User Manual

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The symbols that may be found in this document are defined as follows.

Symbol	Description
Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Note	Provides additional information to emphasize or supplement important points of the main text.

Safety Instruction

CLASS 1 LASER PRODUCT

The product meets the requirements of Class 1 laser products. Class 1 Laser products that are safe during use, including long-term direct intrabeam viewing, even when exposure occurs while using telescopic optics.

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Chapter 1 Device Activation

To protect the security and privacy of the user account and data, you should set a login password to activate the device when access the device via network.

Note

Refer to the user manual of the software client for the detailed information about the client software activation.

1.1 Activate the Device via SADP

Search and activate the online devices via SADP software.

Before You Start

Access www.hikvision.com to get SADP software to install.

Steps

1. Connect the device to network using the network cable.
2. Run SADP software to search the online devices.
3. Check **Device Status** from the device list, and select **Inactive** device.
4. Create and input the new password in the password field, and confirm the password.

Caution

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

5. Click **OK**.
   Device Status changes into **Active**.
6. Optional: Change the network parameters of the device in **Modify Network Parameters**.

1.2 Activate the Device via Browser

You can access and activate the device via the browser.

Steps

1. Connect the device to the PC using the network cables.
2. Change the IP address of the PC and device to the same segment.

Note

The default IP address of the device is 192.0.0.64. You can set the IP address of the PC from 192.0.0.2 to 192.0.0.254 (except 192.0.0.64). For example, you can set the IP address of the PC to 192.0.0.100.

3. Input ***192.0.0.64*** in the browser.

4. Set device activation password.

Caution

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

5. Click **OK**.
6. Input the activation password to log in to the device.
7. Optional: Go to **Configuration** → **Network** → **Network Settings** → **TCP/IP** to change the IP address of the device to the same segment of your network.

1.3 Activate the Device via Local Client

Before You Start

Get the client software from the technical support, and install the client according to the prompts.

Steps

1. Connect the device to network using the network cable.
2. Run the client software and double click **Add Device**.
3. Input ***192.0.0.64*** and click **Add**.
4. Find your device IP in the left list, and double click to enter the device.
4. Input new password (admin password) and confirm the password.

Caution

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

Chapter 2 Local Client Operation Instructions

Local client is mainly used for debugging.
Double-click **Add Device** in the upper-left corner, enter the device IP address, and click **Add**. After adding, you can find the device IP address in the left list, and double-click to enter the debugging interface.
Click **Log In** in the upper-left corner, enter administrator user name and password, and click **OK** to log in to client.
You can view the interface without logging in to local client, but cannot edit the parameters. Logging in is not recommended for normal user. Please contact professionals to edit parameters.

2.1 Signal

Click **Signal** to enter the interface.

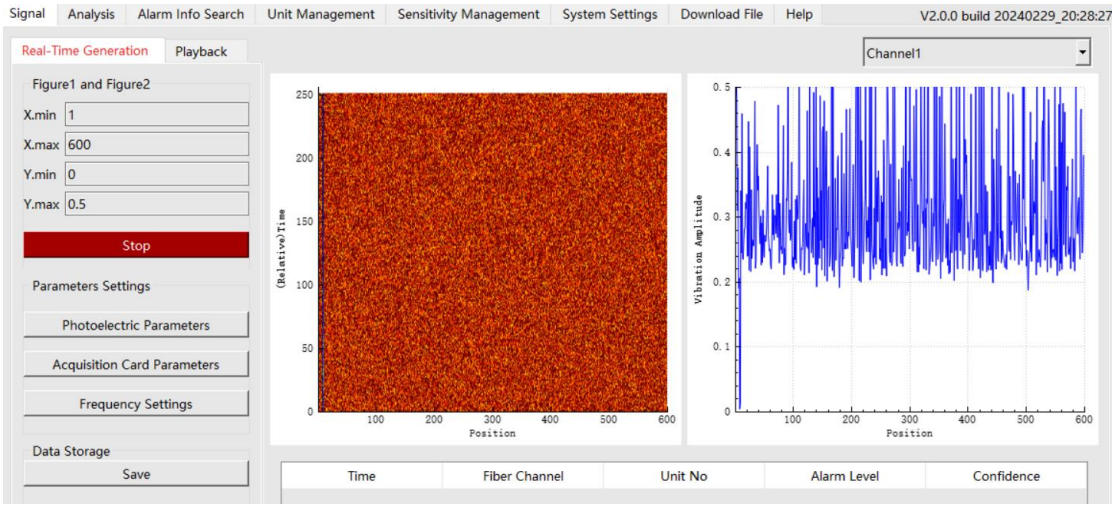


Figure 2-1 Signal Interface

2.1.1 Parameter Settings

The photoelectric parameters and frequency settings are usually debugged and set by technical support personnel, and are not recommended for change. The acquisition card parameters cannot be configured by default.

2.1.2 Real-Time Generation

Click **OK** in real-time generation. The right-side chart area starts to generate real-time signal charts (slab chart and spatial intensity chart). Click **Stop** to stop generating.
The dual-channel device can switch between channel 1 and channel 2.
X.min/X.max/Y.min/Y.max

Adjust the max. and min. value of X and Y axis, and click enter key on the keyboard to confirm.

Waterfall Chart

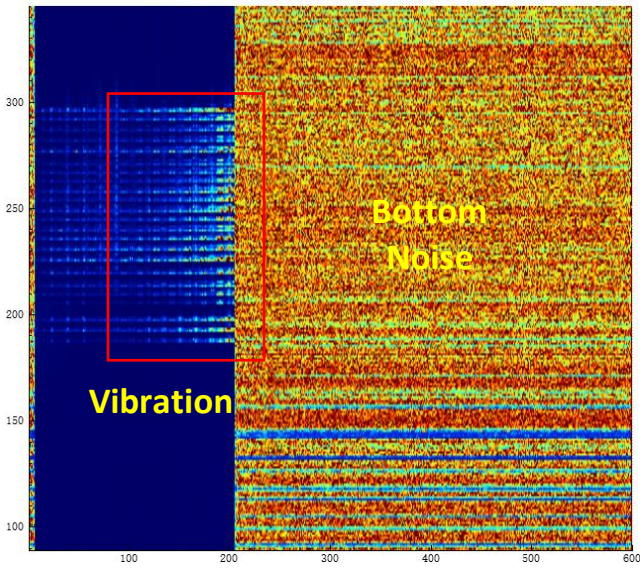


Figure 2-2 Waterfall Chart

The vertical axis is the time, and the horizontal axis is the unit.
As shown in the above figure, the unit 1 to 200 on the left have signals and the signals are normal, and the bottom noise on the right indicates that units above 200 have no signals.
The integrated horizontal stripe of bright spot on the left indicates vibration.

Power Spectrum

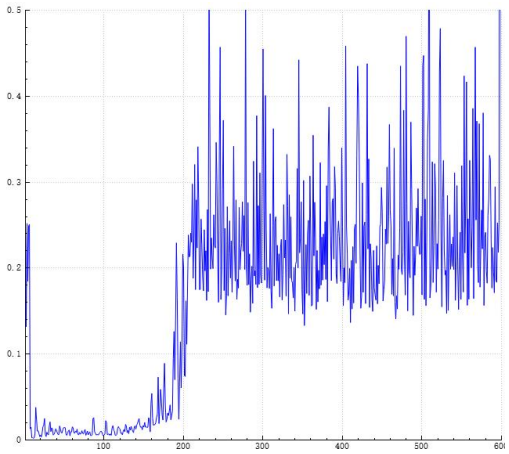


Figure 2-3 Power Spectrum

As shown in the above figure, the lower-level line segment on the left indicates that the signals of unit 1 to 200 are normal, and the bottom noise on the right indicates that units above 200 have no signal.
When there is vibration, the left line segment will fluctuate according to the vibration intensity.

2.1.3 Data Saving and Playback

Save data in a certain time period. You can read the power map data through playback.

Data Saving

1. Click **Save** in the **Data Storage**.
2. Select **Save Raw Data** and **Save Power Map Data** as needed in pop-up window.

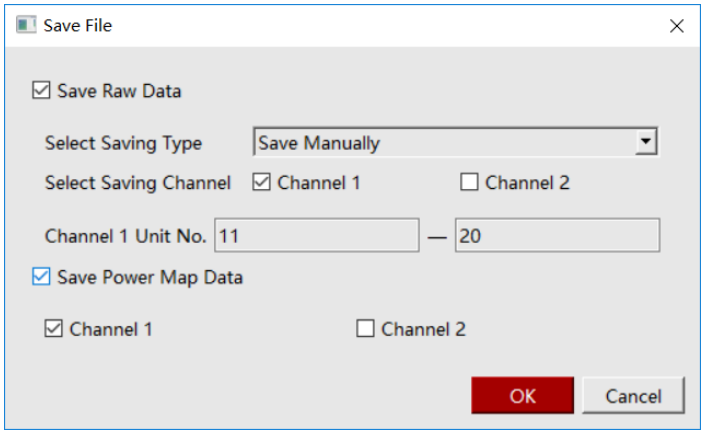


Figure 2-4 Save File

Saving Type

Save Event: When alarms occur in the selected unit No. range, the system records alarm data of the unit and the four units before and after it.

Save Manually: The phase data in the selected unit No. range can be saved.

Saving Channel

Select the channel to save data.

Unit No.

The unit No. to save data cannot be 0.

Raw Data and Power Map Data

The power map data is a wave band graph generated in the graph. Only power map data can be played back in playback. The raw data is only for professional analysis.

3. Click **OK** to save the raw data. Click **OK** in the Real-Time Generation window to generate power map data after setting the condition.
4. When data saving needs to be ended:
   To disable **Save Raw Data**, you can cancel the selected items.
   To disable **Save Power Map Data**, you can cancel the selected item, click **OK** to close the window, or close the client.
5. Set the path to save the file to local.

Playback

1. Go to **Signal** → **Playback**, and click **Import**.
2. Select **Path** and set **Playback Rate (Milliseconds)**.
3. Click **OK**.
4. View data playback in playback interface.

2.2 Analysis

Click **Analysis** to enter the interface. View spectrogram and spatial intensity map.

2.2.1 Spectrum

Click **Start** to generate spectrogram, and click **Stop** to stop generating.
Two-channel device can switch channel 1 or channel 2.

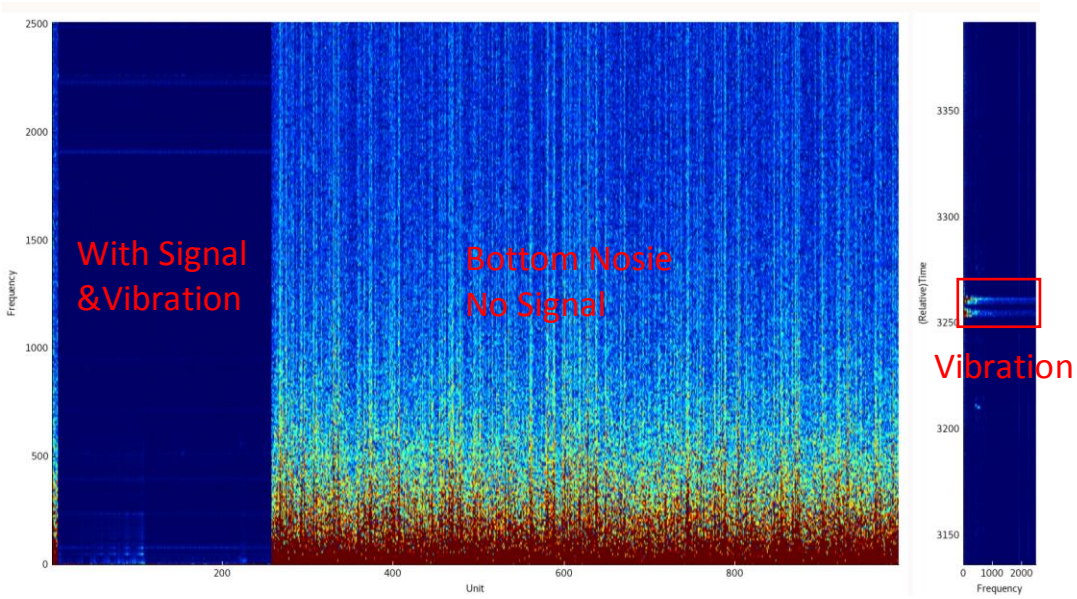


Figure 2-5 Spectrogram (With Vibration)

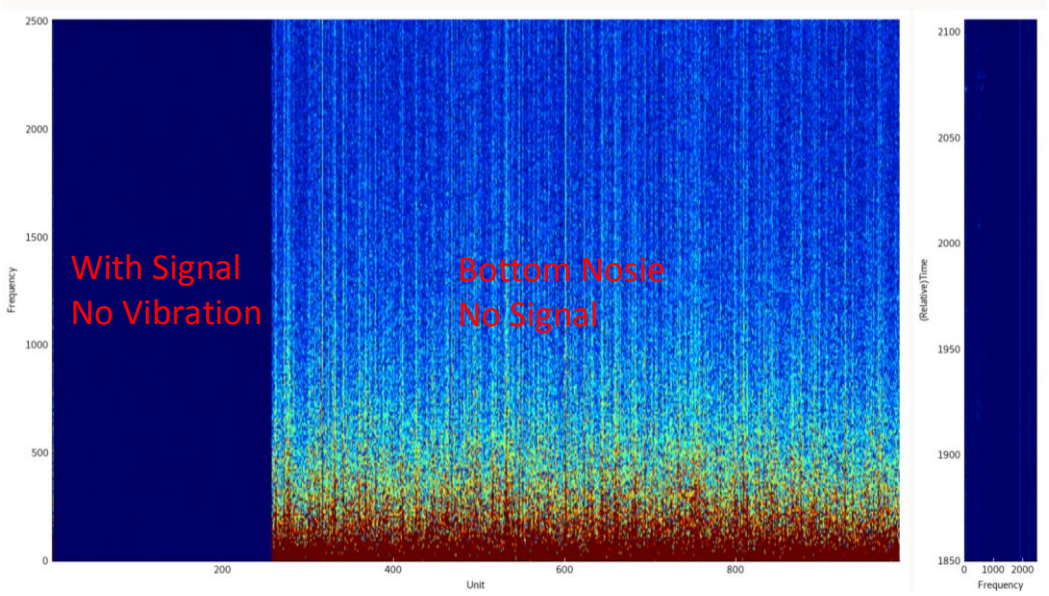


Figure 2-6 Spectrogram (No Vibration)

The vertical axis of the left picture is frequency, and the horizontal axis is unit No.
The vertical axis of the right picture is relative time, and the horizontal axis is frequency.
As shown in the above picture, the unit 1 to 250 on the left have signals and the signals are normal, and the bottom noise on the right indicates that units above 250 have no signals.

2.2.2 Spatial Intensity Map

Click **Start** to generate space intensity map. Click **Stop** to stop generating.
Two-channel device can switch channel 1 or channel 2.

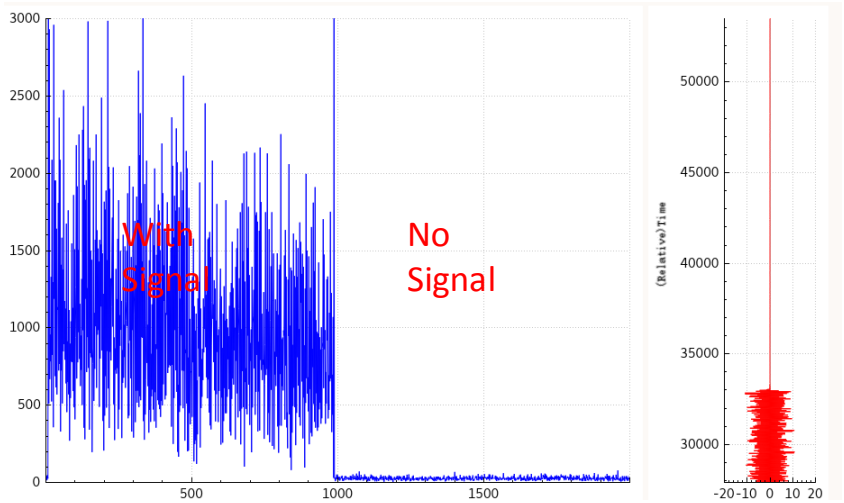


Figure 2-7 Spatial Intensity Map (Normal Signal)

The vertical axis of the left picture is the vibration amplitude, and the horizontal axis is the unit. The larger the vibration amplitude, the stronger the signal.
The right axis is relative time, and the horizontal axis is phase.
As shown in the above picture, the unit 1 to 1000 on the left have signals and the signals are normal, and the units above 1000 have no signals.
The space intensity map is mainly used to display signal strength. When there is vibration, the left map fluctuates slightly. The initial signal peak value of the device should be around unit 2500. If it is lower, the signal is weak.

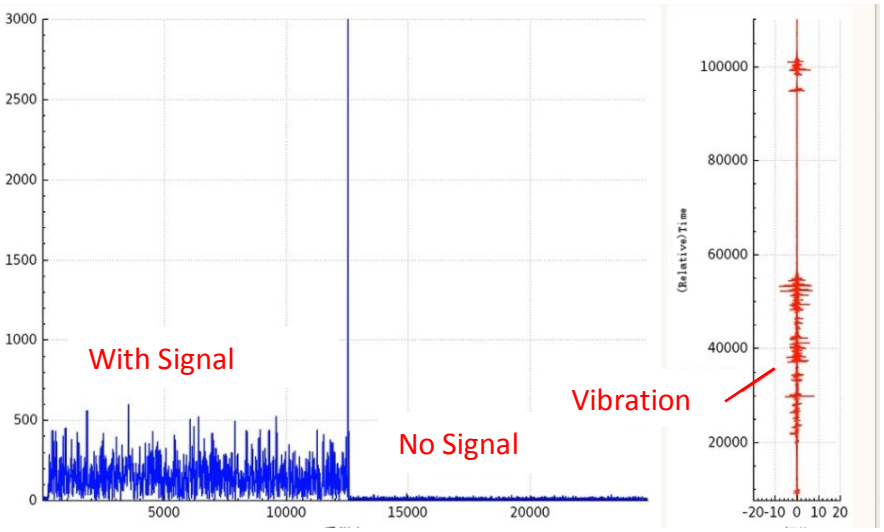


Figure 2-8 Spatial Intensity (Weak Signal)

2.3 Search alarm information.

Click **Alarm Info Search** to enter the interface.
After setting the condition, click **Search**.

Alarm Confidence

After enabling AI switch in unit management, the system will automatically judge if the alarm is true or false. Validity1 indicates that the alarm event is more likely to be true. Validity0 indicates that the alarm event is more likely to be false.

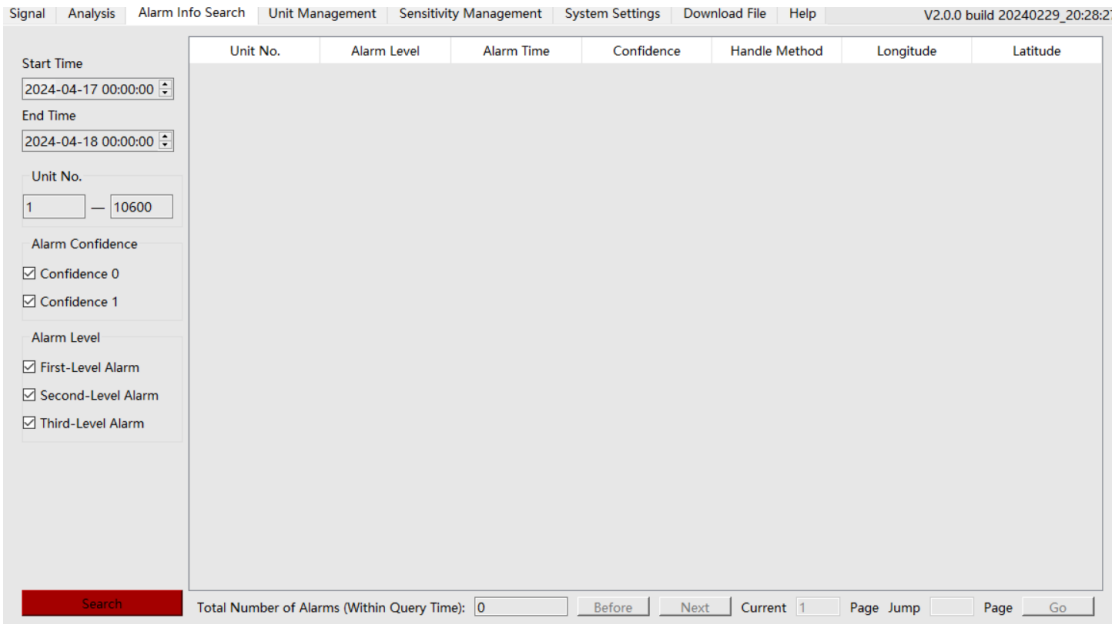


Figure 2-9 Search Alarm Information

The unit No. of channel 1 shows the original unit No.
If the device is the dual-channel device, the unit No. of channel 2 shows 10000 + original unit No. For example, channel 1 unit No. 502 is shown as 502, and channel 2 unit No. 502 is shown as 10502.

2.4 Unit Management

Click **Unit Management** to enter the interface.
This interface is used to configure the fiber optic unit.

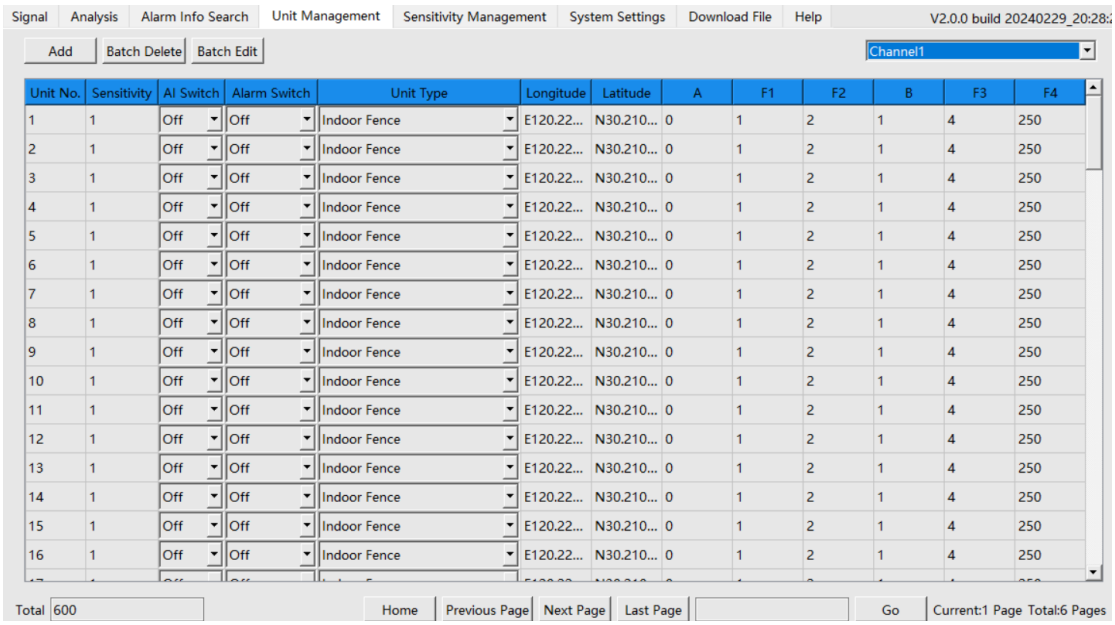


Figure 2-10 Unit Management

Channel 1 or channel 2 can be switched by dual-channel device.

2.4.1 Add Unit

Click **Add** to enter the unit parameters in the pop-up window, and click **OK** to add the unit.

Start Unit/End Unit

The system will automatically generate the unit within the range. For example, if the start unit is 1, and the end unit is 5, then it will add 5 units, 1, 2, 3, 4, and 5.

Max. number of units varies with device models.

Unit Type

Select the unit type as your needs.

Sensitivity

Only preset sensitivity can be selected. You can configure sensitivity in ***2.5 Sensitivity Management*** in advance

Alarm Switch

After enabling, the unit will alarm according to the triggering type

AI Switch

After enabling, the system judges alarm confidence according to smart algorithm. The system will automatically judge if the alarm is true or false. 1 means that the alarm event is likely to be true. 0 means that the alarm event is likely to be false. If the AI switch is disabled, the confidence level of the alarm will be 0 by default.

2.4.2 Edit Unit

Edit **AI Switch**, **Alarm Switch**, and **Unit Type** of a single unit in the list.

Or click **Batch Edit** to edit the units and parameters in the pop-up window. Click **OK**.

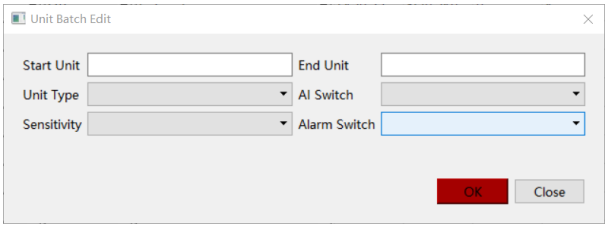


Figure 2-11 Batch Edit Unit

2.4.3 Delete Unit

Click **Batch Delete**, enter the **Start Unit** and **End Unit** to delete the units, and click **OK**.

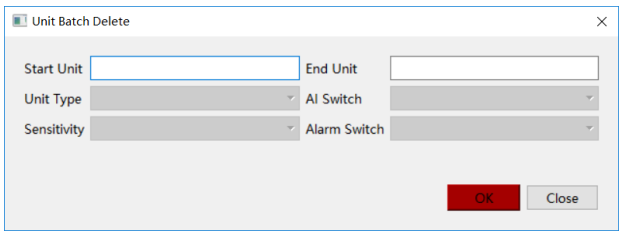
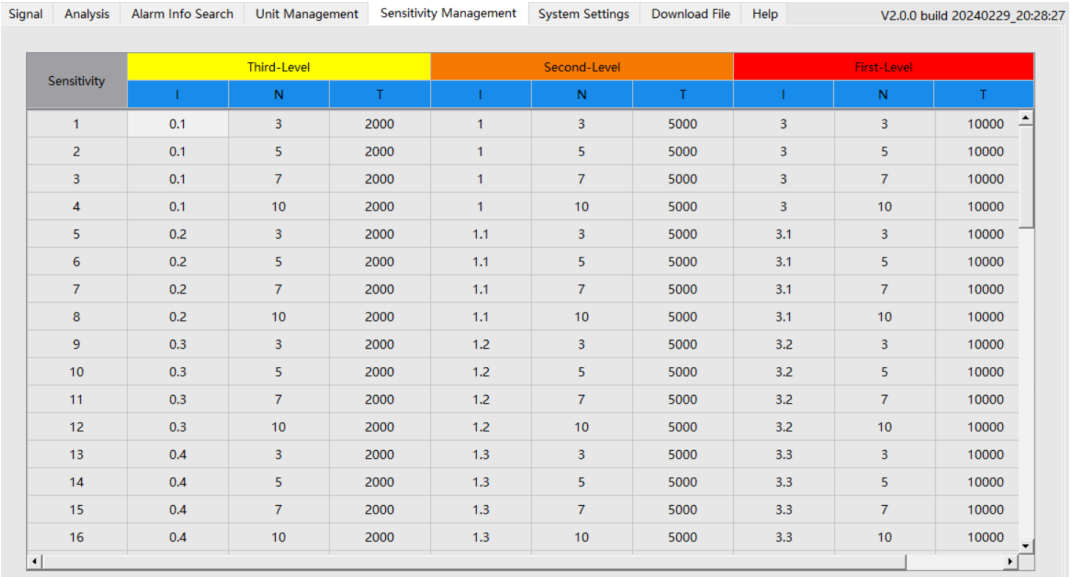


Figure 2-12 Batch Delete Unit

2.5 Sensitivity Management

Click **Sensitivity Management** to enter the interface.
Double-click the data to edit.
I stands for intensity. N stands for number of times. T stands for duration (ms).
Recommended Sensitivity: Third-Level Alarm: I0.2/N10/T2000, Second-Level Alarm: I1/N30/T5000, First-Level Alarm: I3/N50/T10000.
Alarm Intensity: First-Level Alarm Intensity > Second -Level Alarm Intensity > Third -Level Alarm Intensity.



Sensitivity	Third-Level			Second-Level			First-Level		
	I	N	T	I	N	T	I	N	T
1	0.1	3	2000	1	3	5000	3	3	10000
2	0.1	5	2000	1	5	5000	3	5	10000
3	0.1	7	2000	1	7	5000	3	7	10000
4	0.1	10	2000	1	10	5000	3	10	10000
5	0.2	3	2000	1.1	3	5000	3.1	3	10000
6	0.2	5	2000	1.1	5	5000	3.1	5	10000
7	0.2	7	2000	1.1	7	5000	3.1	7	10000
8	0.2	10	2000	1.1	10	5000	3.1	10	10000
9	0.3	3	2000	1.2	3	5000	3.2	3	10000
10	0.3	5	2000	1.2	5	5000	3.2	5	10000
11	0.3	7	2000	1.2	7	5000	3.2	7	10000
12	0.3	10	2000	1.2	10	5000	3.2	10	10000
13	0.4	3	2000	1.3	3	5000	3.3	3	10000
14	0.4	5	2000	1.3	5	5000	3.3	5	10000
15	0.4	7	2000	1.3	7	5000	3.3	7	10000
16	0.4	10	2000	1.3	10	5000	3.3	10	10000

Figure 2-13 Sensitivity Management

2.6 System Settings

Click **System Settings** to enter the interface.
Enable **Web Service**.
Web page will not be available when web service is disabled.

2.7 Download File

Click **Download File** to enter the interface.
The system will automatically search the data file stored by the client, or click **Refresh**.
If the deice is connected to USB flash disk/HDD, the selected data file can be downloaded to USB flash disk/HDD.

2.8 Help

Click **Help** to view **Open Source Software Licenses**.

Chapter 3 Web Client Operation Instructions

3.1 Alarm Record Display

The alarm display interface will pop up prompt according to the missing configuration, and you can click to go to the corresponding interface.

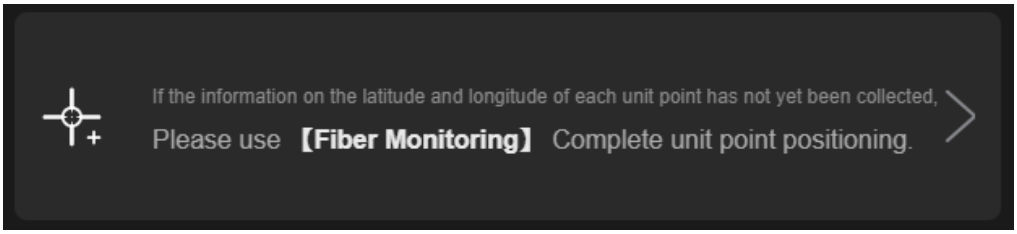


Figure 3-1 Fiber Monitoring Prompt

Go to ***3.4.2 Fiber Monitoring*** to set parameters when you see the prompt above.

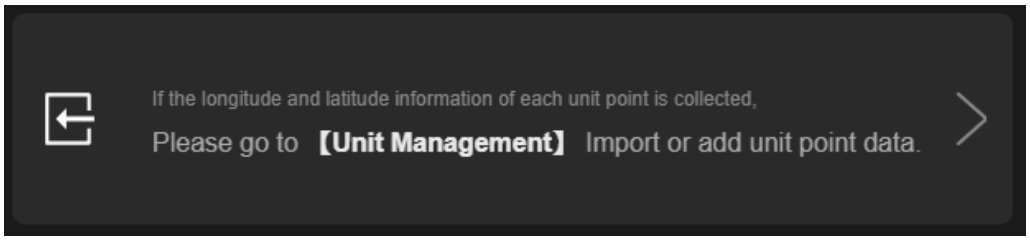


Figure 3-2 Unit Management Prompt

Go to ***Sensitivity Preset*** to set sensitivity and ***Unit Management*** to set unit when you see the prompt above.

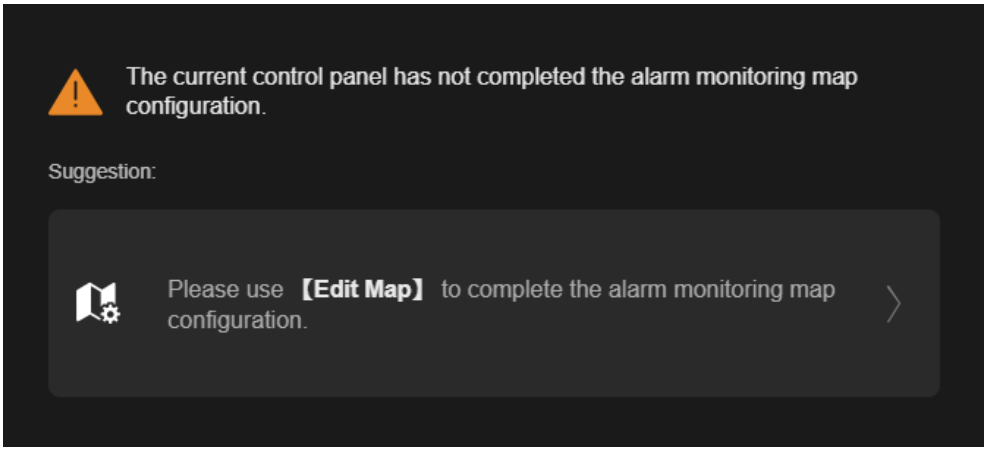


Figure 3-3 Edit Map Prompt

Go to ***3.1.1 Map Configuration*** to finish map configuration when you see the prompt above..

3.1.1 Map Configuration

Steps

1. The pop-up window will be displayed when you enter the display screen for the first time. Click the pop-up window.

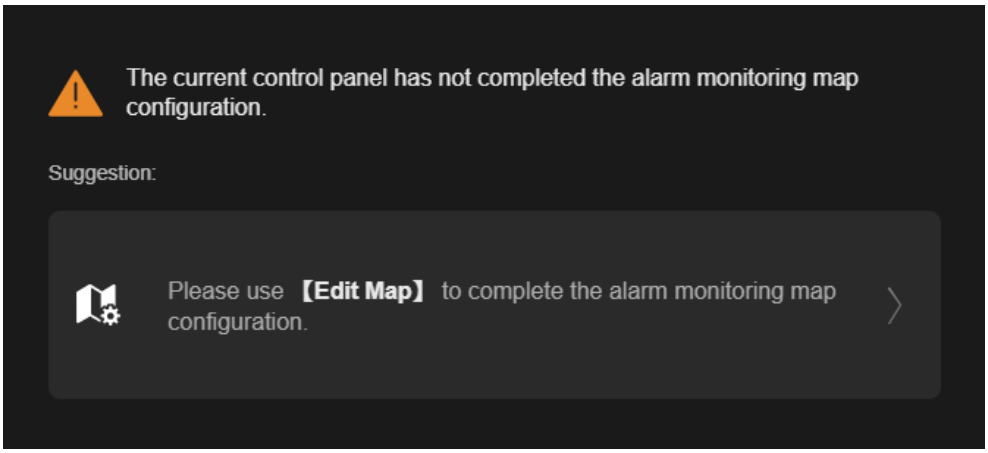


Figure 3-4 Edit Map Prompt

Otherwise, click Edit Map on the upper right, and click **Import Map Again**.

2. Import map according to pop-up prompt and wait for the map to load.

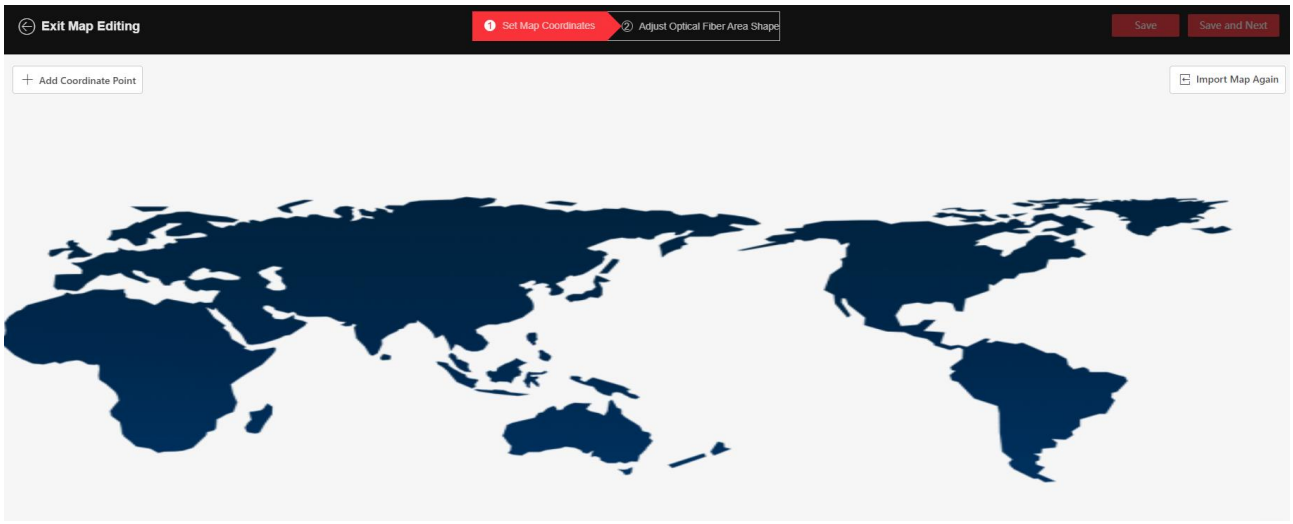


Figure 3-5 Map Imported

3. Click **+ Add Axis Point**, and then left click to generate the axiss of the map. You can enter longitude, latitude, and altitude. If the information filled is incorrect, click to delete the axis point.

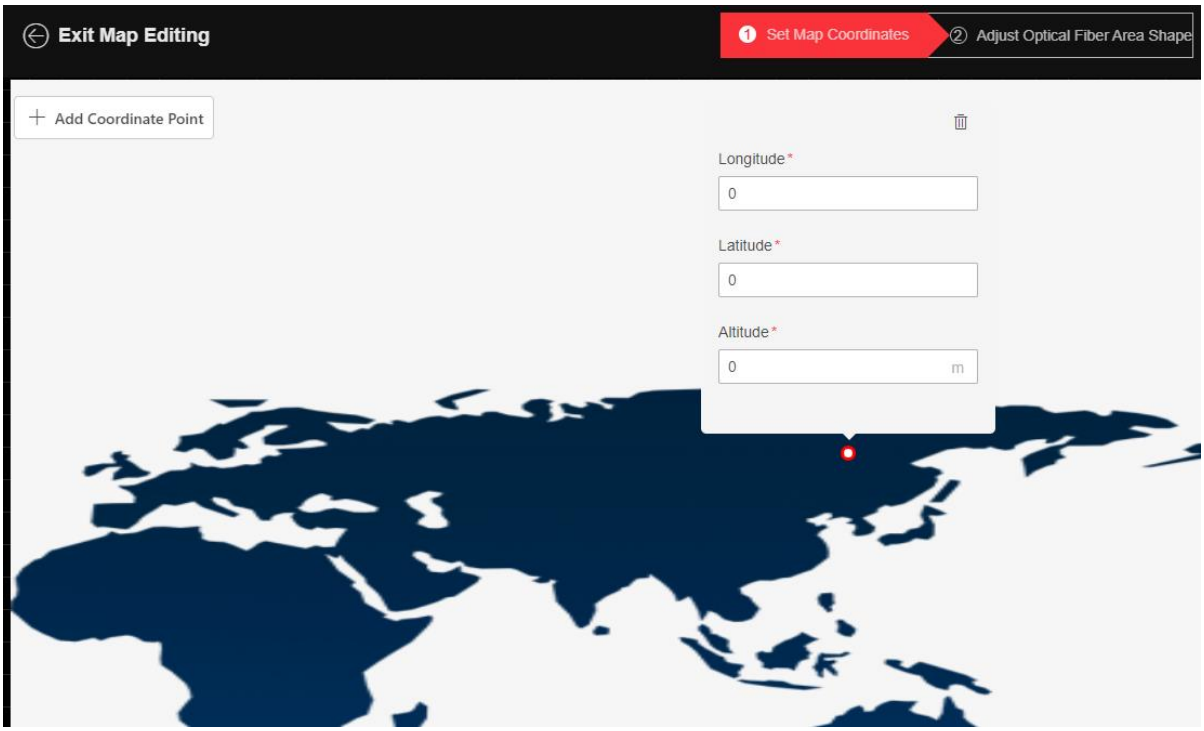


Figure 3-6 Add Axis Point

4. Click **+ Add Axis Point** again. Repeat the previous step to generate the second point. Only two axis points can be added.

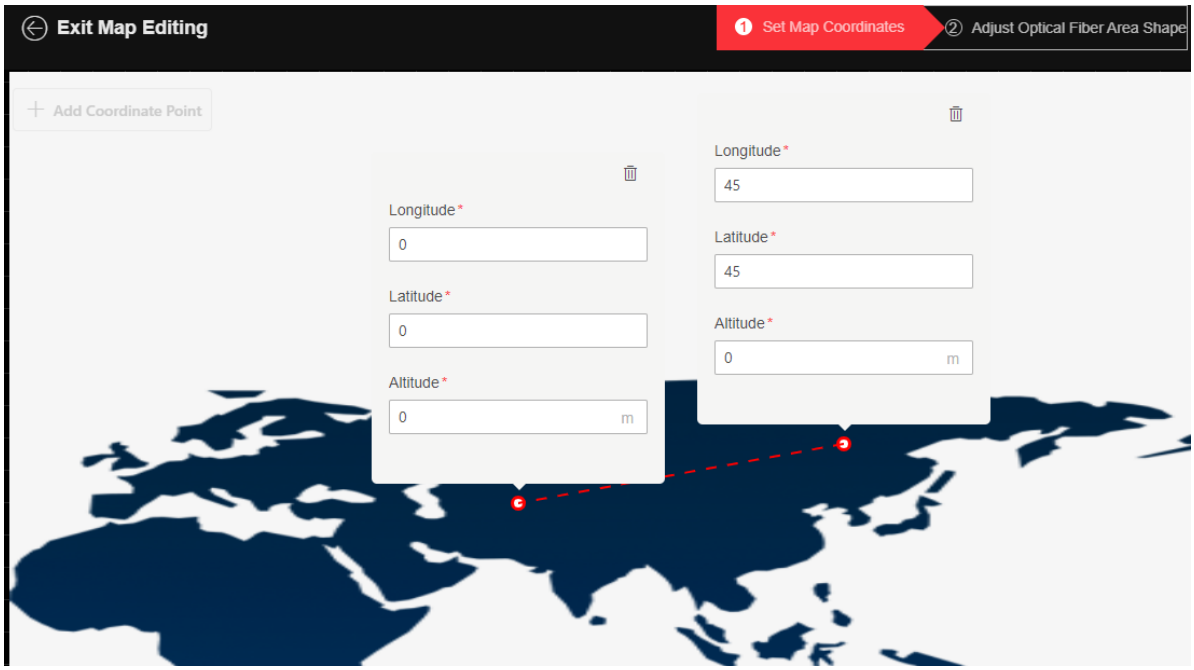


Figure 3-7 Add Second Axis Point

5. Click **Save and Next**.
6. Enter the fiber shape adjustment interface. Number of units is set in the Unit Management.

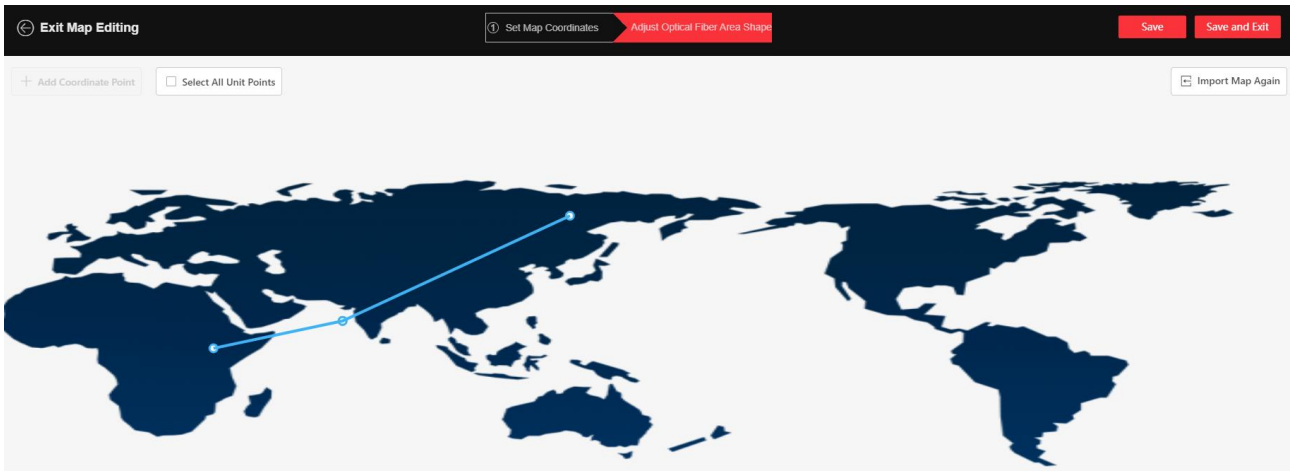


Figure 3-8 Adjust Fiber Shape

7. Drag the end point to adjust the fiber shape. Check **Select All Unit Points** to drag all the points together.
8. Click **Save and Exit**.

3.1.2 Function

Fiber Monitoring

The upper-left page is displayed with fiber monitoring.
The dual-channel device can switch between channel 1 and channel 2.

Power Spectrum

Display the power statistics of each unit.
As shown in the figure below, the lower-level segment on the left indicates that the signals of unit 1 to 500 are normal, and the bottom noise on the right indicates that units above 500 have no signals.

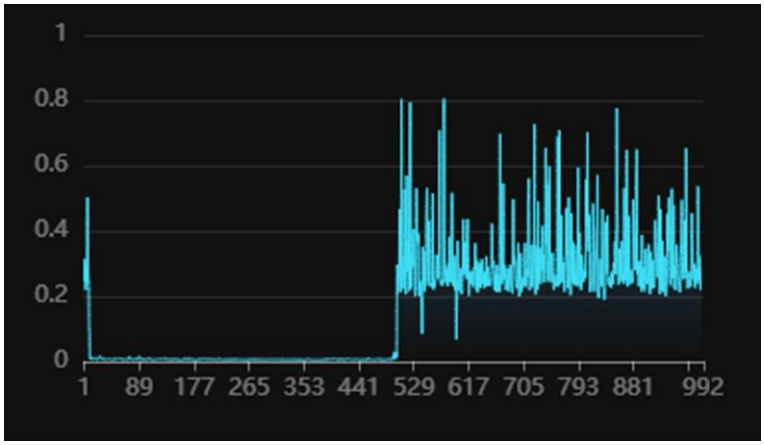


Figure 3-9 Power Spectrum

When there is vibration, the left part will fluctuate.

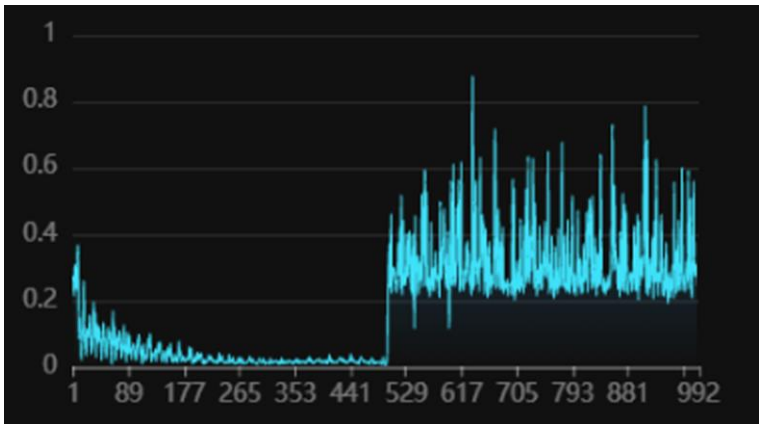


Figure 3-10 Power Spectrum (With Vibration)

Amplitude Curve

It is mainly used to check signal strength and whether the fiber is broken.

Under normal circumstances, it is fluctuating curve. If the fiber is broken, there is no curve. As shown in the following figure, the signals of unit 1 to 230 are normal (the vertical axiss can be regarded as signal strength). Units above 230 have no signals.

You can see the broken unit through the amplitude curve.

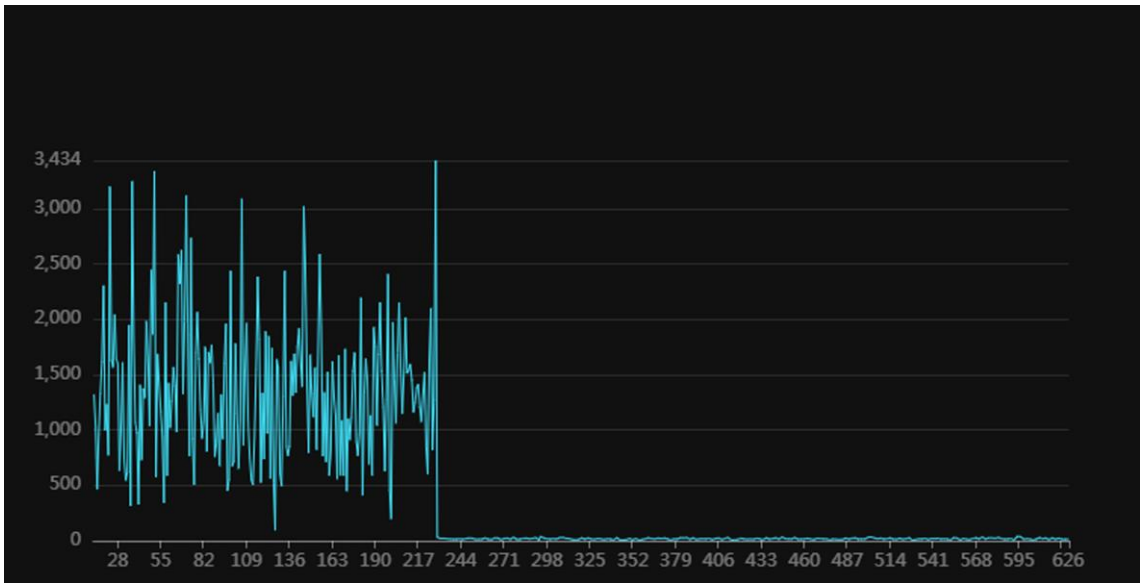


Figure 3-11 Amplitude Curve

Alarm Statistics

The lower-left page shows alarm data.

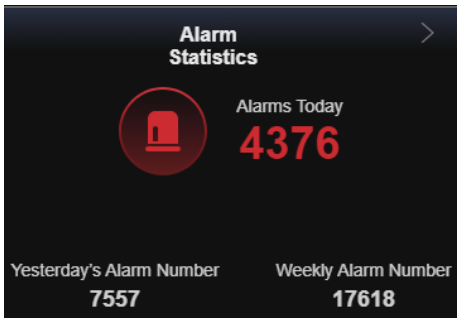


Figure 3-12 Alarm Statistics

Alarm List

The screen on the right shows the alarm. You can select the handled alarms and unhandled alarms.

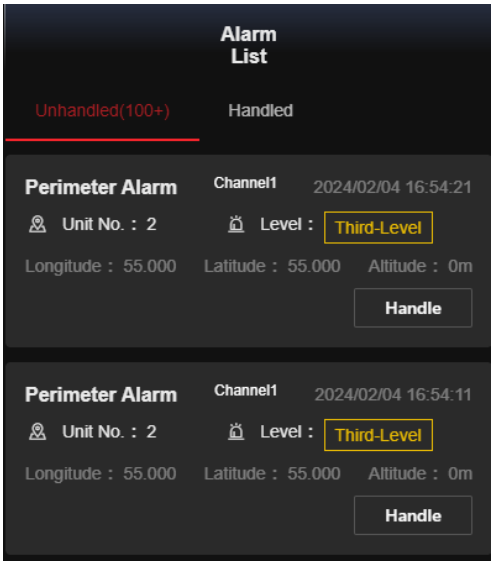


Figure 3-13 Alarm List

Click *Handle* to view alarm type, time, unit No., and alarm level in pop-up window. Please select true or false alarm in handle method.

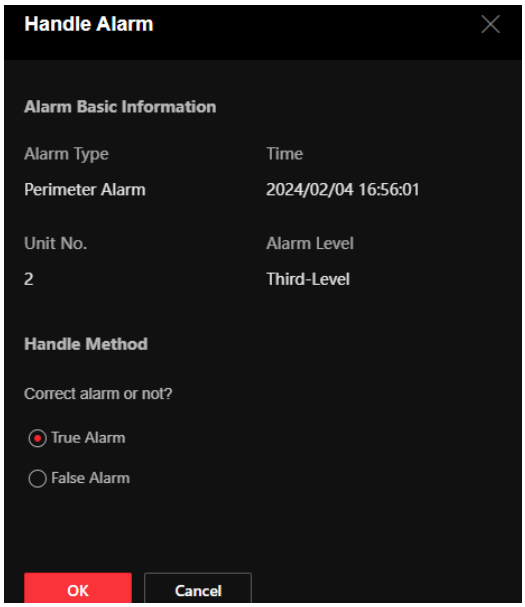


Figure 3-14 Alarm Basic Information

Click **More Unhandled Alarms** to go to the historical alarm record page.

Note

Smart algorithm and alarm handling are two parallel mechanisms. Whether the alarm confidence is 1 or 0, you should handle the alarm manually and set it as true or false.

Alarm Type

Perimeter Alarm

The fiber is vibrating. Check if there are people crossing.
The preset sensitivity is divided into first to third level. Unit No. refers to the alarm triggering location.

Fiber Cut Alarm

The fiber is broken and has no signal. The default alarm level is first-level. The unit No. is the position of the fiber cut closest to the start of the fiber.

3.2 Alarm Record

Click **Alarm Record** in the list on the left to enter the interface.
You can view alarm data.

3.2.1 Alarm Statistics

Go to **Alarm Record → Alarm Statistics** to enter the interface.

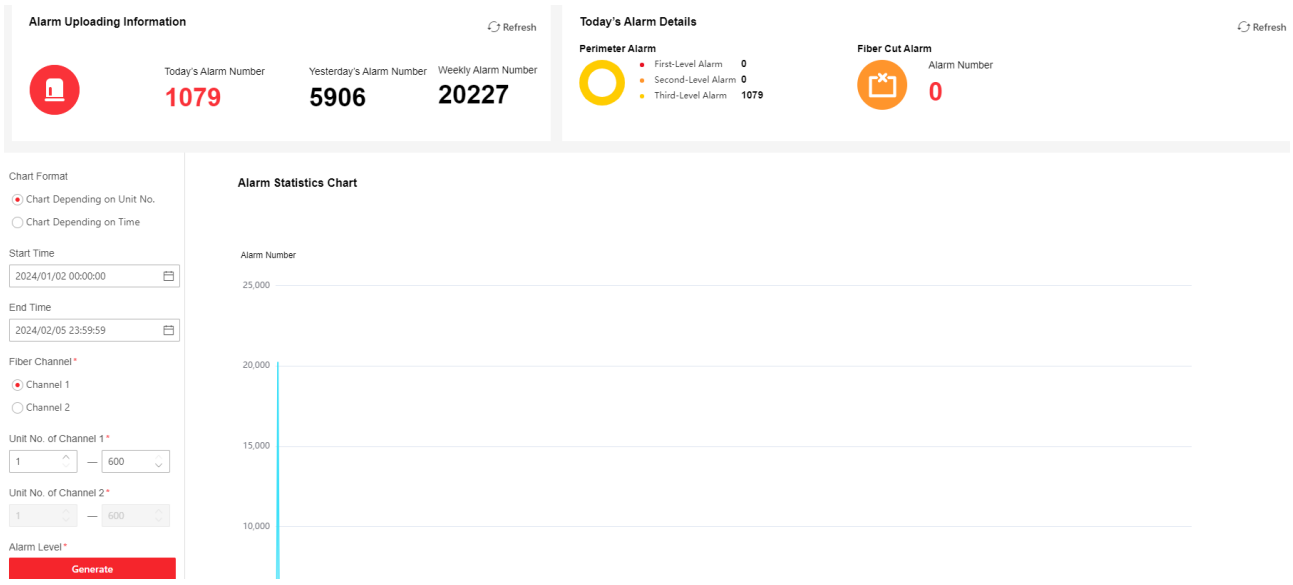


Figure 3-15 Alarm Statistics

Alarm uploading information and today's alarm details are displayed in the upper side of the interface. Set the filter conditions on the left, click **Generate** to generate the alarm statistics chart on the right.

Note

Hover the cursor over the alarm statistics chart. Slide the roller to zoom in or out the statistics chart.

Chart Depending on Unit No.

In the statistics chart, the vertical axis is the alarm number, and the horizontal axis is the unit No. The number of alarms in each unit that meet the selected condition in start time and end time will be displayed.

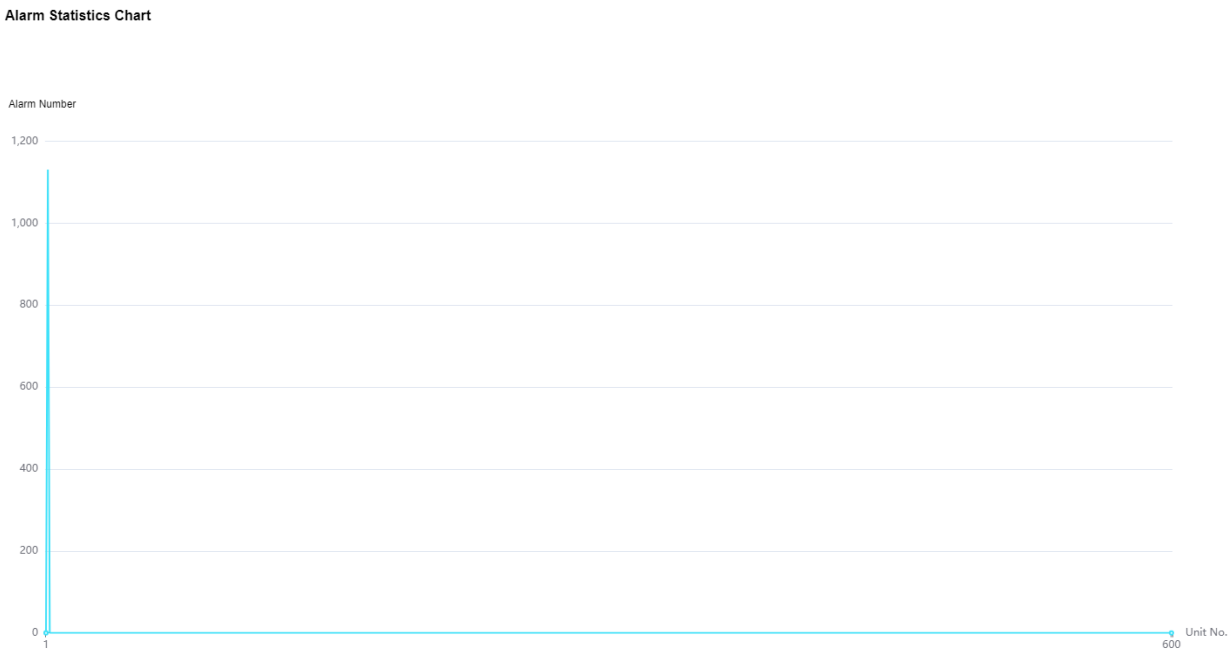


Figure 3-16 Chart Depending on Unit No.

Chart Depending on Time

In the statistics chart, the vertical axis is the alarm number, and the horizontal axis is the time. The number of alarms that meet the selected condition will be displayed by time.

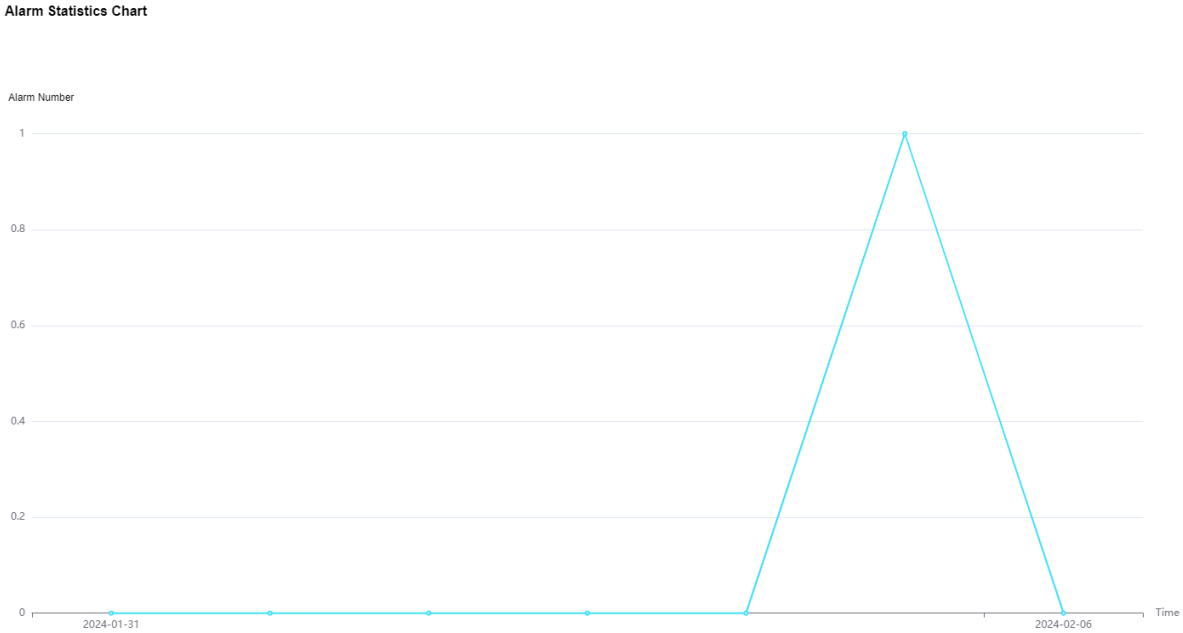


Figure 3-17 Chart Depending on Time

Alarm Confidence

After enabling smart algorithm in unit management, the system will automatically judge if the alarm is true or false. Validity1 indicates that the alarm event is more likely to be true. Validity0 indicates that the alarm event is more likely to be false.

3.2.2 Historical Alarm Record

Go to **Alarm Record → Historical Alarm Record** to enter the interface.

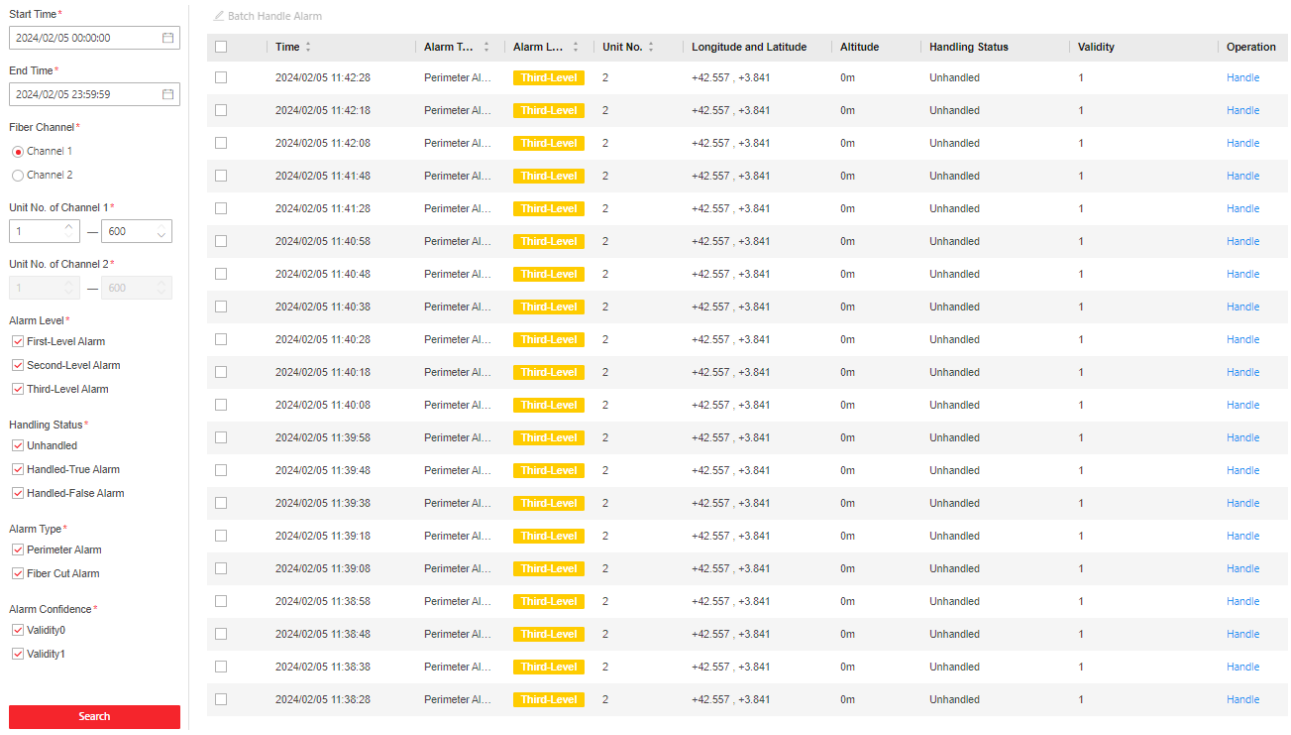


Figure 3-18 Historical Alarm Record

Set the filter conditions on the left, and click **Search** to search historical alarm records.
You can handle unhandled alarms here. Select true or false alarm.

Alarm Confidence

After enabling smart algorithm in unit management, the system will automatically judge if the alarm is true or false. Validity1 indicates that the alarm event is more likely to be true. Validity0 indicates that the alarm event is more likely to be false.

Note

Smart algorithm and alarm handling are two parallel mechanisms. Whether the alarm confidence is 1 or 0, you should handle the alarm manually and set it as true or false.

3.3 Configuration

3.3.1 System

Basic Information

You can view device information, such as Model, Serial No. and Version.

Enter **Configuration → System → System Settings → Basic Information** to view the device information, and you

can edit device name.

Time Settings

Synchronize Time Manually

Steps

1. Go to **Configuration** → **System** → **System Settings** → **Time Settings**.
2. Select **Time Zone**.
3. Click **Manual**.
4. Choose one time synchronization method.
   - Select **Set Time**, and manually input or select date and time from the pop-up calendar.
   - Check **Sync With Computer Time** to synchronize the time of the device with that of the local PC.
5. Click **Save**.

Set NTP Server

You can use NTP server when accurate and reliable time source is required.

Before You Start

Set up a NTP server or obtain NTP server information.

Steps

1. Go to **Configuration** → **System** → **System Settings** → **Time Settings**.
2. Select **Time Zone**.
3. Click **NTP**.
4. Set **Server Address**, **NTP Port** and **Interval**.

Note

Server Address is NTP server IP address.

5. Click **Test** to test server connection.
6. Click **Save**.

Set DST

If the region where the device is located adopts Daylight Saving Time (DST), you can set this function.

Steps

1. Go to **Configuration** → **System** → **System Settings** → **DST**.
2. Check to enable **DST**.
3. Select **Start Time**, **End Time** and **DST Bias**.
4. Click **Save**.

User Management

Add Users

Caution

To increase security of using the device on the network, please change the password of your account regularly. Changing the password every 3 months is recommended. If the device is used in high-risk environment, it is recommended that the password should be changed every month or week.

Steps

1. Go to **Configuration** → **System** → **User Management** → **User Management**.
2. Click +**Add**. Enter **User Name**, select **User Role**, and enter **Password** and **Confirm Password**. Assign remote permission to users based on needs.

   Administrator

   The administrator has the authority to all operations and can add installers and operators and assign permission.

   Installer

   The administrator can select whether to enable the installer, and whether to grant the installer permission to configure the parameters.
   The default password of the Installer is setter12345. Please change password after initial login.

   Operator

   The administrator can select whether to grant the operator permission to configure the parameters.
3. Click **Save**.

Edit Users

Steps

1. Go to **Configuration** → **System** → **User Management** → **User Management**.
2. Click . Edit the information as your needs.
3. Click **Save**.

Delete User

- Click to delete a single user.
- Select the user in the list. Click Delete to delete the user in a batch.

Note

The administrator and Installer cannot be deleted.

Online Users

Go to **Configuration** → **System** → **User Management** → **Online Users** to view the list of online users.

3.3.2 Network

Network Settings

TCP/IP settings must be properly configured before you operate the device over network.

Steps

1. Go to **Configuration** → **Network** → **Basic Settings** → **TCP/IP**.
2. Select **Network ID**.
3. Enable **DHCP**, or manually input IPv4 parameters.

   DHCP

   The device automatically gets the IPv4 parameters from the network if you check **DHCP**. The device IP address is changed after enabling the function. You can use SADP to get the device IP address.
4. Click **Save**.

Network Service

The device port can be modified when the device cannot access the network due to port conflicts. For debuggers only.

Go to **Configuration** → **Network** → **Network Service** to enter the interface.

Device Access

The device can be accessed to the maintenance platform via OTAP protocol, in order to search and acquire device information, upload device status and alarm information, reboot and update the device.

Steps

1. Go to **Configuration** → **Network** →**Device Access** → **OTAP** to enable the function
2. Set related parameters.
3. Click **Test** to check if the device connects to server.
4. Click **Save**.

Result

Register Status turns to **Online** when the function is correctly set.

3.3.3 Storage Settings

Note

Only certain models support the function.

Go to **Configuration** → **Storage** → **Storage Management** → **HDD Management**.

You can view the HDD capacity and status.

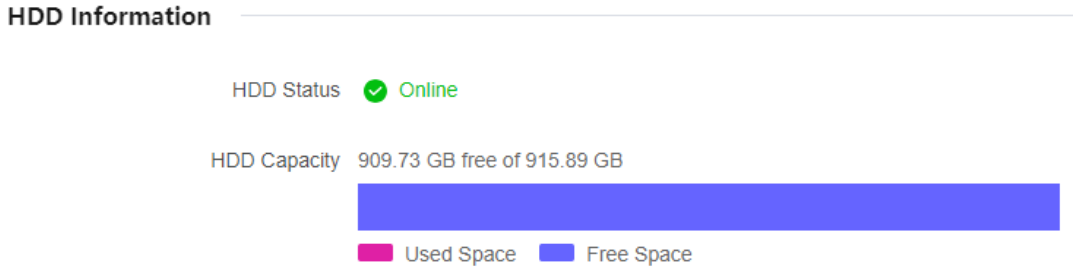


Figure 3-19 HDD Information

3.3.4 Optical Fiber Monitoring Settings

Unit Management

Go to **Configuration → Optical Fiber Monitoring Settings → Optical Fiber Unit → Unit Management** to enter the interface.

You can configure the fiber unit. Each unit should be 10 meters.

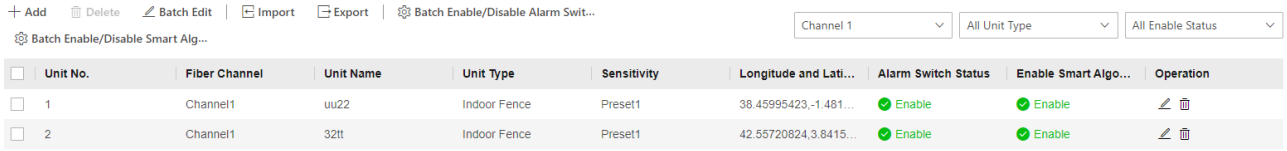


Figure 3-20 Unit Management

Filter Display Unit

Set the condition bar on the right to select the unit to be displayed in the list.

Figure 3-21 Unit Condition

Single Add/Edit Unit

- Click **+ Add**, enter unit parameters in the pop-up window on the right, and click **Save** to add unit.
- Click ✎ to enter unit parameter in the pop-up window on the right, and click **Save** to edit the unit.

Add Unit No.

Max. number of units varies with device models
Unit No. in each channel is unique.

Unit Name

It can be duplicated.

Sensitivity

Only preset sensitivity can be selected. You can configure sensitivity in ***Sensitivity Preset*** in advance.

Longitude and Latitude

Enter the latitude and longitude of the unit.

Enable Alarm Switch

After enabling, the unit will alarm according to the triggering type.

Enable Smart Algorithm

After enabling, the system judges alarm confidence according to smart algorithm. The system will automatically judge if the alarm is true or false. 1 means that the alarm event is likely to be true. 0 means that the alarm event is likely to be false. If the smart algorithm is disabled, the confidence level of the alarm will be 0 by default.

Batch Add Unit/Import&Export Unit Data

1. Click **Import**.
2. Click **Download Template** in the pop-up window. Enter relevant parameters according to template.

Note

- The batch import will clear all the original unit information. Please operate with care.
- The imported form template is English.

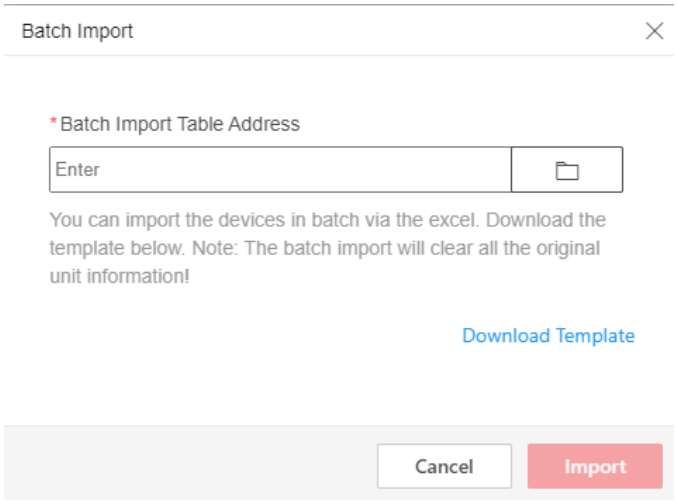


Figure 3-22 Batch Import

3. Click **Import**.
4. Select the completed template.
5. **Optional Operation:** Click **Export** to export the unit parameters. Only all unit parameters can be exported.

Batch Edit Unit

1. Select the unit in the list.
2. Click **Batch Edit**.
3. Edit the parameters to be edited in the pop-up window.
   You can batch edit unit name, unit type, and sensitivity. You can also enable or disable alarm switches and smart algorithms in a batch.
4. Click **Save**.

Batch Edit Alarm Switch

Select the unit in the list. Click **Bath Enable/Disable Alarm Switches**. Select **Bath Enable the Above Units** or **Bath Disable the Above Units** in a pop-up window. Click **Save**.

Delete Unit

- Click to delete the unit.
- Select the units, click Delete , and delete them in a batch.

Sensitivity Preset

Go to **Configuration → Fiber Monitoring Configuration → Optical Fiber Unit → Sensitivity Preset** to enter the interface.

Click to edit and save the parameters in the pop-up window.

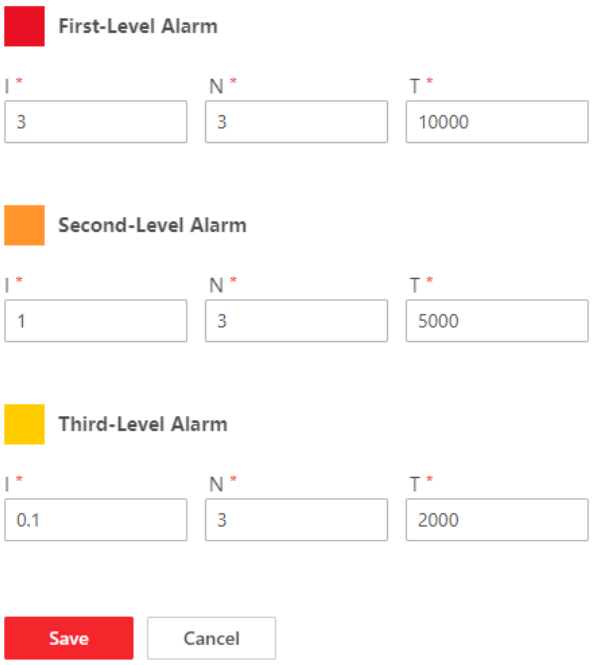


Figure 3-23 Edit Sensitivity

I stands for intensity. N stands for number of times. T stands for duration (ms).

Recommended Sensitivity: Third-Level Alarm: I0.2/N10/T2000, Second-Level Alarm: I1/N30/T5000, First-Level Alarm: I3/N50/T10000.

Alarm Intensity: First-Level Alarm Intensity > Second -Level Alarm Intensity > Third -Level Alarm Intensity.

Optical Fiber Basic Information

Go to **Configuration → Optical Fiber Monitoring Settings → Optical Fiber Unit →Optical Fiber Basic Information** to enter the interface.

Select **Channel**, and enter the usage length and laying length. The system will read the actual length automatically.

Note

Only certain models support setting laying length.

The actual length depends on the fiber cut position.

Photoelectric Parameters Settings

Note

Only certain models support the function.

Go to **Configuration → Optical Fiber Monitoring Settings → Photoelectric Parameters** to enter the interface. You can view FBG parameters, pumping parameters and photoelectric parameters and set **VOA(Attenuator)**.

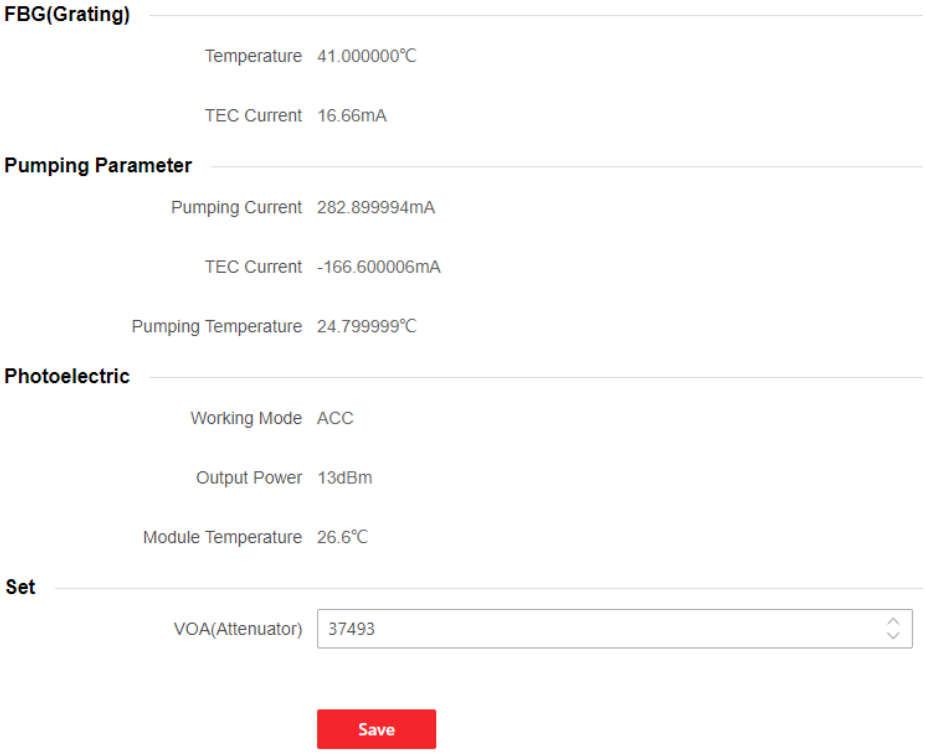


Figure 3-24 Photoelectric Parameters

Processor Settings

Note

Only certain models support the function.

Go to **Configuration → Optical Fiber Monitoring Settings → Processor** to enter the interface.

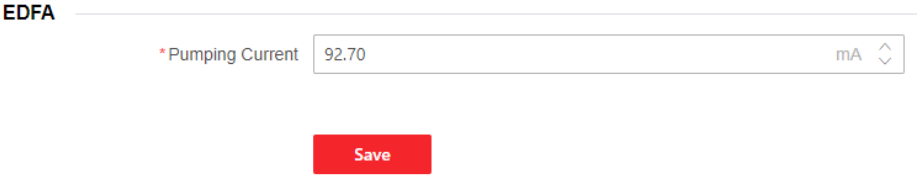


Figure 3-25 Processor Settings

EDFA is a optical fiber amplifier used to amplify the power of the optical fiber.

Pumping Current

The higher the current value, the higher the power of the optical fiber.

Acquisition Card Settings

Go to **Configuration → Optical Fiber Monitoring Settings → Acquisition Card** to enter the interface.
You can view data collection parameters and pulse modulation parameters.

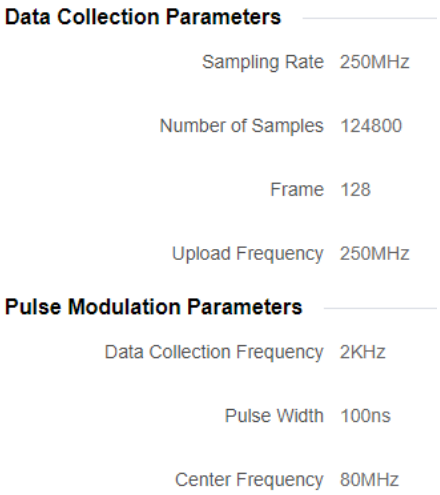


Figure 3-26 Processor Settings

3.3.5 Upload Event Report

Go to **Configuration → Upload Event Report** to enter the interface.
Set **Alarm Confidence** and **Alarm Uploading Priority**.

Alarm Confidence

After enabling smart algorithm in unit management, the system will automatically judge if the alarm is true or false. 1 indicates that the alarm event is likely to be true. 0 indicates that the alarm event is likely to be false.

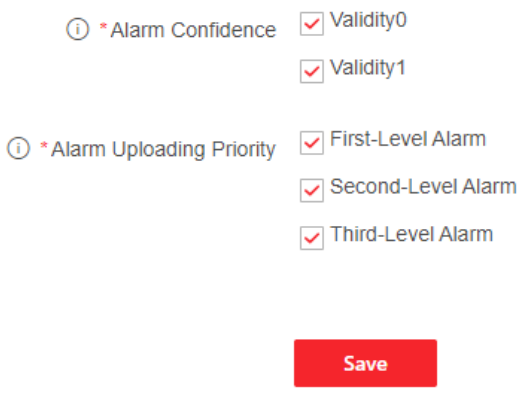


Figure 3-27 Upload Event Report

3.4 Maintenance and Security

Go to **Maintenance and Security** to enter the interface.

You can view device status, fiber monitoring, log, etc. Reboot or debug the device.

3.4.1 Device Status

Go to **Maintenance and Security → Maintenance → Device Status** to enter the interface.
View device status, device network status, device temperature, acquisition card status, etc. Click **Configure** to enter configuration interface.

Note

The interface varies with models.

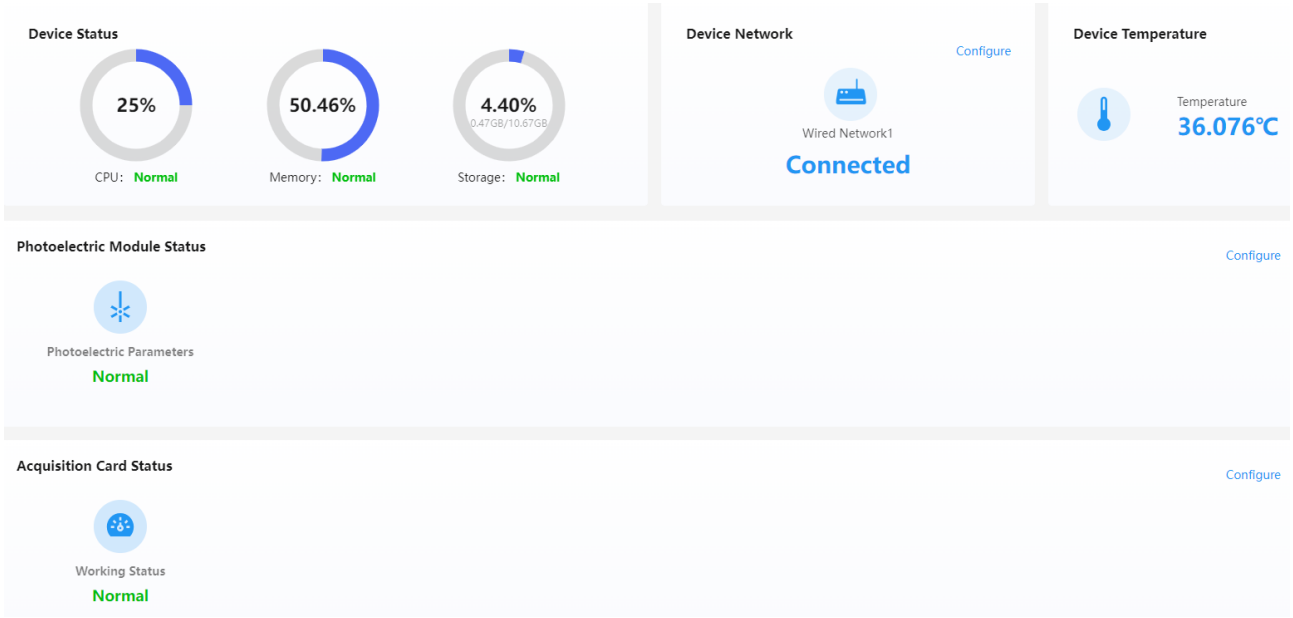


Figure 3-28 Device Status

3.4.2 Fiber Monitoring

Go to **Maintenance and Security → Maintenance → Fiber Monitoring** to enter the interface.
Hover the cursor over the chart to zoom in or out. Hold the left mouse button to drag the chart.
Dual-Channel device can switch channel to view the chart of different channels. Click to display the chart in full screen.

Note

The interface varies with models.

Power Spectrum

Display the power statistics of each unit.

As shown in the figure below, the lower-level segment on the left indicates that the signals of unit 1 to 500 are normal, and the bottom noise on the right indicates that units above 500 have no signal.

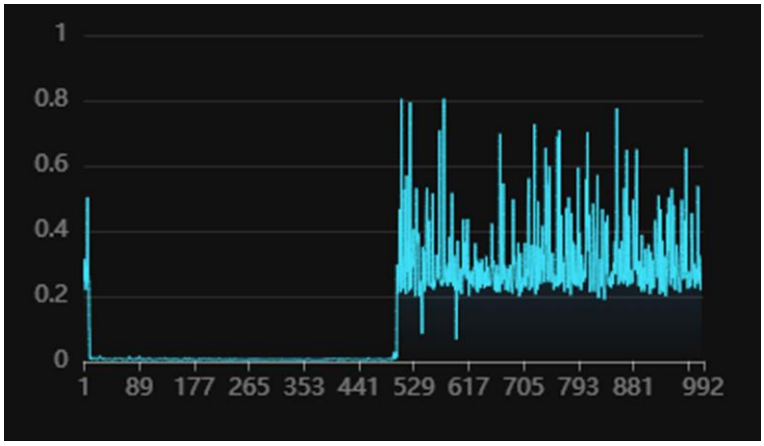


Figure 3-29 Power Spectrum

When there is vibration, the left part will fluctuate.

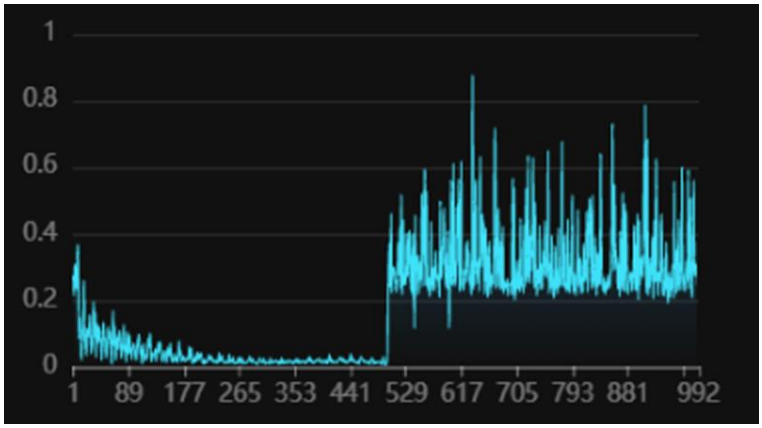


Figure 3-30 Power Spectrum (With Vibration)

Waterfall Plot

The vertical axis is the time, and the horizontal axis is the unit. It shows vibration ranges in past time with two-dimensional figure.

As shown in the figure below, the unit 1 to 500 on the left have signals and the signals are normal, and the bottom noise on the right indicates that units above 500 have no signals.

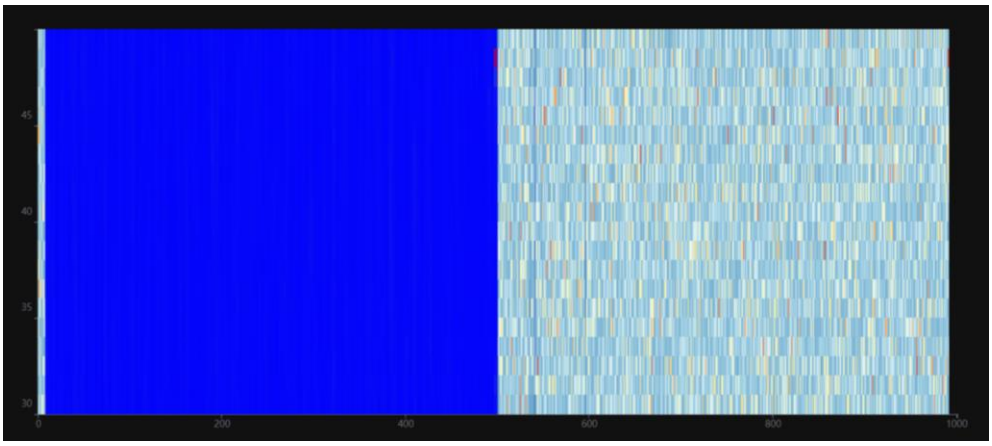


Figure 3-31 Waterfall Plot

When there is vibration, a white vibration band will be displayed.

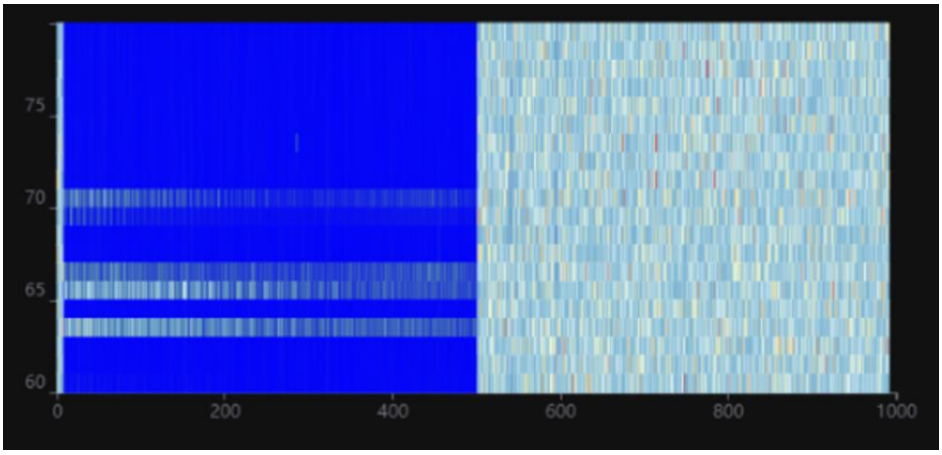


Figure 3-32 Waterfall Plot (With Vibration)

Amplitude Curve

It is mainly used to check signal strength and whether the fiber is broken.

Under normal circumstances, it is fluctuating curve. If the fiber is broken, there is no curve. As shown in the following figure, the signals of unit 1 to 230 are normal (the vertical axiss can be regarded as signal strength). Units above 230 have no signals.

You can see the broken unit through the amplitude curve.

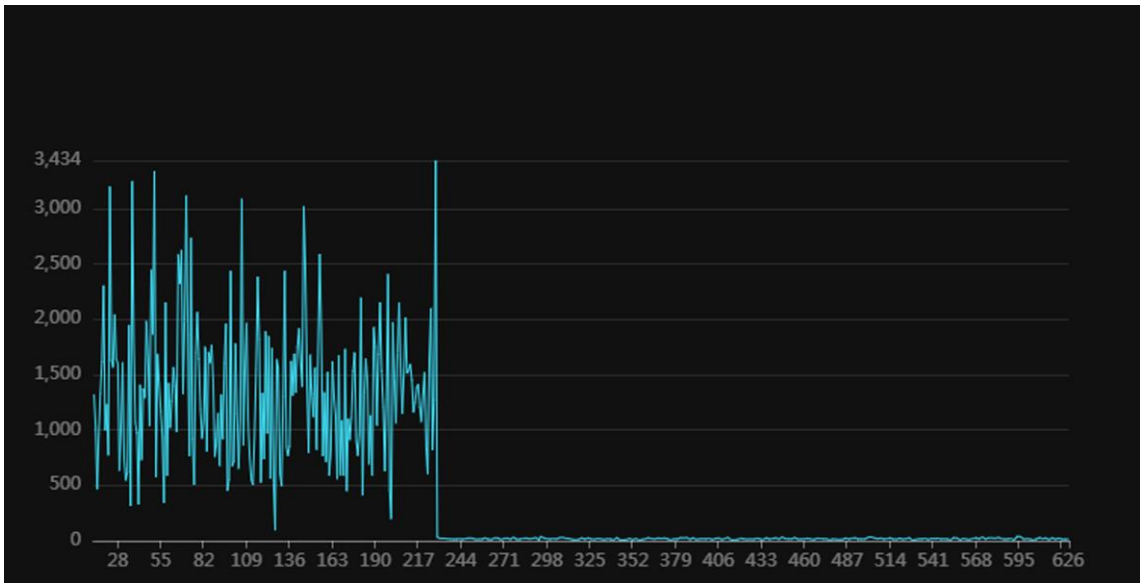


Figure 3-33 Amplitude Curve

Current Alarm

Display current alarm event and alarm unit.

Alarm Time	Alarm Unit Point
2024-02-06 13:04:56	2
2024-02-06 13:05:06	2
2024-02-06 13:05:16	2
2024-02-06 13:05:46	2
2024-02-06 13:05:56	2
2024-02-06 13:06:06	2

ⓘ If the unit point coordinates have been recorded, please go to the optical fiber unit management page to edit the unit point information.Go To Fiber Unit Managemen...

Figure 3-34 Current Alarm

3.4.3 Restart

Go to **Maintenance and Security → Maintenance → Restart** to enter the interface.
You can restart the device manually.

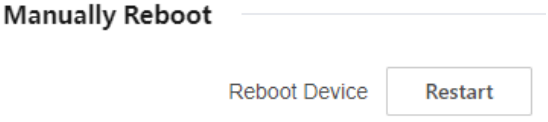


Figure 3-35 Restart

3.4.4 Upgrade

Go to **Maintenance and Security → Maintenance → Upgrade** to enter the interface.
You can view the current version, select the upgrade module and upgrade files to upgrade.

Figure 3-36 Upload

3.4.5 Backup and Reset

Go to **Maintenance and Security → Maintenance → Backup and Reset** to enter the interface.

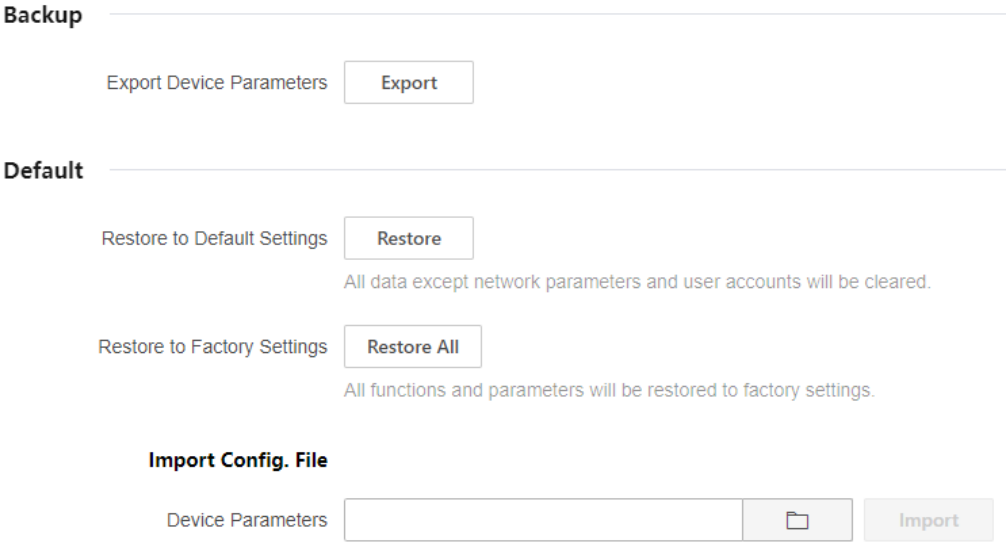


Figure 3-37 Backup and Reset

Export Device Parameters

Click **Export** to export configuration file. The configuration file contains parameter information of the device.

Restore to Default Settings

Click **Restore**, all data except network parameters and user accounts will be cleared.

Restore to Factory Settings

Click **Restore All**, all functions and parameters will be restored to factory settings.

Import Config. File

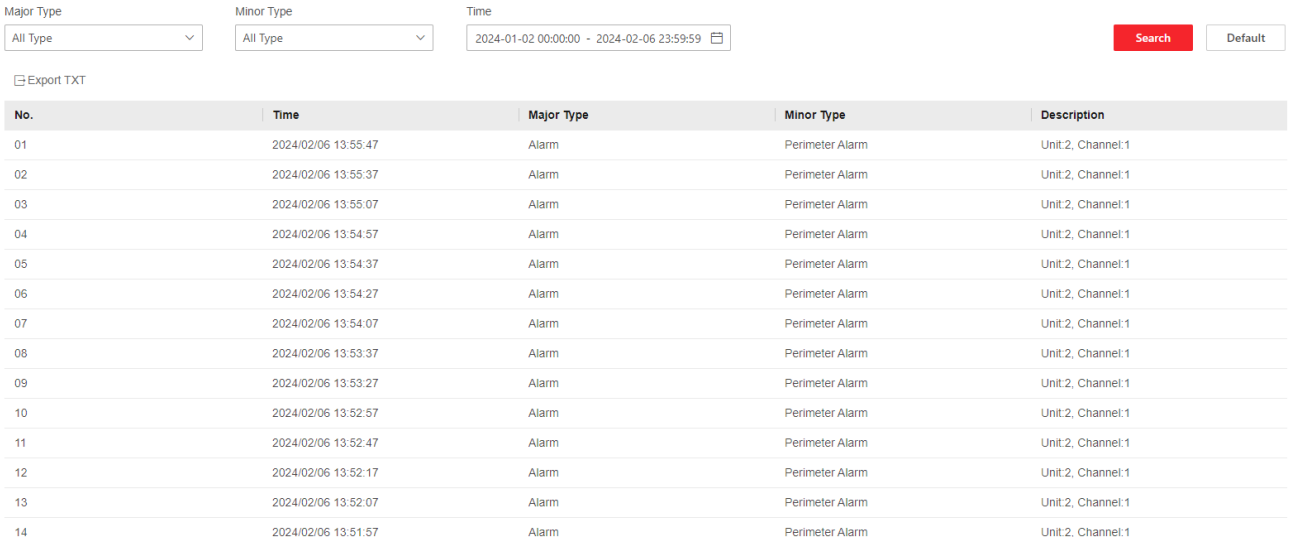
Select the file address and click **Import** to import the configuration file from the local computer to the device.

3.4.6 Search and Manage Log

Log helps locate and troubleshoot problems.

Steps

1. Go to **Maintenance and Security → Maintenance → Log.**
2. Set search conditions, **Major Type**, **Minor Type**, **Start Time**, and **End Time**.
3. Click **Search**.
   The matched log files will be displayed on the log list.
4. Optional Operation: Click **Export** to save the log files in your computer.



No.	Time	Major Type	Minor Type	Description
01	2024/02/06 13:55:47	Alarm	Perimeter Alarm	Unit:2, Channel:1
02	2024/02/06 13:55:37	Alarm	Perimeter Alarm	Unit:2, Channel:1
03	2024/02/06 13:55:07	Alarm	Perimeter Alarm	Unit:2, Channel:1
04	2024/02/06 13:54:57	Alarm	Perimeter Alarm	Unit:2, Channel:1
05	2024/02/06 13:54:37	Alarm	Perimeter Alarm	Unit:2, Channel:1
06	2024/02/06 13:54:27	Alarm	Perimeter Alarm	Unit:2, Channel:1
07	2024/02/06 13:54:07	Alarm	Perimeter Alarm	Unit:2, Channel:1
08	2024/02/06 13:53:37	Alarm	Perimeter Alarm	Unit:2, Channel:1
09	2024/02/06 13:53:27	Alarm	Perimeter Alarm	Unit:2, Channel:1
10	2024/02/06 13:52:57	Alarm	Perimeter Alarm	Unit:2, Channel:1
11	2024/02/06 13:52:47	Alarm	Perimeter Alarm	Unit:2, Channel:1
12	2024/02/06 13:52:17	Alarm	Perimeter Alarm	Unit:2, Channel:1
13	2024/02/06 13:52:07	Alarm	Perimeter Alarm	Unit:2, Channel:1
14	2024/02/06 13:51:57	Alarm	Perimeter Alarm	Unit:2, Channel:1

Figure 3-38 Log

3.4.7 Security Audit Log

Go to **Maintenance and Security → Maintenance → Security Audit Log** to enter the interface.
Enable **Enable Log Upload Server**, input **Log Server IP Address** and **Log Server Port**, and click **Save**.

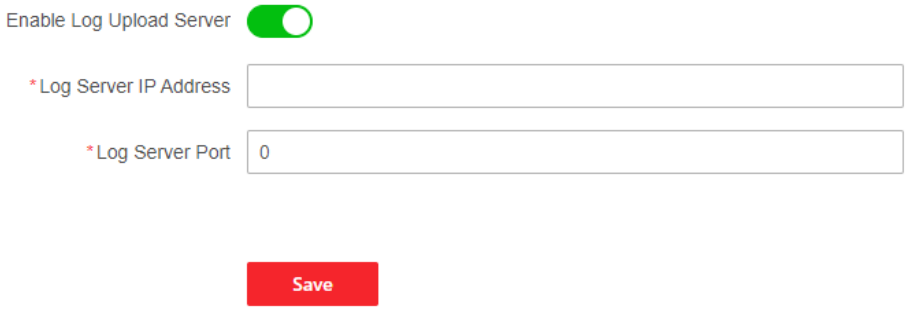


Figure 3-39 Security Audit Log

3.4.8 Device Debugging

Go to **Maintenance and Security → Maintenance → Device Debugging** to enter the interface.
You can enable SSH for debugging. It is recommended to disable SSH during daily use.

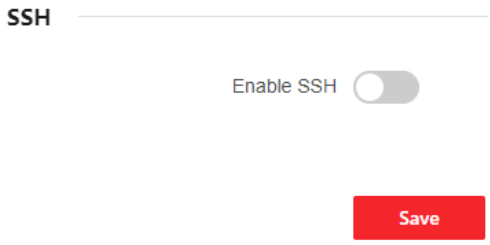


Figure 3-40 Device Debugging

3.4.9 Login Management

It helps to improve the security when accessing the device via Internet.

Steps

1. Go to **Maintenance and Security → Security → Login Management** to enter the interface.
2. Enable **Illegal Login Lock**.
3. Set parameters.

Number of Error Attempts

When your login attempts with the wrong password reach the set times, the device is locked.

Lock Duration

The device releases the lock after the setting duration.

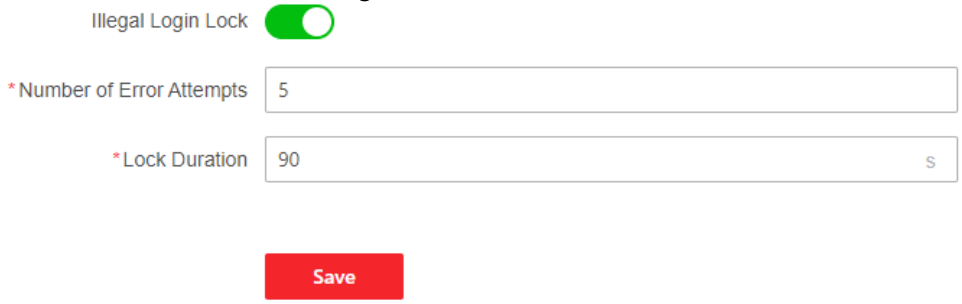


Figure 3-41 Illegal Login Lock

4. Click **Save**.
5. Optional Operation: The user can be unlocked through the following operations.
   - Click 🔓 to unlock the locked user in the list.
   - Click 🔓 **Unlock All** to unlock all locked users.


See Far, Go Further