



**Mining Farm Automatic O&M
Management Platform
Operating Manual**

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1. Description

1.1 Basic Information

Product Name: AntSentry Mining Farm Automatic O&M Management Platform ("AntSentry")

Overall Product Planning: The AntSentry Mining Farm Automatic O&M Management Platform supports the monitoring, O&M, and management of the administrators and O&M personnel of mines, to achieve the systematic and automatic management of the mines, improve the O&M efficiency of the mines, and increase benefits. At the same time, the platform also provides data services for, and supports the decision-making of the final customers, operators, and production & maintenance departments of the Company, to achieve the final goals of driving the operation of the whole mine with "data".

1.2 Purpose

The Operating Manual is prepared upon the analysis of service operations of the AntSentry at each link, to reduce users' costs for software learning, help them get acquainted with and use the AntSentry system skillfully, save the labor cost, and realize the refined operation as soon as possible.

1.3 Version Information

Version	Date
V1.0	2021/11

2.Quick Start

This Manual is easy for the fresh user to build a mining farm and list miners quickly, and realize the monitoring and automatic O&M of miners in the AntSentry system.

You can perform operations in 2.1, 2.2 and 2.3 to monitor miners.

2.1 Install AntSentry Client

Download from www.antsentry.com or contact AntSentry's staff to provide AntSentry Client installation package to the mining farm

Operation Steps:

The field staff can double-click AntsSentry Client to install the package. (The name of client is AntSentry Client.exe).

When the following page is displayed, it means the package has been installed.



After installation, you need to find the .agent.txt file under the directory of the software. The contents in the file are the agentKey. The agentkey will be used for creating a mining farm.

New mining farm

* Name of mining farm

* Agent key

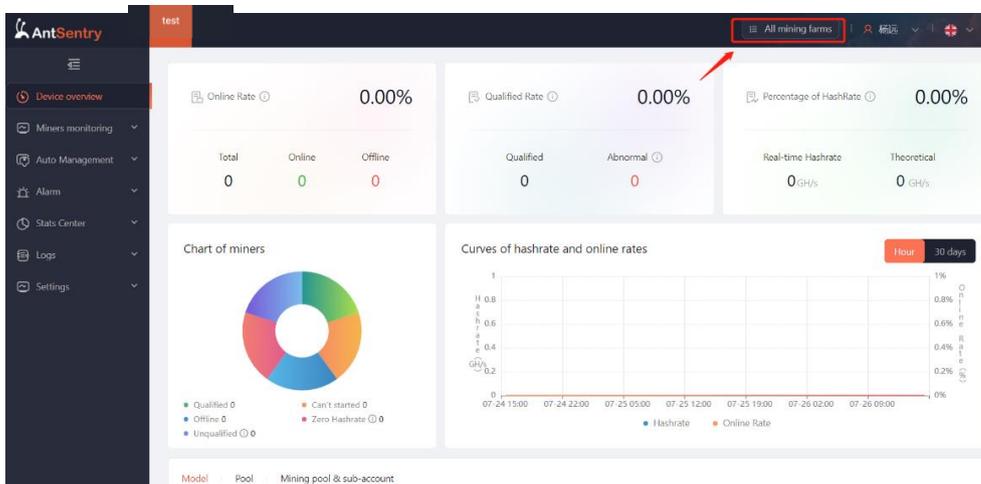
Cancel

OK

- The installed software must be enabled all the time during monitoring.

2.2 New Mining Farm

Click [New Mining Farm] under the [Mining Farm Management] in the upper right corner of the [Navigation Bar]. Enter the required information to generate a piece of data for a new mining farm.



New mining farm

* Name of mining farm

* Agent key

Address of mining farm

Settlement Price

Number of planned miners

Load

Cancel

Name of mining farm	Agent key	Agent version number	Number of planned miners	Settlement Price	Last updated	Operation
测试	af4fb0e122461db a357d7ffec8c633 83c	3.0.5	0	¥/kwh	508h16m20s ago	View Edit Delete

2.3 Set IP Segment for Scanning

On the [New Mining Farm] page, click [New] under the [IP Segment Management] in the left menu. A new IP segment to be monitored and scanned is added.

2.4 Set Mining Pool Whitelist

This is to trigger an alarm when any abnormality is detected in the mining pool, so as to further ensure the mining safety.

On the [New] page under the [Mining Pool Whitelist], set valid parameters of the miner & mining pool.

#	Pool	sub-account	Password
First Pool	<input type="text"/>	<input type="text"/>	123
Second Pool	<input type="text"/>	<input type="text"/>	123
Third Pool	<input type="text"/>	<input type="text"/>	123

2.5 Shelf Setting

Miners are generally placed on rows of shelves in the mining farm. Users need to set the shelf capacity, start & end positions, and continuous IP or not.

Note: The IP segment for shelves must be within the range of the IP segments for scanning.

2.5.1 New Shelf - Continuous IPs

For example: Enter a mining area name [1] and a shelf name [Test]; select the start position as [Upper Left]; enter a capacity [100]; select [Yes] for the [Continuous IP or Not] parameter; set the start IP to [10.1.1.1] and the end IP to [10.1.1.100]; and click [OK]. A piece of shelf data is generated.

New shelf

* Area: test

* Name of shelf: test

* Start position: Upper left

* Capacity: 100

* Continuous IP or not: Yes No

* Start IP: 10.1.1.1

* End IP: 10.1.1.100

Cancel OK

2.5.2 New Shelf - Discontinuous IPs

For discontinuous IPs, the layer name and start/end IP information are required for each layer.

Click [+] to add a new layer of shelves. Click [-] to delete a layer of shelves.

New shelf

* Area: test

* Name of shelf: test

* Start position: Upper left

* Capacity: 100

* Continuous IP or not: Yes No

* Name of layer: Name of layer

* Start IP: Start IP

* End IP: End IP

+ New layer

Cancel OK

2.5.3 Edit Shelf

Same as the [New Shelf]

2.5.4 Delete Shelf

Click [Delete] to delete a piece of shelf data.

2.6 List Miners in Batches

Click [List in Batches] under the [List and Remove in Batches] in the left menu.

Upload a local excel file. Miners are listed in batches.

3. User Manual

3.1 About Test Mining Farm

After logging in to the AntSentry system, a new user will be identified as a visitor by default and have permission to view all menus of the [Test Mining Farm]. He/she can not perform any operations except for creating a mining farm.

3.2 Mining Farm Management

You can add, edit, delete, and view mining farms.

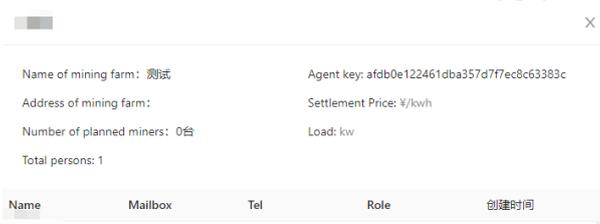
3.2.1 New/Edit

Click [New]; enter the required information; and then click [Save]. A new mining farm is added.

The [Agentkey] can not be modified.

3.2.2 View

You can view the basic information about a mining farm.



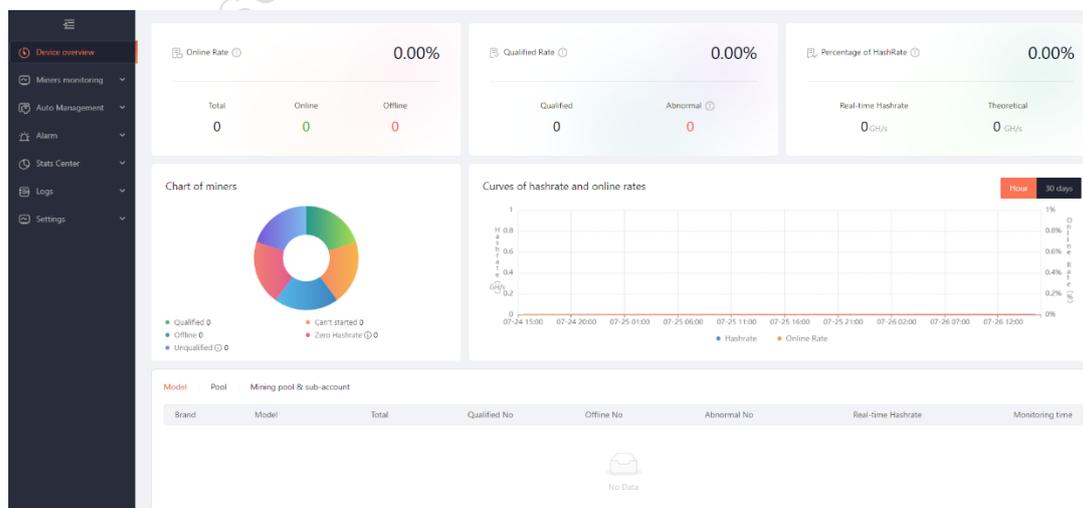
Name of mining farm:	测试	Agent key:	afdb0e122461dba357d7f7ec8c63383c	
Address of mining farm:		Settlement Price:	¥/kwh	
Number of planned miners:	0台	Load:	kw	
Total persons:	1			
Name	Mailbox	Tel	Role	创建时间

3.2.3 Delete

Click [Delete]. The mining farm is deleted, and the page is not displayed.

3.3 Miners Overview

The page displays the whole mining farm from multiple dimensions, the operating status of the monitored miners, and hashrates.



3.4 List of Listed Miners

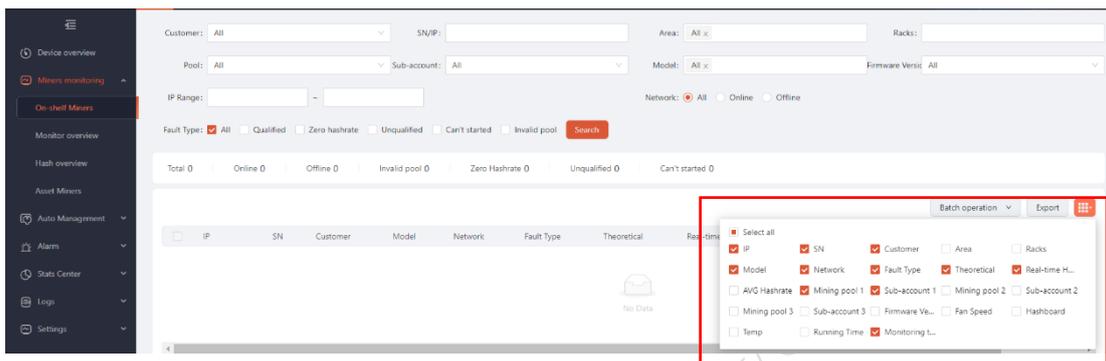
The page displays the summary list of data of all listed miners.

3.4.1 Search

In the [Search] area at the top, enter the search criteria. Results are displayed in a list and statistical chart.

3.4.2 Set List Display Field

You can set the [List Display Field] based on your needs. Click the [Setting] icon in the upper right corner. In the expanded area, select the fields to be displayed.

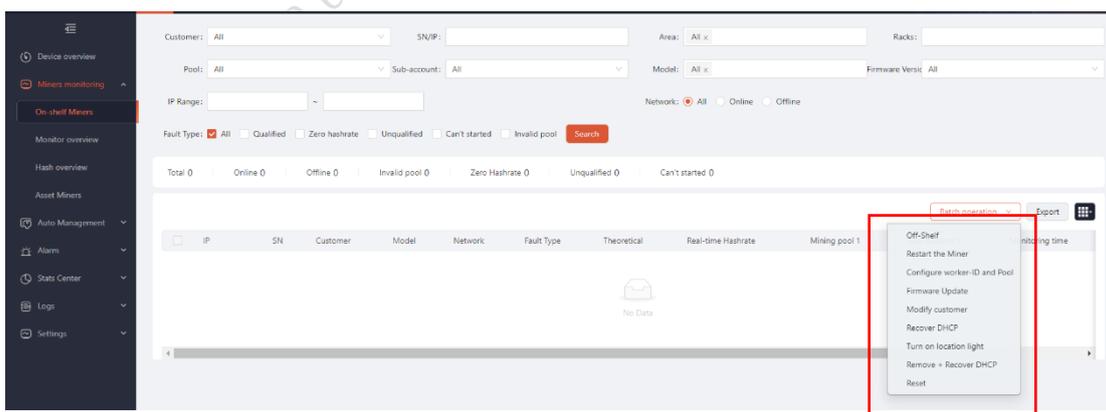


3.4.3 Remove a Single Piece of Data

Select a single piece of data, click [Remove] on the right side, enter the reason for removing the data, and click [OK].

3.4.4 Batch Operation

Batch operations involve [Remove], [Reboot], [Set Mining Pool], [Firmware Update], [Modify Customers], [Recover DHCP], [Turn on Location Light], and [Remove + Recover DHCP].



3.4.4.1 Remove in Batches

There are two reasons for removing miners: maintenance and relocation. Select the reason and range of miners to be removed. Click [OK]. Then miners are removed.

Remove in batches

* Reason of removal

* Range of miners

Selected miners(0)

All miners filtered in the list(0)

Specify IP List

3.4.4.2 Reboot

Reboot the active miners.

Select one or more miners, or all miners filtered in the list, or upload a list of assigned IPs. Unlike [Reset], this function can reboot all miners with zero hashrate.

Restart the Miner

* Range of miners

Selected miners(0)

Reboot all miners with zero hashrate

All miners filtered in the list(0)

Specify IP List

3.4.4.3 Set Mining Pool

Select the mining pool group to be configured. The information about the selected mining pool group is displayed automatically in the lower part. Select one or more miners, or all miners filtered in the list, or upload a list of assigned IPs.

Click OK. Then the mining pools are set.

Click the hyperlink of [Set Mining Pool Whitelist] to jump to the [Set Mining Pool Whitelist] page.

Configure worker-ID and Pool

* Pool Group [Set mining pool whitelist](#)

Pool Group Info

Pool	Pool	sub-account	Password	Mining rig name suffix
1			123	<input checked="" type="radio"/> IP <input type="radio"/> Do not change
2			123	<input type="radio"/> Do not change <input checked="" type="radio"/> IP
3			123	<input type="radio"/> Do not change <input checked="" type="radio"/> IP

* Range of miners

Selected miners(0) All miners filtered in the list(270) Specify IP List

3.4.4.4 Firmware upgrade

Select a model

Select the upgrade version

Select a check box under the [Clear Miner & Mining Pool Settings] (The [Maintain Current Miners Settings] is checked by default)

Force an update (checked by default)

Select one or more miners within the range of miners, or all miners filtered in the list, or upload a list of assigned IPs.

Click [OK]. The firmware of selected miners is upgraded.

Firmware Update

* Model * Firmware Version

* Clear miner & mining pool settings

Retain the Configuration
 Clear and Use Default Configuration

Forced upgrade

Only update miners of the same model and different firmware versions

* Range of miners

Selected miners(0)
 All miners filtered in the list(0)
 Specify IP List

3.4.4.5 Modify Customers

Select a target customer

Select one or more miners within the range of miners, or all miners filtered in the list, or upload a list of assigned IPs.

Click [OK]. The selected miners are transferred to the target customer.

Modify customers
✕

*** Target Customers**

*** Range of miners**

Selected miners(0)

All miners filtered in the list(0)

Specify IP List ⬇️ Upload IP list (txt)

Cancel
OK

3.4.4.6 Recover DHCP

Recovering the DHCP is to recover the dynamic IP allocation of miners

Recover DHCP
✕

*** Range of miners**

Selected miners(0)

All miners filtered in the list(0)

Specify IP List ⬇️ Upload IP list (txt)

Cancel
OK

3.4.4.7 Turn on Location Light

You can turn on location lights of miners to help the onsite O&M personnel to locate miners easily.

Select miners, and click [OK]. The location lights of these miners are turned on. (This function is available for 17 series and above miners only.)

Turn on location light
✕

*** Range of miners**

Selected miners(0)

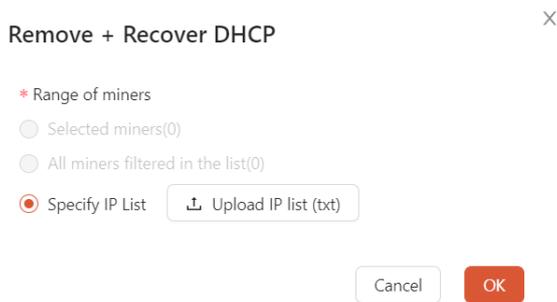
All miners filtered in the list(0)

Specify IP List ⬇️ Upload IP list (txt)

Cancel
OK

3.4.4.8 Remove + Recover DHCP

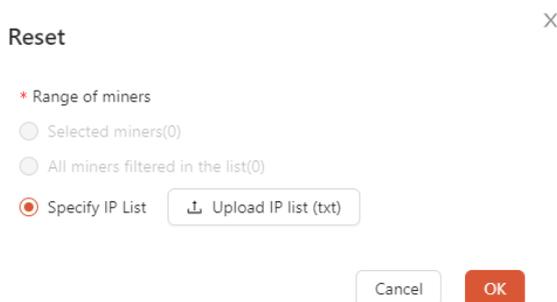
You can remove miners and recover the dynamic IP allocation of miners.



3.4.4.9 Reset

Perform a factory reset of the active miners.

Select one or more miners, or all miners filtered in the list, or upload a list of assigned IPs.



3.4.4.10 Delete

Delete the monitoring over the miners IPs from the system.

3.5 Miners Monitoring View

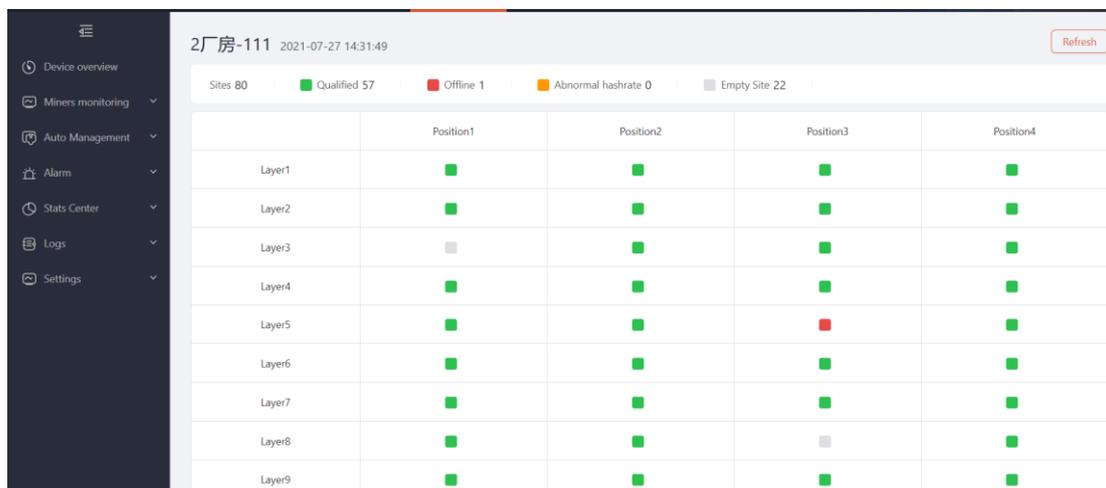
3.5.1 Miners Monitoring View

After searching based on the search criteria, research results are displayed in zones in the lower part. Each zone displays all information about a miners listed on a shelf.

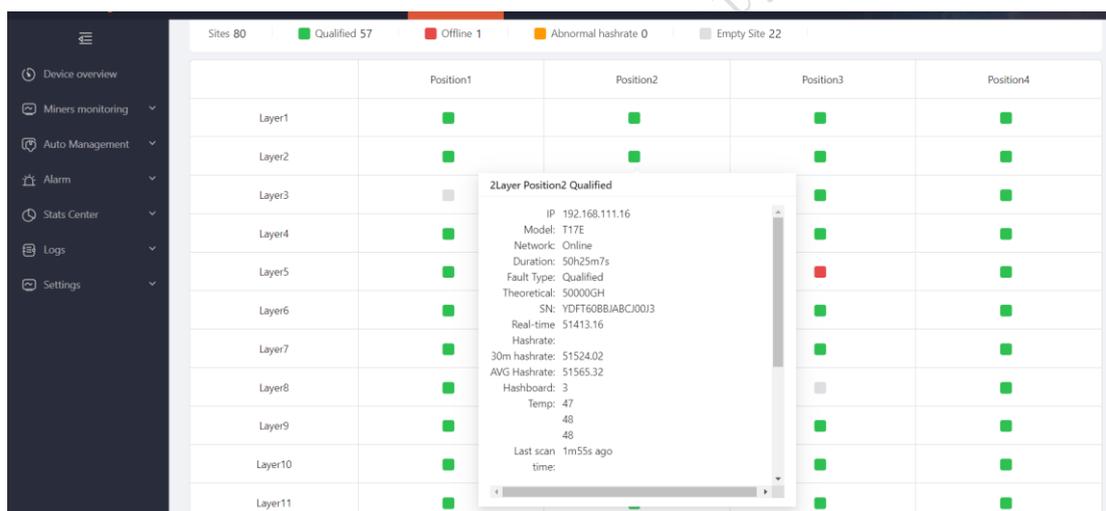


3.5.2 Miners Monitoring View - Shelf Details

Click any shelf. The [Shelf Details] page is displayed, showing the operating status of each miners on the shelf. It visualizes the miners and helps to locate the physical location and operating status of each miners more intuitively.



When the mouse hovers on a miners, the specific operating parameters of the miners are displayed.

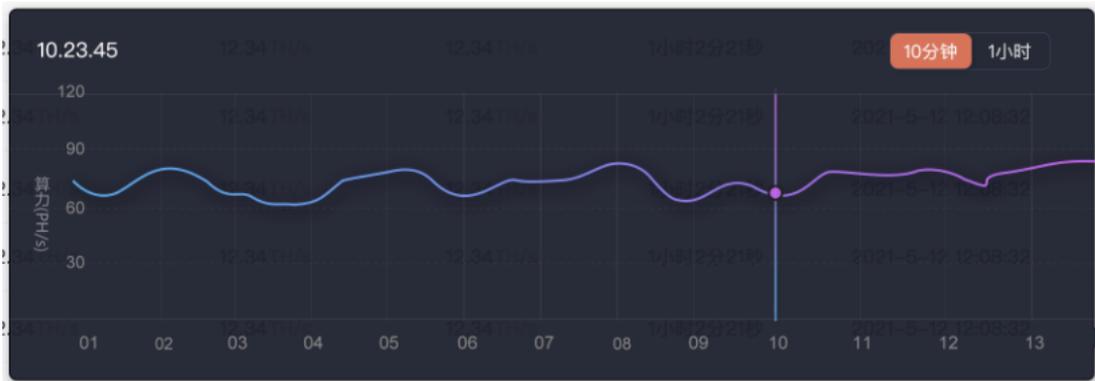


3.6 Hashrate Overview List

It shows the hashrate operation of each miners.

3.6.1 Hashrate Curve

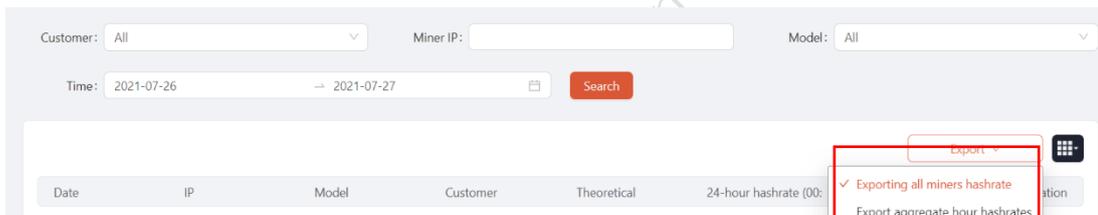
Click [View] at the end of each piece of data. You can view the hashrate curve of the miners. (hourly)



3.6.2 Export Data

Click [Export Aggregate Hour Hashrates]. You can export the 24-hour hashrates of the mining farm, one piece of data per hour. (excel title: Aggregate hour hashrates of XX mining farm_export time)

Click [Export Hashrates of Miners]. You can export the hashrate data of all miners in the current mining farm within a certain period. (excel title: XX mining farm_export time)

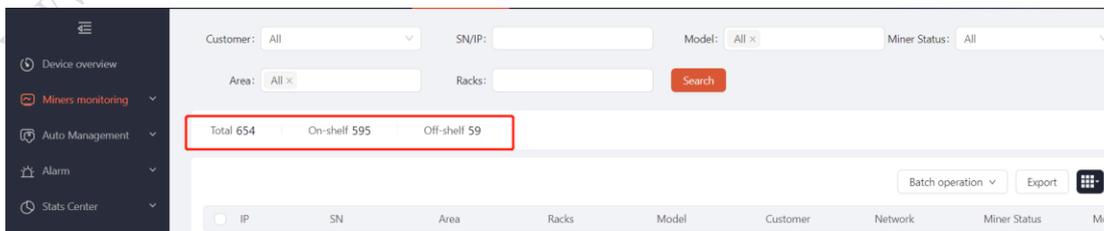


3.7 Asset miners

It shows data of all miners monitored in the system, including those listed and removed.

3.7.1 Search and Data Statistics

After searching based on the search criteria, the number of miners, number of miners listed, and number of miners removed are counted based on the search criteria. The data list below is also displayed based on the search criteria.



3.7.2 List

Removed miners can be re-listed after entering IPs.

On-Shelf X

* IP

Cancel OK

3.7.3 Delete

Delete the monitoring over the miners IPs from the system.

 Are you sure you want to delete the mining rig?

Cancel OK

3.8 Auto Management - Auto Reboot

After the [Auto Reboot] is set, when the system detects any miners that meets the criteria, it will reboot the miners and generate an auto reboot report automatically.

3.8.1 Auto Reboot Setting

*You can set the auto reboot after the auto reboot switch is turned on.

*Auto reboot time frame: for example, from 20:00 to 22:00.

*Hashrate index: If a miners meets any one of the following three criteria: [Zero Hashrate], [Mining Program Error], and [Hashrate Below Threshold], it will reboot automatically.

*Setting: The auto reboot will be triggered if the duration of zero hashrate and hashrate below threshold reaches XX.

Some miners may still have the hashrates below the threshold after rebooting and undergo repeated reboots. You can set the [Maximum Number of Auto Reboots] to prevent this situation.

All configured conditions are displayed in red.

3.8.2 Auto Reboot Report

The system generates an auto reboot report after each auto reboot. The report displays details of the task. Click [Successful Reboots] and [Failed Reboots] to view the details.

3.9 Auto O&M - Password Change

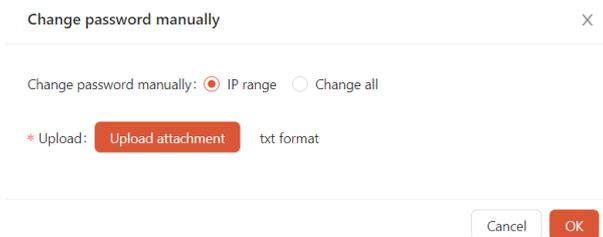
The password of miners must be changed frequently for safe mining. The AntSentry supports changing passwords manually and automatically.

3.9.1 Change Password Automatically

If the function is enabled, you can select the settings (every 1, 2, 3, or 6 months). When the valid period expires, the system will automatically change the passwords of all miners in the mining farm. The passwords are generated automatically by the system.

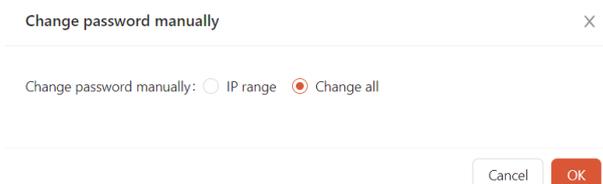
3.9.2 Change Password Manually - Change Passwords of Some Miners

Specify the IP segment of the selected miners, or upload the IP list of miners whose passwords are to be changed. Click [OK]. The passwords of these miners are changed in batches.



3.9.3 Change Password Manually - Change Passwords of All Miners

Select [Change All] and click [OK]. The passwords of all miners in the mining farm are changed.



3.10 Alarm

At present, there are hashrate fluctuation alarms, NUC disconnection alarms, miners disconnection alarms, invalid mining pool alarms, and dead pool alarms.

3.10.1 Hashrate Fluctuation Alarm Setting

*Enable: Alarm switch

*Threshold: Enter a figure. When the hashrate is below XX, an alarm is triggered.

Or enter a percent. When the hashrate decreases by XX%, an alarm is triggered.

*Select alarm mode: by SMS and/or Email

*Contact: Select the contacts to be informed. The information about the contacts is displayed below.



3.10.2 NUC Disconnection Alarm Setting

*Enable: Alarm switch

*Select alarm mode: by SMS and/or Email

*Contact: Select the contacts to be informed. The information about the contacts is displayed below.

The system triggers an alarm when it detects the NUC alarm.

3.10.3 Miners Disconnection Alarm Setting

*Enable: Alarm switch

*Threshold: An alarm is triggered when the number of offline miners reaches XX

*Select alarm mode: by SMS and/or Email

*Contact: Select the contacts to be informed. The information about the contacts is displayed below.

3.10.4 Invalid Mining Pool Alarm Setting

*Enable: Alarm switch

*Select alarm mode: by SMS and/or Email

*Contact: Select the contacts to be informed. The information about the contacts is displayed below.

An alarm is triggered when the system detects that the mining pool set for the miners is not in the mining pool whitelist

3.10.5 Deal Pool Alarm Setting

*Enable: Alarm switch

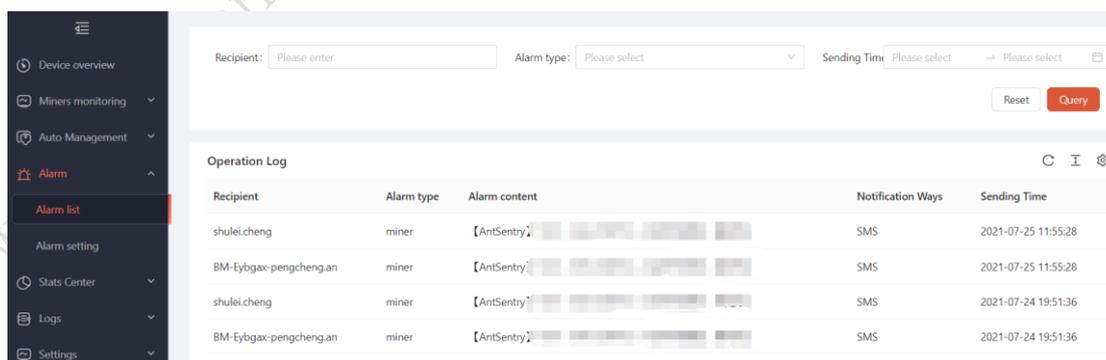
*Threshold (multiple options): One Pool Dead (an alarm is triggered when the system detects that one pool is dead); All Pools Dead (an alarm will be triggered when the system detects that all pools are dead).

*Select alarm mode: by SMS and/or Email

*Contact: Select the contacts to be informed. The information about the contacts is displayed below.

3.10.6 List of Alarms

After each alarm, an alarm record is generated and displayed in the list of alarms.



Recipient	Alarm type	Alarm content	Notification Ways	Sending Time
shulei.cheng	miner	[AntSentry] ...	SMS	2021-07-25 11:55:28
BM-Eybgax-pengcheng.an	miner	[AntSentry] ...	SMS	2021-07-25 11:55:28
shulei.cheng	miner	[AntSentry] ...	SMS	2021-07-24 19:51:36
BM-Eybgax-pengcheng.an	miner	[AntSentry] ...	SMS	2021-07-24 19:51:36

3.11 Monitoring & Mining Pool Hashrate Comparison

You can search by sub-account. The data under all sub-accounts is displayed by default.

3.11.1 Hashrate Curve

* The 1-hour and 1-day hashrate curves are displayed.

* The 1-hour hashrate curve displays data for the last 24 hours

*The 1-day hashrate curve displays data for the last 15 days

There are three curves, representing the theoretical hashrate, monitor hashrate, and mining pool hashrate respectively

3.11.2 Set Observer URL

It links to a list of data by sub-accounts.

You can set an observer URL for the data of each sub-account. Only when the URL is set, you can obtain the mining pool hashrate data.

* Change Observe URL

Click [Change] to replace the new observer URL.



* Delete Observe URL

You can delete the configured observer URL(s).

3.12 Income Estimate

Based on the model & number of miners, electricity cost, and other information, you can calculate the mining profit under a single sub-account within a certain period.

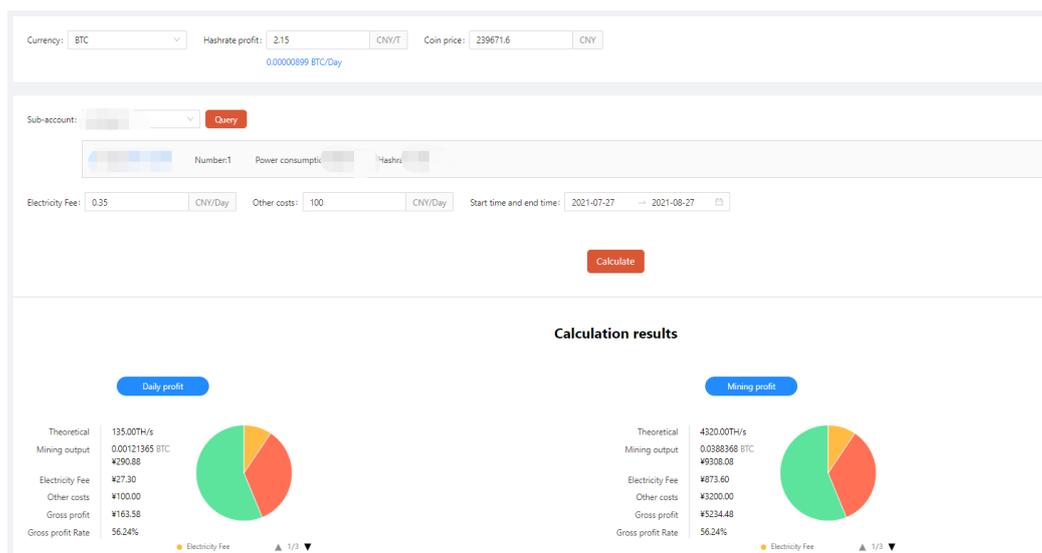
3.12.1 Operation

Take the BTC as an example

* In the [Currency] list, select [BTC]. The hashrate profit per T and the current BTC price are displayed automatically.

*In the [Sub-account] list, select [Test]. The data of all miners under the Test sub-account in the current mining farm are displayed automatically.

*Enter the electricity cost, other O&M costs, and start time & end time of mining. Click [Calculate]. The income calculation results are displayed below. The results include daily profits and the profits within the mining period.



3.13 Operation Logs

You can record operation logs in batches. Batch operations involves [List in Batches], [Remove in Batches], [Delete in Batches], [Modify Customers], [Reboot in Batches], [Change Theoretical Hashrate], and [Get Status Logs].

3.13.1 View

To view operation records, click [View]. The [Details] Page is displayed, then you can view the IP, SN, and operation results of the active miners.

3.13.2 Export

*Click [Export]. The operation log records on the page are exported to the local.

*On the [Details] page of each operation record, click [Export]. The specific data of the active miners is exported to the local.

3.14 Logs of Mining Pool Changes

It records the logs of mining pool changes of miners. The information about mining pools before and after the change is displayed. Click [Export]. You can export data to the local

3.15 Settings

You can set basic parameters of the mining farm on the [Settings] page.

3.15.1 List and Remove in Batches (the same as 2.6, not detailed here)

Click [Upload]. After uploading a local excel file successfully, you can list or remove miners in batches.

Batch off-shelf ×

* AgentKey

76815193046726574a17117ea3f8d200

* Excel file (only .xlsx files are supported)



Upload Excel file (column A: IP, column B: SN, column C: name of customer)

Cancel OK

3.15.2 IP Segment Management (the same as 2.3, not detailed here)

3.15.3 Mining Pool Whitelist (the same as 2.4, not detailed here)

3.15.4 Shelf Setting (the same as 2.5, not detailed here)

3.15.5 Role Management

Each mining farm has three fixed roles (visitor, administrator, O&M). You can also set other roles and their menu permissions based on your needs.

3.15.5.1 New Role

Enter a role name; select the menu permissions; enter remarks; and click [OK]. A new role is generated.

New role ×

Mining farm 

* Role Name:

* Menu permisss Miners monitoring
 Auto Management
 Alarm
 Stats Center
 Logs
 Settings

Note:

Cancel OK

3.15.5.2 View Role

Click [View]. On the [View] layer, all information about the role is displayed.

3.15.5.2 Edit Role

Click [Edit]. You can change the role name and menu permissions

3.15.5.3 Delete Role

Click [Delete]. You can delete the role

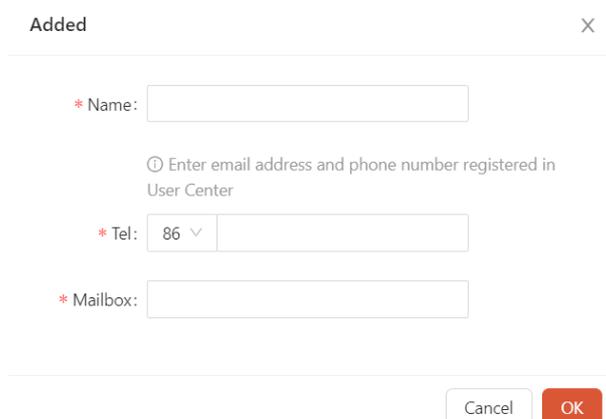
3.15.6 Personnel Management

You can add, authorize, edit, and delete a person

Below are steps to add and edit a person only. The steps to delete a person are not detailed here.

3.15.6.1 New Personnel

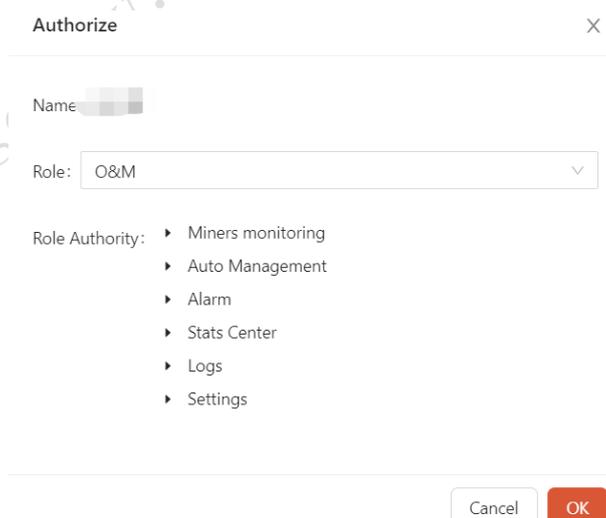
Enter the name, phone number, and Email. Click [OK]. A new person is added.



The screenshot shows a dialog box titled "Added" with a close button (X) in the top right corner. It contains three required input fields: "Name", "Tel", and "Mailbox". The "Tel" field has a dropdown menu currently showing "86". Below the "Tel" field, there is a note: "Enter email address and phone number registered in User Center". At the bottom right of the dialog, there are two buttons: "Cancel" and "OK".

3.15.6.2 Authorize Personnel

The administrator can authorize a role for the new personnel. After authorization, the role's permissions are displayed.



The screenshot shows a dialog box titled "Authorize" with a close button (X) in the top right corner. It contains a "Name" field with a blurred value, a "Role" dropdown menu currently showing "O&M", and a "Role Authority" section with a list of permissions: "Miners monitoring", "Auto Management", "Alarm", "Stats Center", "Logs", and "Settings". At the bottom right of the dialog, there are two buttons: "Cancel" and "OK".

3.15.6.3 Delete Personnel

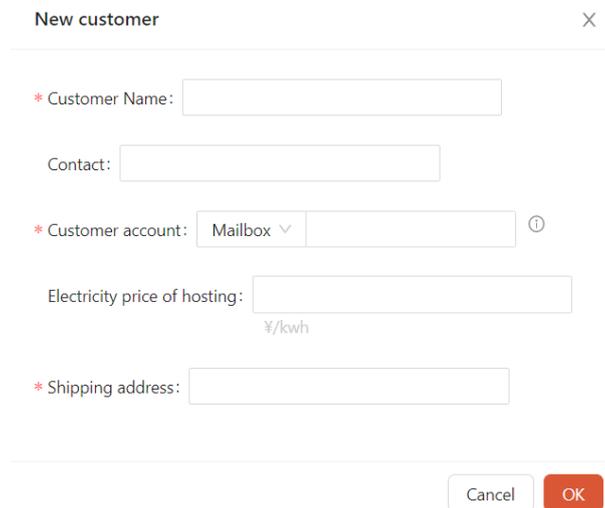
Click [Delete]. After confirmation, click [OK] to delete the personnel.

3.15.7 Customer Management

In each mining farm, you can manage the customer information, including the operations to add, edit, delete, and view customers.

3.15.7.1 New Customer

The [Customer Name], [Customer Account], and [Customer Address] are required fields; and others are optional.



New customer ×

* Customer Name:

Contact:

* Customer account: Mailbox ⓘ

Electricity price of hosting:
¥/kwh

* Shipping address:

3.15.7.2 View Customer

Click [View]. In the [View] list, you can view the customer information.

3.15.7.3 Delete Personnel

Click [Delete]. After confirmation, click [OK] to delete the customer.