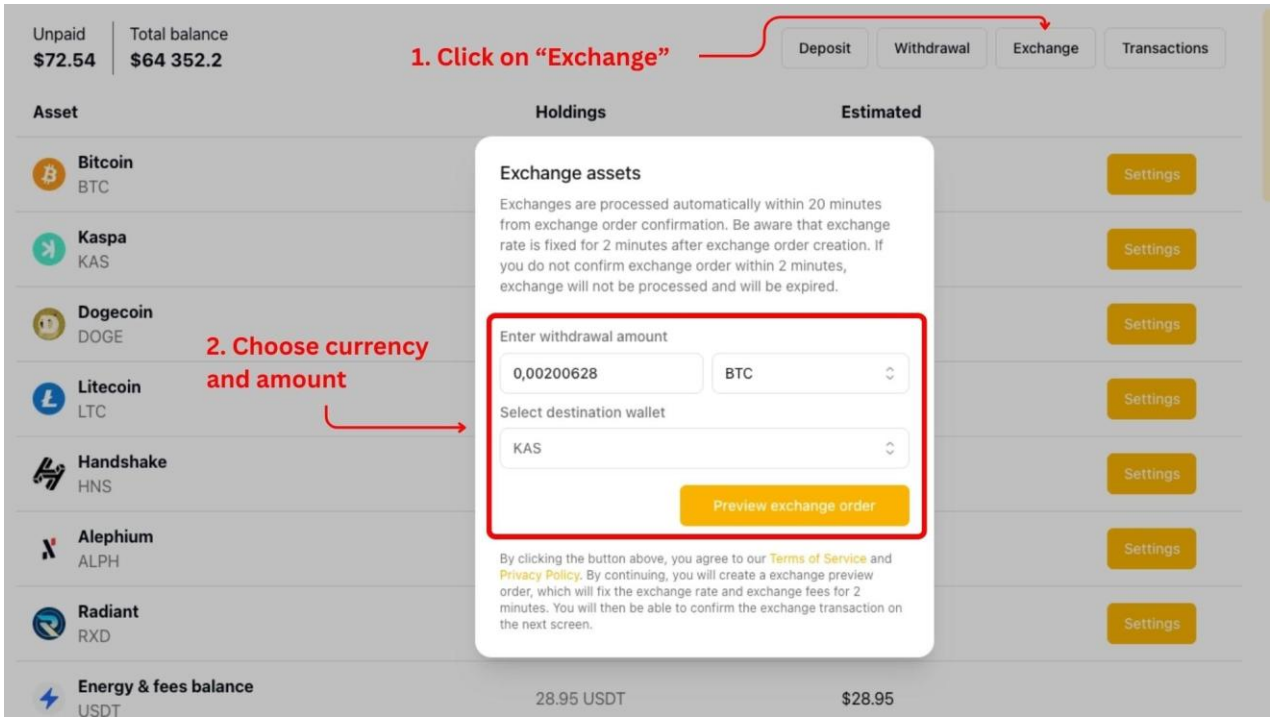
9. OneMiners Platform v1.2 - Withdrawal process



10. OneMiners Platform v1.2 - Choose the currency and amount.

Exchange

- Navigate to: **Wallet > Exchange**
- Select the currencies you want to exchange.
- Option also available to **convert directly into Energy & Fees Funds** for smooth miner operation.
- Enter the desired amount and confirm to complete the exchange instantly.



11. OneMiners Platform v1.2 - Process of currency exchange in wallet.

AI Smart Mining

What is AI Smart Mining?

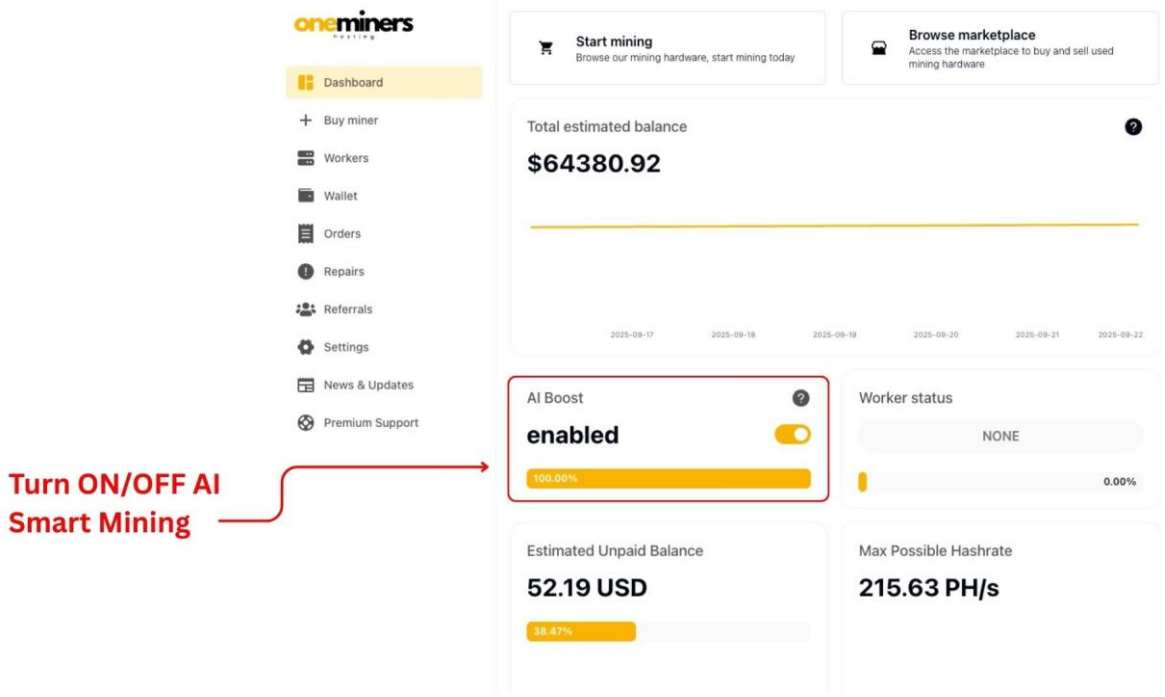
- AI Smart Mining is a feature that uses artificial intelligence to optimize your mining operations by selecting the most profitable pools and managing machines automatically.

How It Works

- Continuously analyses market conditions and pool performance.
- Redirects mining power to maximize profitability.
- Improves efficiency by avoiding less profitable pools.

Control on Dashboard

- You can easily **enable or disable AI Smart Mining** at any time directly from your **OneMiners dashboard**.

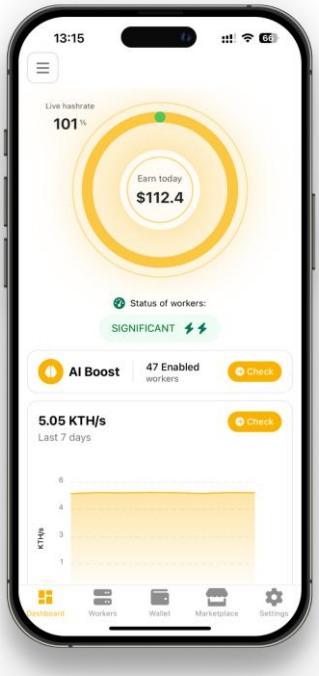


12.OneMiners Platform v1.2 - AI Smart Mining settings in dashboard.

OneMiners Smart App

What is the OneMiners Smart App?

The OneMiners Smart App is a mobile application that allows you to remotely monitor and manage your ASIC miners anytime, anywhere. Thanks to our white-label hosting platform provider CircleHash LLC, the app is available for free download on both the App Store and Google Play.



Key Features

- **Remote Control** – Start, stop, and adjust your miners directly from your phone.
- **Performance Monitoring** – View real-time hashrate, power consumption, and hardware status.
- **Wallet Access** – Easily manage balances, withdrawals, and transfers of mined cryptocurrencies.
- **User-Friendly Interface** – Simple design for both beginners and advanced users.

Availability

Download the OneMiners Smart App for free on iOS (App Store) and Android (Google Play).

Scan to Download

- iOS (App Store):

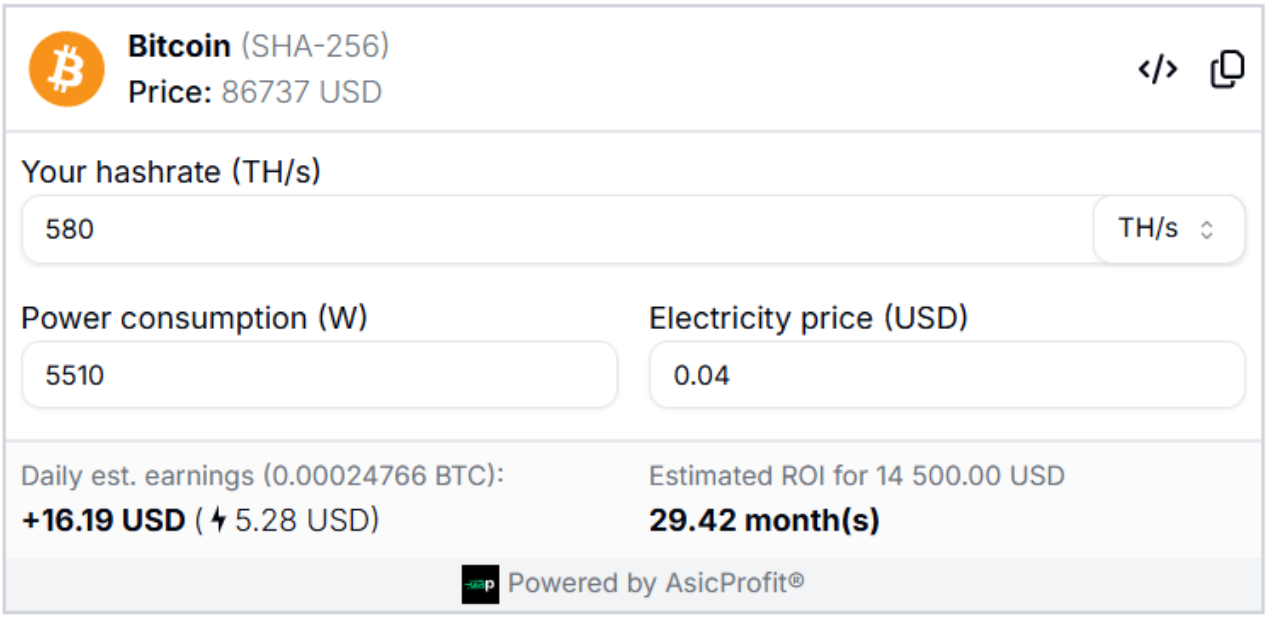
DOWNLOAD NOW

Android (Google Play):

DOWNLOAD NOW

Daily Profitability Calculations (AsicProfit.com)

- Shows estimated daily earnings in USD and BTC.
- Includes calculation of ROI (Return on Investment) based on miner purchase price, hashrate, and electricity cost.
- Data shown is valid as of **2025/12/18**.
- *Disclaimer: Profitability depends on network difficulty and coin market price. Always confirm updated results before making financial decisions.*



13. Calculations of Daily Earnings & Estimated ROI - https://www.asicprofit.com/

Profitability

	Daily	Monthly	Yearly
Income	$ 21.48	$ 653.85	$ 7 846.26
Electricity	$ 5.29	$ 161.00	$ 1 932.03
Profit	**$ 16.19**	**$ 492.85**	**$ 5 914.23**

*14. Profitability & Energy costs with **1M** electricity rate of [$0.04 / kWh](#) - https://www.asicprofit.com/*

Additional Notes

Electricity Pricing

- Electricity is the largest ongoing expense for mining operations. Always negotiate the lowest possible kWh rate with your hosting provider or local supplier. - OneMiners Nigeria hosting for $0.04 / kWh.
- Consider hosting options in countries with competitive electricity pricing to maximize ROI.
- Visit OneMiners Hosting site: https://oneminers.com/pages/hosting-centers

Hosting with OneMiners

- OneMiners offers professional hosting services with locations across the USA, Europe, and the Middle East.
- Hosting ensures stable power supply, professional maintenance, and remote monitoring of your miners. Customers using OneMiners hosting benefit from optimized electricity pricing and dedicated support.

Maintenance & Repairs

- Regular hardware maintenance is essential to maximize miner lifespan.
- Dust removal, fan checks, and thermal monitoring should be carried out regularly.
- For professional repair services, please contact our repair team directly.

Platform Monitoring

- The OneMiners platform provides real-time statistics, profitability calculators, and hosting ROI tools.
- Users should frequently check miner status, temperature, and earnings to ensure stable operation.

Disclaimer

- All profitability and ROI calculations shown in this manual are valid only as of the indicated date.
- Market conditions, electricity prices, and coin values fluctuate frequently; results should always be verified before making investment decisions.
- Screenshots from the OneMiners platform are provided for reference only; actual values may differ depending on miner type, configuration, and hosting environment.

Contact & Support

For sales, technical assistance, and hosting inquiries, our team is available 24/7.

- **WhatsApp Support (24/7):** +1 305 867 6143
- **Repairs & Service:** +420 739 482 744
- **General Support (USA):** +1 607 9009 004
- **Emails:**
    - Sales: sales@oneminers.com
    - Business: business@oneminers.com
    - Service: service@oneminers.com
    - Payments: payinquire@oneminers.com

Mailing Addresses:

- **United States – USA:** 701 Tillery St 12, Austin, 78702 Texas
- **Europe – Czechia:** Rostovska 260/2b, Prague, 110 00
- **Middle East – Dubai:** Sheikh Rashed Bin Saeed Al Maktoum Road, C1 Building, Ajman, UAE

Please visit our Contact page for more information - https://oneminers.com/pages/contact

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