T19 Hydro Server

Installation Guide

Document Version 1.0

Feb. 2022

Table of Contents

1. Overview

The T19 Hydro server is one of the Bitmain's newest versions in the 19 hydro server series. Power supply APW11 is part of T19 Hydro server. All T19 Hydro servers are tested and configured prior to shipping to ensure easy set up.

Caution:

1. Please refer to the layout above to place your goods in usage in case of any damage.

2. DO NOT remove any screws and cables tied on the product.

3. Please note that the actual server shall prevail.

4. 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).

5. Do not plug or remove the device when it is powered on.

6. The external of the power supply shall have a disconnecting device, which can disconnect L1&L2&L3 simultaneously.

7. The T19 Hydro server shall be used simultaneously with the ANTSPACE HK3. Please click here for more details of ANTSPACE HK3.

1.1 T19 Hydro Server Components

The main components and control panel of T19 Hydro servers are shown in the following figure:
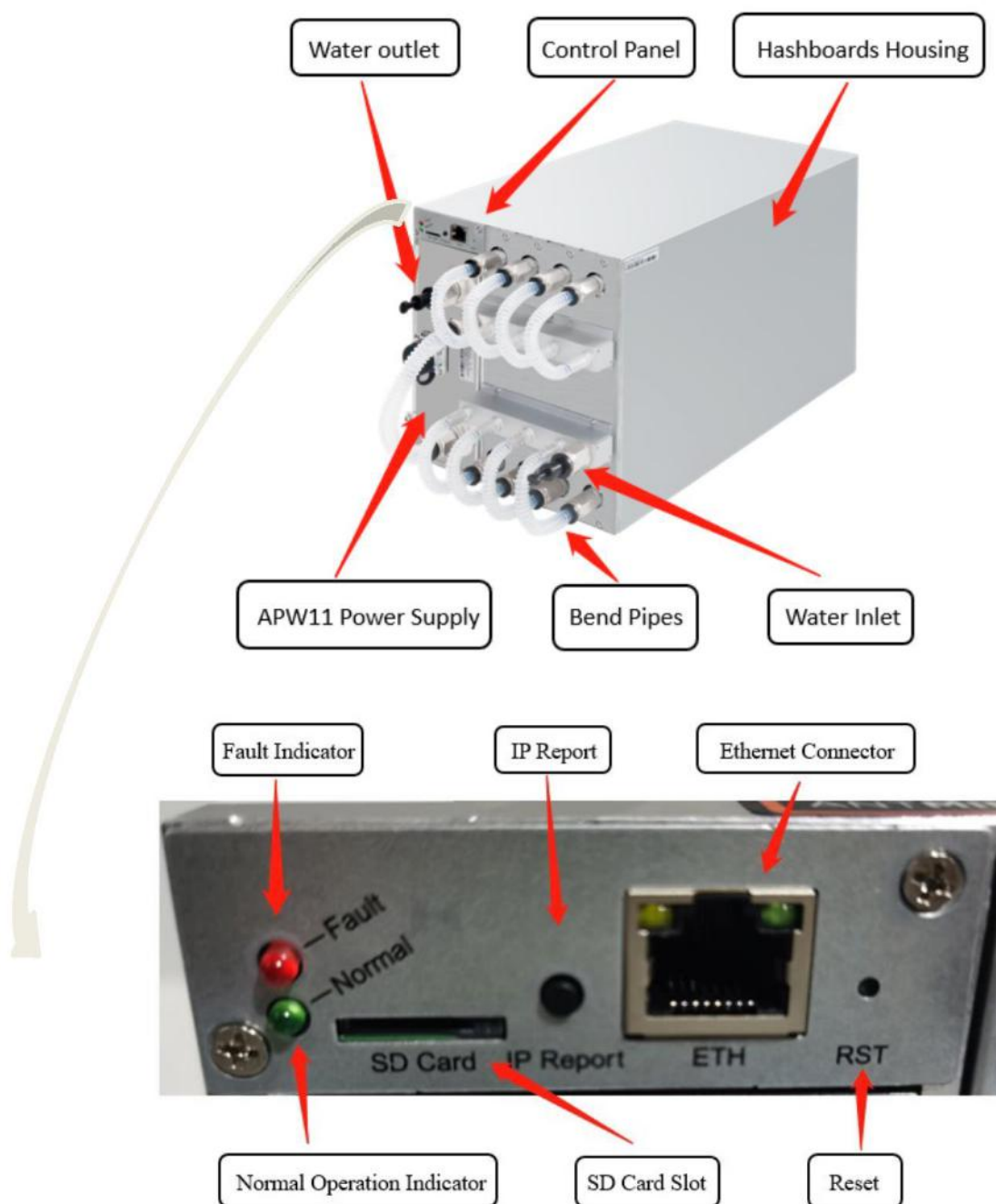
APW11 Power Supply:
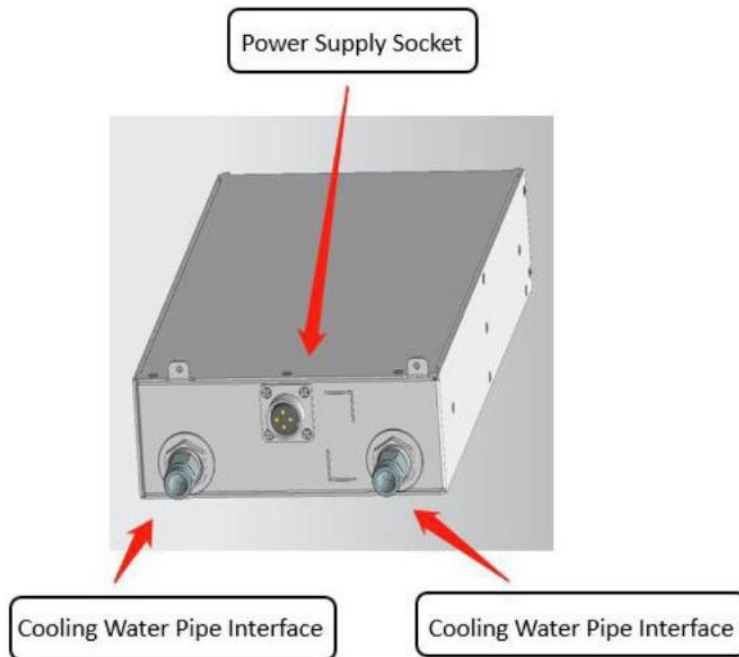
> **Note:**
>
> Power supply APW11 is part of T19 Hydro server. For detailed parameters, please refer to the specifications below.

1.2 Specifications

Product Glance	Value			
Version	T19 Hydro			
Model	208-A			
Crypto Algorithm/Coins	SHA256/BTC/BCH			
Hashrate, TH/s	119 ± 3%	125.5 ± 3%	132 ± 3%	138.5 ± 3%
Power on wall@Tj65°C, Watt (1-1)	4463 ± 5%	4706 ± 5%	4950 ± 5%	5194 ± 5%
Power efficiency on wall @Tj65°C, J/TH (1-1)	37.5 ± 5%	37.5 ± 5%	37.5 ± 5%	37.5 ± 5%

Detailed Characteristics	Value
Power Supply	
Power supply AC input voltage, **Volt** (2-1)	342~418
Power supply AC Input Frequency Range, **Hz**	47~63
Power supply AC Input current, **Amp**(2-2)	30
Hardware Configuration	
Network connection mode	RJ45 Ethernet 10/100M
Server Size (Length*Width*Height, w/o package), **mm**	410*196*209
Server Size (Length*Width*Height, with package), **mm**	570*316*430
Net weight, **kg**	15.2
Gross weight, **kg**	17.5
Environment Requirements	
Operation temperature, °C (2-3)	0~40
Inlet water temperature, °C	20-40
Water flow **L/min**	8±10%
Water pressure bar	≤3.5
Storage temperature, °C	-20~70
Operation humidity(non-condensing), **RH**	10~90%

Notes:

(1-1)   Inlet water temperature
(2-1)   Caution: Wrong input voltage may probably cause server damaged
(2-2)   Three-phase AC input, 10A per wire
(2-3)   Operation altitude is recommended below 2000m

2. Setting up the Server

To set up the server:

> ℹ️ The file IPReporter.zip is supported by Microsoft Windows only.

1. Go to the following site:
https://shop.bitmain.com/support.htm?pid=00720160906053730999PVD2K0vz0693

2. Download the following file: IPReporter.zip.

3. Extract the file.

> ℹ️ The default DHCP network protocol distributes IP addresses automatically.

4. Right-click **IPReporter.exe** and run it as Administrator.

5. 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.

6. Click **Start**.
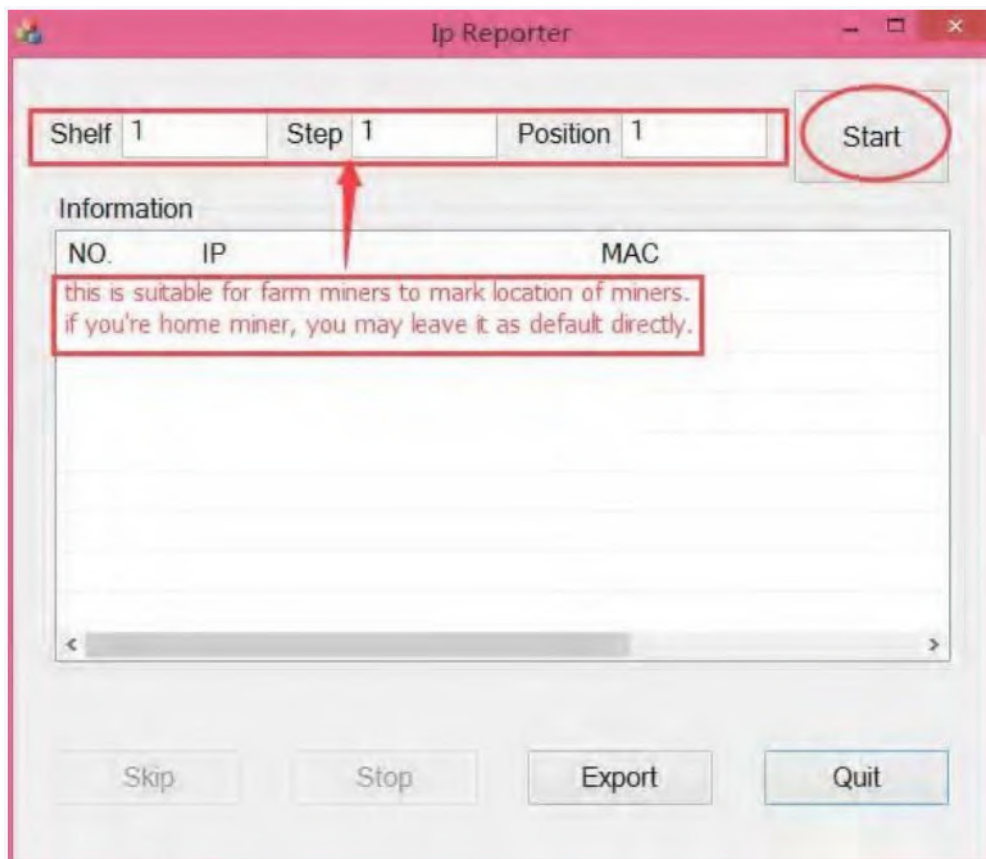
7. On the control panel, click the IP Report button. Hold it down until it beeps (about 5 seconds). The IP address will be displayed in a window on your computer screen.
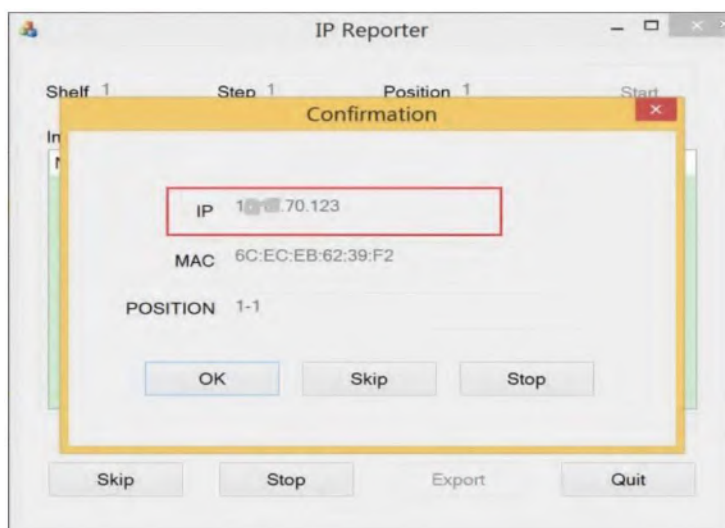
8. In your web browser, enter the IP address provided.

9. Proceed to login using root for both the username and password.

10. In the Protocol section, you can assign a Static IP address (optional).

11. Enter the IP address, Subnet mask, gateway and DNS Server.

12. Click "Save".

13. Click https://support.bitmain.com/hc/en-us/articles/360018950053 to learn more about gateway and DNS Server.
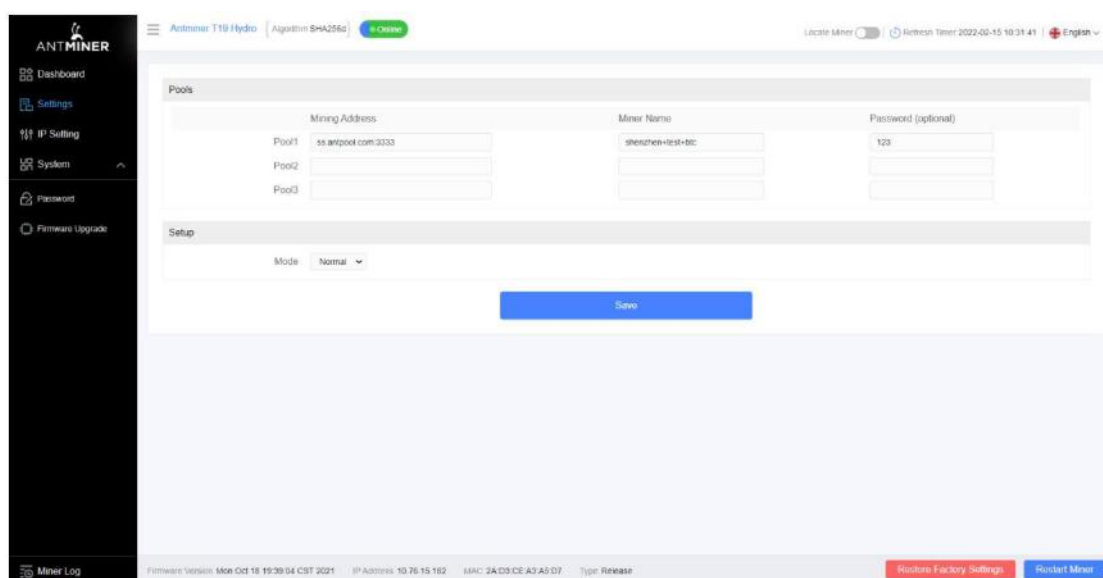
3. Configuring the Server

Setting up the Pool

To configure the server:

1. Click **Settings** as below.
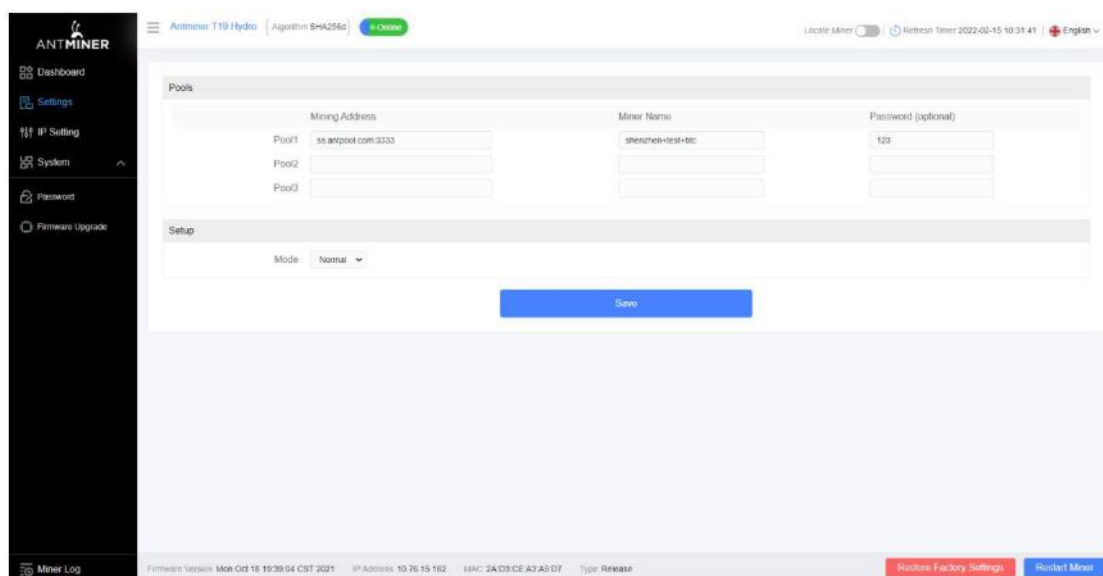
2. Set the options according to the following table.

Option	Description
Mining address	Enter the address of your desired pool. ℹ️ The T19 Hydro 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. Monitoring Your Server

To check the operating status of your server (taking T19 Hydro 138.5T as an example):

1. Click dashboard marked below to check the server status.
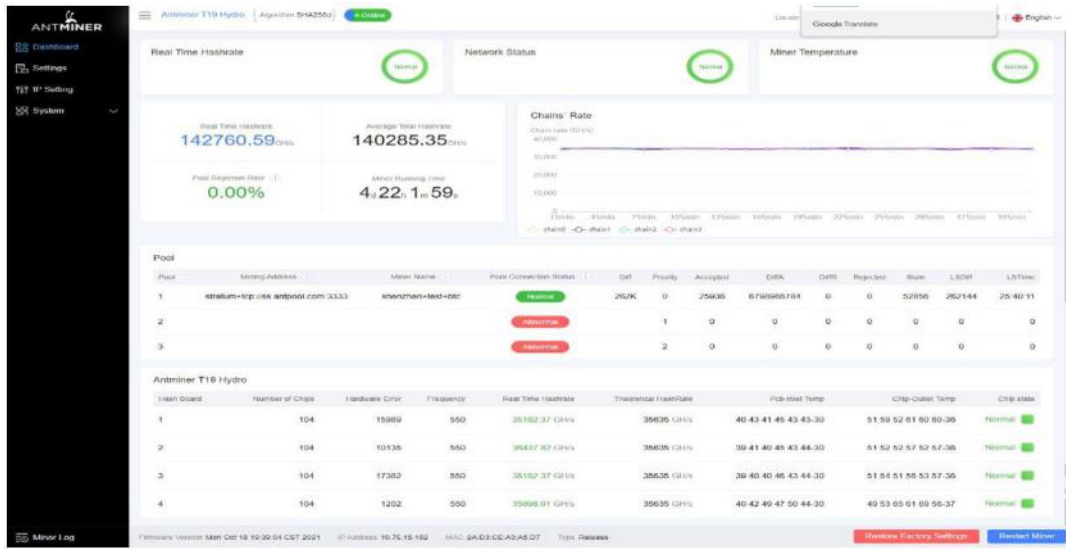
> ℹ️ Note: The frequency of T19 Hydro server is fixed with the value 550 MHz. Firmware will stop running when the Temp (PCB) reaches to 80℃ or the water temperature is either greater than 65℃ or lower than 20℃, there will be an error message "Fatal Error: Temperature is too high!" shown on theBottom of the Kernel log page.

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

5. Administering Your Server

5.1 Checking Your Firmware Version

To check your firmware version:

1. Enter the backstage of your server, find the firmware version on the bottom.

2. **File System Version** displays the date of the firmware your server use. In the example below, the server is using firmware version 20211018.
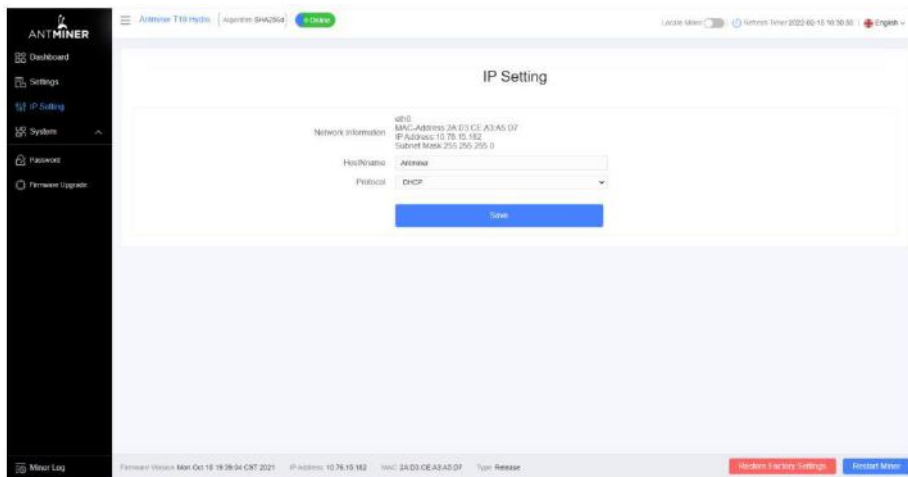
5.2 Upgrading Your System

> Make sure that the T19 Hydro 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**:

■ Select "keep settings" to keep your current settings (default).

■ 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 and it will turn to the setting page.
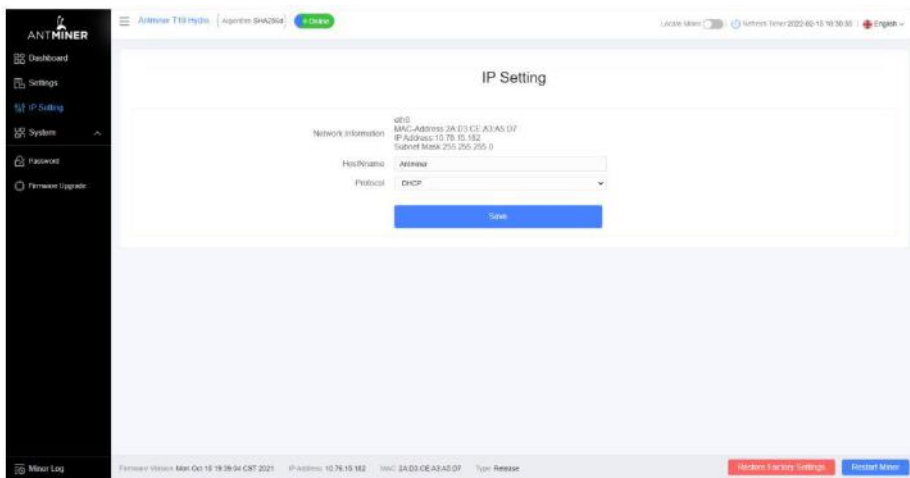
5. Click one of the following options:

   ■ **Reboot** - to restart the server with the new firmware.
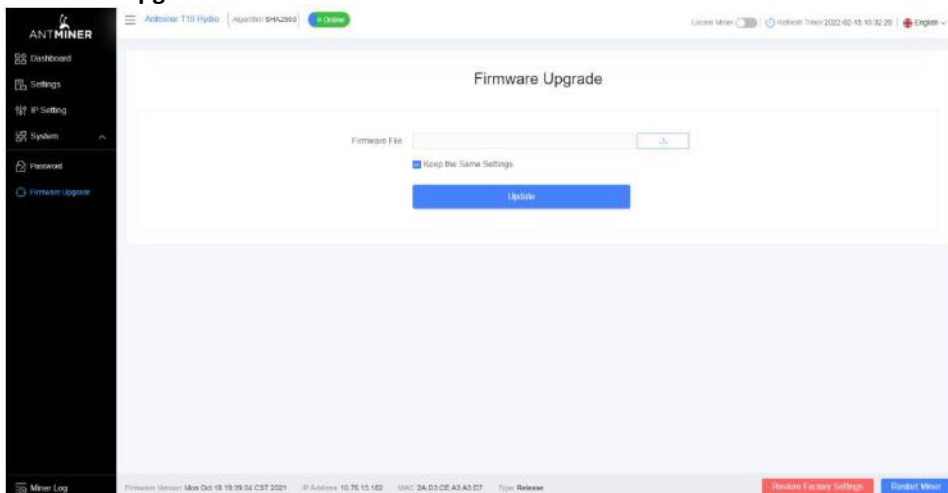
   ■ **Go Back** - to continue mining with the current firmware. The server will load the new firmware next time it is restarted.

5.3 Modifying Your Password

To change your login password:

1. In System, click the Password tab.

2. Set your new password, then click Save.
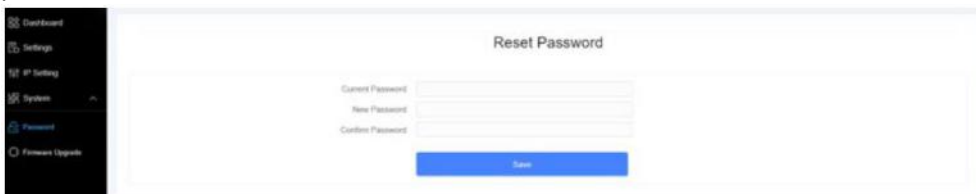
5.4 Restoring Initial Settings

To restore your initial settings

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

2. On the control panel, press and hold the Reset button for 10 seconds.

> ℹ 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.

Environmental Requirements

Please run your server in accordance with the following requirements

1. Basic Environmental Requirements:

1.1. Climatic Conditions:

Description	Requirement
Operating Temperature	-20-50℃
Operating Humidity	20-90%RH (non-condensing)
Storage Temperature	-20-70℃
Storage Humidity	5-95%RH（non-condensing）
Altitude	<2000m

1.2. Site Requirements of the Server Running Room:

Please keep the server running room away from industrial pollution sources:

For heavy pollution sources such as smelters and coal mines, the distance should be more than 5km.

For moderate pollution sources such as chemical industries, rubber and electroplating industries, the distance should be more than 3.7km.

For light pollution sources such as food factories and leather processing factories, the distance should be more than 2km.

If unavoidable, the site should be chosen in the perennial upwind direction of the pollution source.

Please do not set your location within 3.7km from the seaside or the salt lake. If unavoidable, it should be built as airtight as possible, equipped with air conditioning for cooling.

1.3. 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.

Please keep your site away from high-power radio transmitters, for example, there should be no high-power radio transmitters (>1500W) within 100 meters.

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:

2.1 Requirements of Mechanical Active Substances

Mechanical Active Substance	Requirement
Sand	<= 30mg/m^3
Dust (suspended)	<= 0.2mg/m^3
Dust (deposited)	<=1.5mg/m^{2}h

2.2 Requirements of Corrosive Gas

Corrosive Gas	Unit	Concentration
H_2S	ppb	< 3
SO_2	ppb	< 10
Cl_2	ppb	< 1
NO_2	ppb	< 50
HF	ppb	< 1
NH_3	ppb	< 500
O_3	ppb	< 2
Note: ppb (part per billion) refers to the unit of concentration，1ppb stands for the volume ratio of part per billion.		

Regulations:

FCC Notice (FOR FCC CERTIFIED MODELS):

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.

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.

台湾 **ROHS:**

設備名稱：T19 Hydro　　　　服務器型號：208-A

單元	有害物質					
	鉛 (Pb)	汞 （Hg）	鎘 （Cd）	六價鉻 (Cr+6)	多溴聯苯 （PBB）	多溴二苯醚 （PBDE）
外殼	○	○	○	○	○	○
電路板組件	—	○	○	○	○	○
其他線材	—	○	○	○	○	○
備考 1.〝超出 0.1 wt %〞及〝超出 0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。 備考　2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。 備考 3.〝－〞係指該項限用物質為排除項目。						