



Wireless Bridge (Web)

User Manual

Legal Information

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FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: 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.

FCC Conditions

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: <http://www.recyclethis.info>.



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: <http://www.recyclethis.info>.

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Preface

Applicable Models

This manual is applicable to the wireless bridge for web operation.

Symbol Conventions

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 Instructions

Danger

- This is a class A product and may cause radio interference in which case the user may be required to take adequate measures.
- No naked flame sources, such as lighted candles, should be placed on the equipment.
- The serial port of the equipment is used for debugging only.
- Install the equipment according to the instructions in this manual.
- To prevent injury, this equipment must be securely attached to the floor/wall in accordance with the installation instructions.
- Keep vertical downward when moving or using the equipment.

Caution

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

- Do not connect several devices to one power adapter as adapter overload may cause overheating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.

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Chapter 1 Introduction

You can manage and configure the device through the web browser, including network settings, wireless network settings, and system management.



Note

Functions of the wireless bridges vary with models. Pictures used for illustration here are for example purposes. The actual interface prevails.

Chapter 2 Activation and Login

2.1 Activate the Device

For the security of your privacy and system data, you are required to set a password for your first use. After the password is set, you can log in to the web for further configuration.

Before You Start

Ensure that your PC and the device are on the same network segment.

Steps

1. Run the web browser.
 2. Enter the IP address of the device in the address bar, and press **Enter**.
 3. Set your password and confirm.
-



Caution

The password strength of the device can be automatically checked. We highly recommend you change the password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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 change your password regularly, especially in the high security system. Changing the password monthly or weekly can better protect your product.

Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

4. Select the desired **Country/Region Code** and confirm.
-



Note

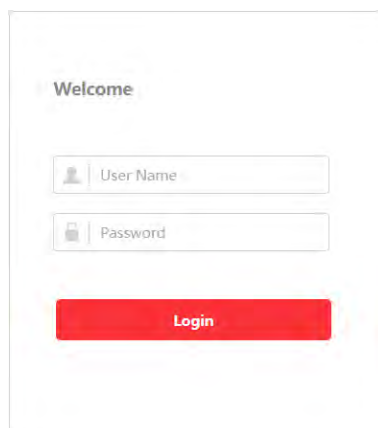
Only when **Country/Region Code** is set, can the device work normally.

2.2 Log in to the Device

Log in to the device to check device information and configure related parameters.

Steps

1. Enter the IP address in the address bar of the web browser, and press **Enter**.

A screenshot of a web login interface. At the top, the word "Welcome" is displayed. Below it are two input fields: the first is labeled "User Name" with a person icon, and the second is labeled "Password" with a lock icon. At the bottom of the form is a prominent red button labeled "Login".

Welcome

User Name

Password

Login

Figure 2-1 Log In

2. Enter the user name and password.
3. Click **Login**.

Chapter 3 Network Configuration

3.1 LAN Settings

If the device is connected to the LAN, you can go to **Network Setting** → **LAN Settings** to configure related parameters, including **Network Connection Method**, **IPv4**, **IPv4 Subnet Mask**, **Gateway**, **DNS Address**, and **Standby DNS Address**.

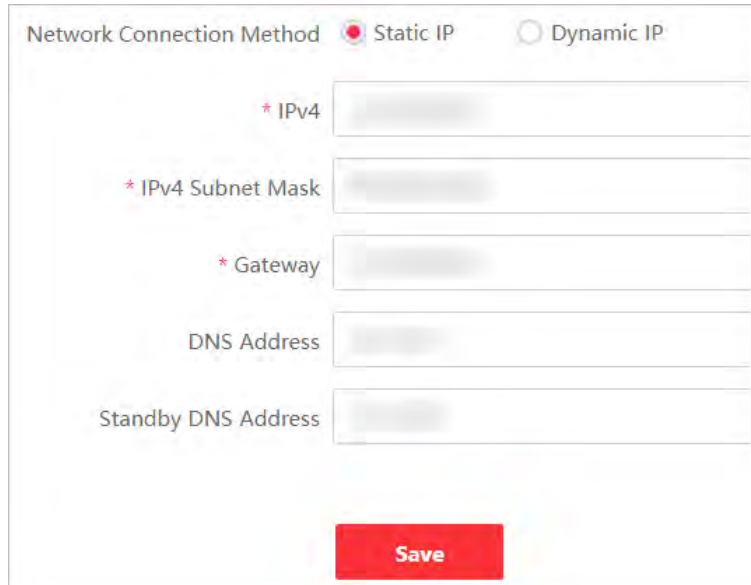


Figure 3-1 LAN Settings

After the **IPv4** is reset, the web page redirects to the new login interface of the newly set IP address.



Note

To prevent IP address conflict, it is recommended to use SADP tool when you set the device IP address.

3.2 Wireless Network Settings

Click **Wireless Network Settings** to set basic and advanced parameters of wireless network.



Note

Parameters of this function vary with models. The actual interface prevails.

3.2.1 Basic Settings

Go to **Wireless Network Setting** → **Basic Settings** to set wireless network basic parameters.

Enable DIP Switch ☒

Dial Group No.

Working Scene ☐ CPE ☒ AP

SSID ☒ Hide

Country/Region Code

Wireless Mode

Channel Width

Channel

Antenna Gain

Transmit Power 14 dBm

Security Mode ☐ Not-Encrypted ☒ WPA2-PSK

PSK Secret Key

EIRP Limit ☒

Figure 3-2 Wireless Network Basic Settings

Table 3-1 Parameter Description

Parameter	Description
Enable DIP Switch	Enable/disable the pairing code and scene switching function through the DIP switch. This function is enabled by default.  Note - If the DIP group numbers are not enough, you can disable this function and set SSID accordingly. - Enabling or disabling DIP switch makes the wireless connection disconnected. Please operate with caution.
Dial Group No.	1 to 16 indicate different group numbers. This information is only displayed when DIP switch is enabled.
Working Scene	DIP switch enabled: The web displays the selected working scene of the device.

Parameter	Description
	If AP is selected on the device, the web displays AP in Working Scene. If CPE is selected on the device, the web displays CPE in Working Scene. DIP switch disabled: You can set Working Scene as desired through the web. Select AP to set AP as Working Scene. Select CPE to set CPE as Working Scene.
SSID	- By default, the SSID is determined by the dial group number, and the CPE pairs with the AP according to SSID. - If DIP switch is disabled, you can set SSID as desired. - It is recommended to hide the SSID of APs for security.
Country/Region Code	Set when activating the device. It is unchangeable after selected, unless you restore all the settings to default settings.
Wireless Mode	Default value: 802.11ac . It is unconfigurable.
Channel Width	- For APs: Three channel widths available: 20 MHz, 40 MHz, and 80 MHz. The specific value depends on the country/region code. - For CPEs: The channel width is automatically changed according to the AP. It is unconfigurable.
Channel	- For APs: Auto is set by default. You can set a desired one. - For CPEs: Auto is set by default. It is unconfigurable.
Antenna Gain	The power transmitted in the direction of peak radiation to that of an isotropic source.
Transmit Power	A key factor affecting the wireless coverage area and the maximum achievable signal-to-noise ratio.
Security Mode	WPA2-PSK is set by default, and the encryption method is AES. - If Not-Encrypted is selected, there is no need to set PSK Secret Key.
PSK Secret Key	The pairing password for CPEs and APs. If WPA2-PSK is set as Security Mode , you should configure PSK Secret Key .
EIRP Limit	Check to limit the EIRP (Effective Isotropic Radiated Power) of the device.

Note

You can select an optimum channel by clicking **Scan Signal** to check the signal intensity of available channels nearby.

3.2.2 Advanced Settings

Go to **Wireless Network Setting** → **Advanced Settings**, enable or disable **TDMA** and **Intelligent Frequency Management** as desired.

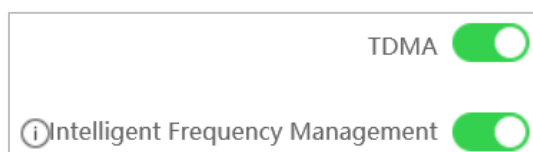


Figure 3-3 Advanced Settings

Table 3-2 Parameter Description

Parameter	Description
TDMA	Enable TDMA to improve the throughput performance of the working scene when an AP is connected to multiple devices.
Intelligent Frequency Management	Enable Intelligent Frequency Management to ensure stable video transmission when interference detected.  Note ● The function is available for some models only when AP is set as the working scene. ● With this function, the working channel will be automatically switched to the optimal channel of all the choices except the DFS (Dynamic Frequency Selection) channels and indoor channels. ● The function varies with countries. For certain countries, this function is not available.

Chapter 4 System Maintenance

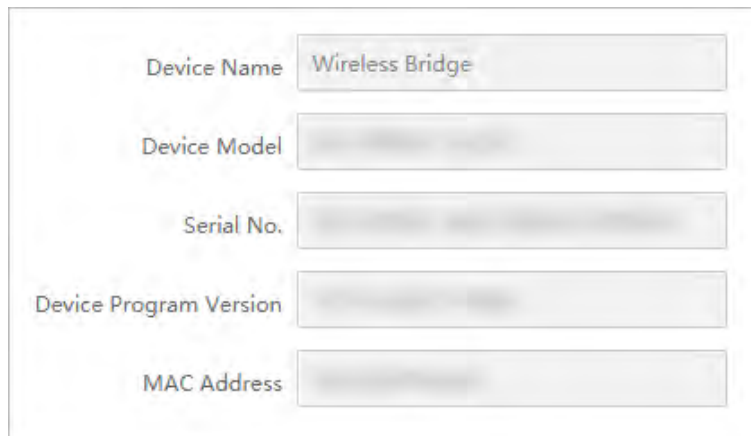
4.1 Check Device Information

You can view the basic information, hardware status, network status, and wireless status for routine check or device maintenance.

4.1.1 Device Information

Go to **System Status** → **Device Information** to check device name, device model, serial No., program version, MAC address, etc.

Device Name is configurable. See [4.2 Edit Device Name](#).



The screenshot displays a web interface for checking device information. It contains five rows, each with a label on the left and a corresponding text input field on the right. The first row, 'Device Name', has the text 'Wireless Bridge' entered in the field. The other four rows, 'Device Model', 'Serial No.', 'Device Program Version', and 'MAC Address', have empty fields. The entire form is enclosed in a light gray border.

Device Name	Wireless Bridge
Device Model	
Serial No.	
Device Program Version	
MAC Address	

Figure 4-1 Check Device Information

4.1.2 Device Status

Go to **System Status** → **Basic Status** to check the CPU usage, memory usage, running time, and background noise condition of the device. Click **Refresh** at the upper-right corner to update the overall status.

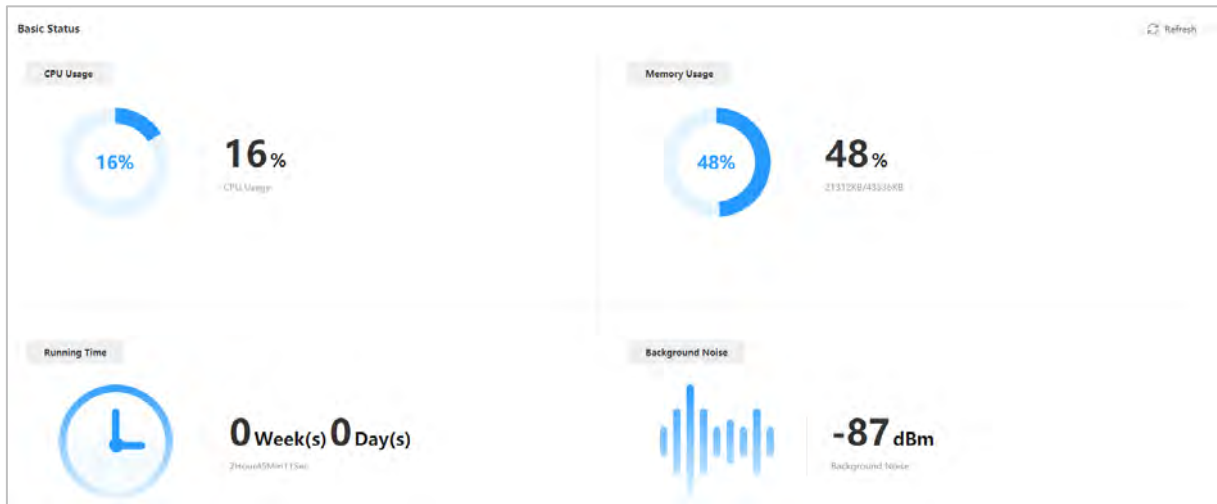


Figure 4-2 Check Device Status

4.1.3 Network Status

Go to **System Status** → **Network Status** to check the working mode, IPv4, IPv4 subnet mask, gateway, DNS address, and standby DNS address of the device.

The LAN parameters are configurable. See [3.1 LAN Settings](#).

The Network Status configuration form includes the following fields:

- Working Mode:** Bridge
- IPv4:** [Empty text input field]
- IPv4 Subnet Mask:** [Empty text input field]
- Gateway:** [Empty text input field]
- DNS Address:** [Empty text input field]
- Standby DNS Address:** [Empty text input field]

Figure 4-3 Check Network Status

4.1.4 Connected Device Information

Go to **System Status** → **Wireless Status** to check wireless parameters and the information of connected devices.

The screenshot shows the 'Wireless Parameter' section with the following settings:

- Working Scene: AP
- Dial Group No.: 16
- SSID: Wireless16
- Wireless Mode: 802.11ac
- Channel Width: 40MHz
- Channel: 5260MHz(DFS + Indoor)
- Antenna Gain: 9dBi
- Transmit Power: 12dBm
- Security Mode: WPA2-PSK

Below this is the 'Connected Device Info' section, which is a table with the following headers:

MAC Address	IPv4	Signal Intensity(dBm)	Rx/Tx Rate(Mbps)	Distance (km)	Noise (dBm)	Connection Time
-------------	------	-----------------------	------------------	---------------	-------------	-----------------

Figure 4-4 Connected Device Information

4.2 Edit Device Name

Edit the device name for identification.

Steps

1. Go to **System Management** → **Device Maintenance**.
2. Edit your desired name in **Device Name**.
3. Click **Save**.

4.3 Reboot the Device

You can reboot the device remotely through the web page.

Steps

1. Go to **System Management** → **Device Maintenance**.
2. Click **Reboot** in **Device Maintenance**.
3. Follow the prompts for further operation.

4.4 Restore Defaults

Go to **System Management** → **Device Maintenance** for default settings restoration.

- **Restore Default Settings:** Restore the parameters to the default settings, except network settings and user settings.
- **Restore All:** Restore all the parameters to the default settings.



Caution

- Restoring all the parameters will clear all the settings, please operate with caution.
- It is recommended to export all the configuration files before restoration.

4.5 Enable Intelligent Power Management

When the intelligent power management feature is enabled, the device would power off automatically in condition of insolvable device failure.

Go to **System Management** → **Device Maintenance**. Enable **Intelligent Power Management** as needed.



Note

This function is only available for some models. The actual interface prevails.

4.6 Save Debug Information

Save debug information of different levels for restoring specific information when the device reboots. The saved information can be used for technical support professionals to conduct troubleshooting and maintenance.

Steps

1. Go to **System Management** → **Device Maintenance**.
 2. Select **Level** in **Debug Information** as desired.
-



Note

Three levels are selectable: **Low (Alarm)**, **Medium (Report)**, and **High (Message)**. The higher the level is, the more specific the information will be.



Figure 4-5 Save Debug Information

3. Click **Save**.
 4. Enable **Save** above **Level** to save the debug information in the next 7 days.
-



Note

After 7 days, this function will be restored to disabled status.

4.7 Import and Export Files

Go to **System Management** → **Device Maintenance**, you can import or export configuration files for quick configuration or backup. Debug information can also be exported for trouble shooting by professionals.

- **Export Debug Information:** Click **Export** to export debug information in TXT format.
- **Export Configuration File:** Click **Export**, set the password of configuration file, and click **OK**.
- **Import Configuration File:** Click ... to select the desired configuration file, and click **Import**.



Note

Importing configuration file requires the password you set when exporting files, and the device will reboot automatically after the file is imported.

4.8 Upgrade the Device

Use the newest firmware for available upgrades, and upgrade the device through web page remotely.

Before You Start

Copy the upgrade package to the local directory of the PC used for remote access.

Steps

1. Go to **System Management** → **Device Maintenance**.
 2. Click **...** in **Upgrade Device** to go to the local directory, and select the desired upgrade package.
 3. Click **Upgrade**.
-



Note

- The device will reboot automatically after upgrade, and you need to log in again.
 - If upgrade fails and the device cannot work normally, please contact the supplier for restoration.
-

4.9 Time Settings

Both manual time synchronization and NTP time synchronization are supported.

4.9.1 Manual Settings

You can set a desired specific time, or synchronize the time with that of the computer.

Steps

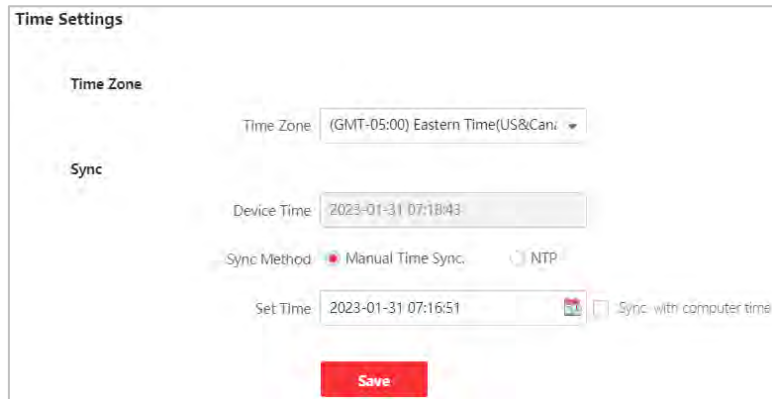
1. Go to **System Management** → **Time Settings**.
 2. Select a **Time Zone**.
-



Note

The time zone is automatically selected after you set the country/region code. You can also select the desired time zone as needed.

3. Select **Sync Method** as **Manual Time Sync**.
 4. Set the desired time or check **Sync. with computer time**.
-



The screenshot shows the 'Time Settings' interface. Under the 'Time Zone' section, the 'Time Zone' dropdown is set to '(GMT-05:00) Eastern Time(US&Can...)'. Under the 'Sync' section, the 'Device Time' is '2023-01-31 07:18:43'. The 'Sync Method' has two radio buttons: 'Manual Time Sync.' (which is selected) and 'NTP'. Below this, the 'Set Time' is '2023-01-31 07:16:51' with a calendar icon and a checkbox for 'Sync with computer time' which is unchecked. A red 'Save' button is at the bottom.

Figure 4-6 Manual Setting

5. Click **Save**.

4.9.2 NTP Setting

NTP time synchronization is used to synchronize the time with that of a specific NTP server.

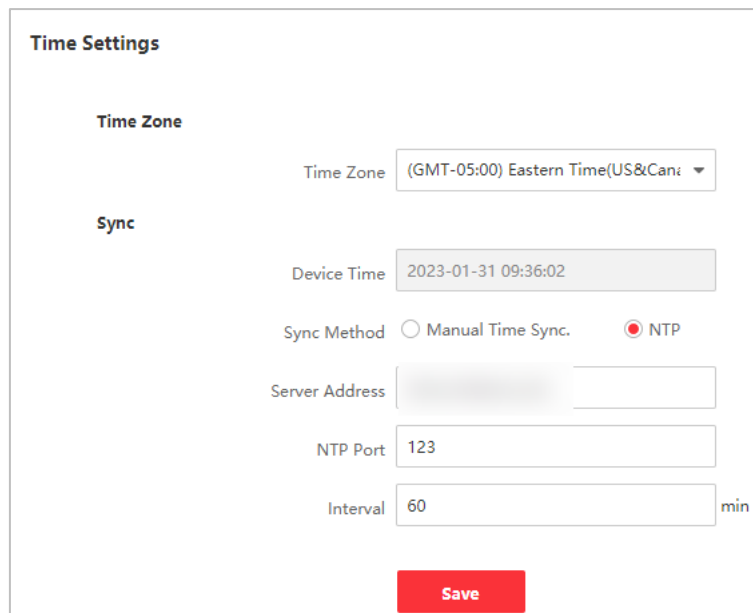
Steps

1. Go to **System Management** → **Time Settings**.
2. Select a **Time Zone**.

Note

The time zone is automatically selected after you set the country/region code. You can also select the desired time zone as needed.

3. Select **Sync Method** as **NTP**.



The screenshot shows the 'Time Settings' interface. Under the 'Time Zone' section, the 'Time Zone' dropdown is set to '(GMT-05:00) Eastern Time(US&Can...)'. Under the 'Sync' section, the 'Device Time' is '2023-01-31 09:36:02'. The 'Sync Method' has two radio buttons: 'Manual Time Sync.' (unchecked) and 'NTP' (which is selected). Below this, there are input fields for 'Server Address', 'NTP Port' (set to '123'), and 'Interval' (set to '60' with a 'min' label). A red 'Save' button is at the bottom.

Figure 4-7 NTP Setting

4. Enter NTP server information.

Server Address

The IP address of the NTP server.

NTP Port

Monitoring port of NTP server. Default value: 123. Value range: 1 to 65535.

Interval

The frequency for the device to synchronize with the NTP server. Value range: 1 to 10080 minutes.

4.10 Safety Management

4.10.1 HTTP Service

The port used for HTTP (Hyper Text Transfer Protocol) connection can be set as needed. HTTP service is available on port 80 by default.



This function is only available for some models. The actual interface prevails.

Steps

1. Go to **System Management** → **Safety Management**.
2. Enter the server port number for HTTP connection.



Figure 4-8 HTTP Service



The server port number for HTTP service can be set as 80 or any number from 2000 to 65535.

4.10.2 HTTPS Service

The port used for HTTPS (Hypertext Transfer Protocol Secure) connection can be set as needed. HTTPS service is available on port 443 by default when enabled.



This function is only available for some models. The actual interface prevails.

Steps

1. Go to **System Management** → **Safety Management**.

2. Enable HTTPS service.
3. Enter the server port number for HTTPS connection.

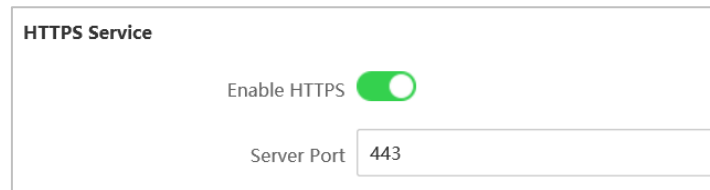


Figure 4-9 HTTPS Service



Note

The server port number for HTTPS service can be set as 443 or any number from 2000 to 65535.

4.10.3 SSH Service

SSH protocol can prevent information leakage caused by remote management. If SSH service is enabled, you can manage the device remotely. SSH service is disabled by default.

Steps

1. Go to **System Management** → **Safety Management**.
2. Enable **SSH Service**.

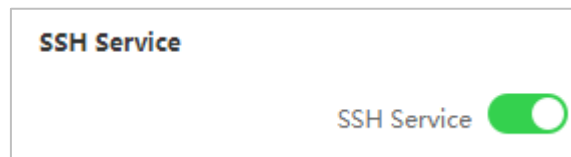


Figure 4-10 SSH Service



Note

The user name of **SSH Client** is **root**, and the password is the same as that of web login.

4.10.4 SADP Service

If SADP service is enabled, you can activate the device, change password, and modify IP through the software. SADP service is enabled by default.

Steps

1. Go to **System Management** → **Safety Management**.
2. Enable **SADP Service**.

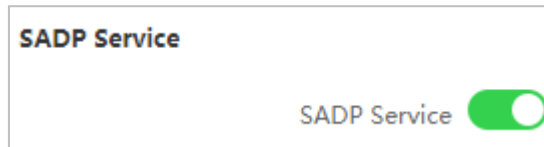


Figure 4-11 SADP Service

Note

If SADP service is disabled, some of the functions may turn into unavailable. It is recommended to enable this service.

4.11 Log Management

Export desired logs to your local storage.

Steps

1. Go to **System Management** → **Log Management**.
2. Select **Main Type**, **Subtype**, **Starting Time**, and **End Time**.
3. Click **Search**.

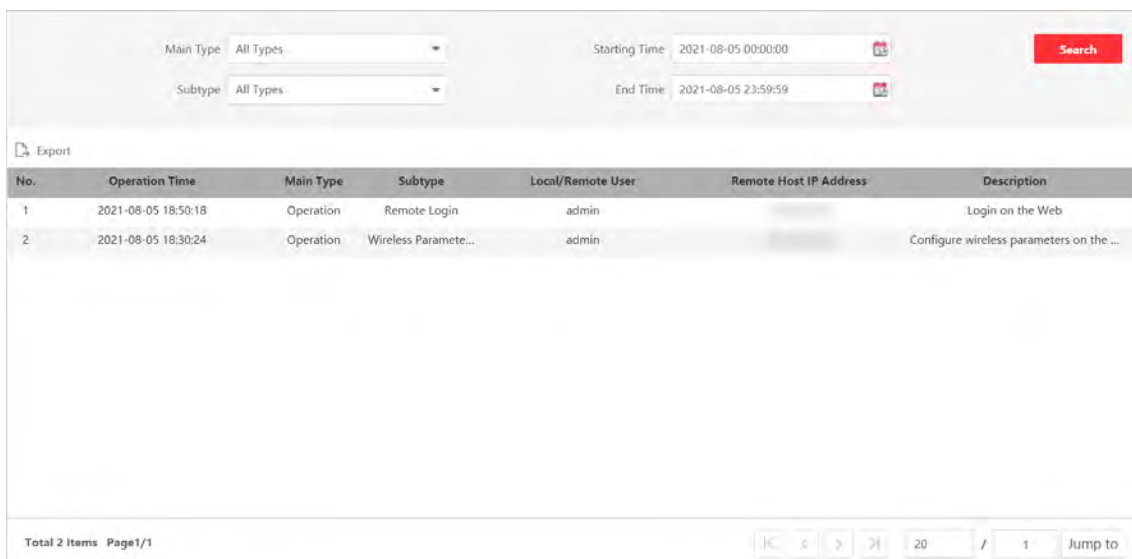


Figure 4-12 Log Search

4. Click **Export** to save the log files.

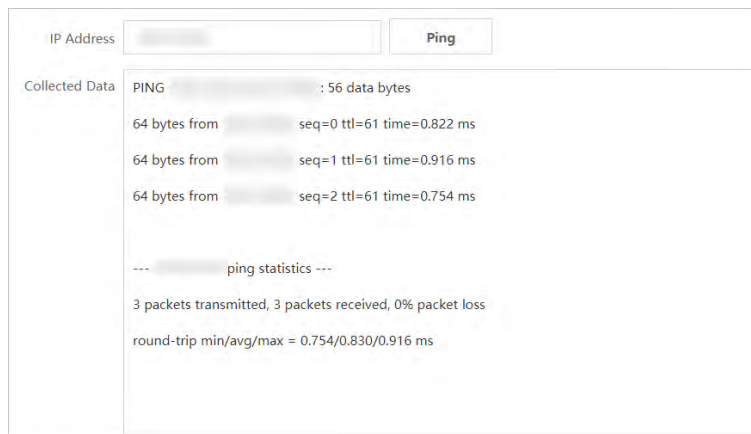
4.12 Network Diagnosis

Network diagnosis provides network status information, which would be useful for the technical support.

Steps

1. Go to **System Management** → **System Tool** → **Network Diagnosis**.
2. Enter the IP address.
3. Click **Ping**.

Diagnosis results display.



The screenshot shows a web interface for network diagnosis. At the top, there is an input field for 'IP Address' and a 'Ping' button. Below this, a 'Collected Data' section displays the results of a ping command. The results show three successful pings with 64 bytes of data, sequence numbers 0, 1, and 2, and round-trip times of 0.822 ms, 0.916 ms, and 0.754 ms respectively. A 'ping statistics' section at the bottom indicates that 3 packets were transmitted and received with 0% packet loss, and the round-trip times are 0.754/0.830/0.916 ms.

```
IP Address: [ ] Ping

Collected Data
PING [ ] : 56 data bytes
64 bytes from [ ] seq=0 ttl=61 time=0.822 ms
64 bytes from [ ] seq=1 ttl=61 time=0.916 ms
64 bytes from [ ] seq=2 ttl=61 time=0.754 ms

--- [ ] ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss
round-trip min/avg/max = 0.754/0.830/0.916 ms
```

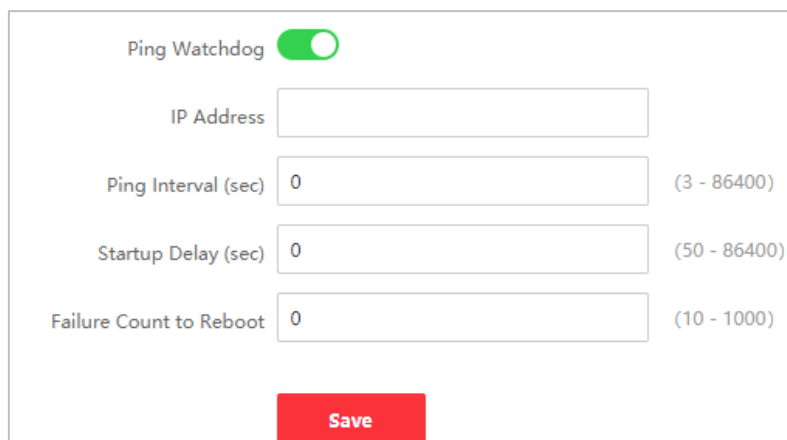
Figure 4-13 Network Diagnosis

4.13 Ping Watchdog

By pinging a specific IP address and check the packet loss, technical support professionals can examine the device working status. If the device is in abnormal status, they may reboot the device.

Steps

1. Go to **System Management** → **System Tool** → **Ping Watchdog**.
2. Enable **Ping Watchdog**.



The screenshot shows the 'Ping Watchdog' configuration page. At the top, there is a toggle switch for 'Ping Watchdog' which is currently turned on (green). Below this, there are four input fields: 'IP Address', 'Ping Interval (sec)', 'Startup Delay (sec)', and 'Failure Count to Reboot'. The 'Ping Interval (sec)' field has a value of 0 and a range of (3 - 86400). The 'Startup Delay (sec)' field has a value of 0 and a range of (50 - 86400). The 'Failure Count to Reboot' field has a value of 0 and a range of (10 - 1000). At the bottom, there is a red 'Save' button.

```
Ping Watchdog ☒

IP Address [ ]

Ping Interval (sec) [0] (3 - 86400)

Startup Delay (sec) [0] (50 - 86400)

Failure Count to Reboot [0] (10 - 1000)

Save
```

Figure 4-14 Ping Watchdog

3. Enter related information.

Ping Interval

The interval of Ping packet.

Startup Delay

The delay time for reboot when the device is in abnormal status.

Failure Count to Reboot

The limit for packet loss times. The device is reckoned as abnormal when the packet loss times reach this limit.

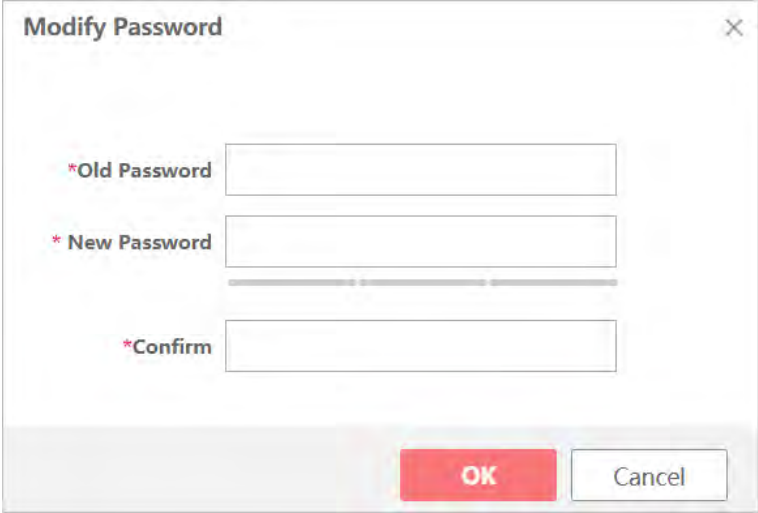
4. Click **Save**.

4.14 Change Password

For data security, we highly recommend you to change your password regularly.

Steps

1. Click  at the upper-right corner.
2. Select **Change Password**.



The image shows a 'Modify Password' dialog box with a close button (X) in the top right corner. It contains three input fields, each preceded by a red asterisk: '*Old Password', '*New Password', and '*Confirm'. The '*New Password' field has a horizontal line below it. At the bottom right, there are two buttons: a red 'OK' button and a white 'Cancel' button with a grey border.

Figure 4-15 Change admin Password

3. Enter the original password, new password and confirm.
4. Click **OK**.

The web page redirects to the login interface.

Chapter 5 FAQ

5.1 Why the device cannot start up?

Reason

1. The network cable length connecting the wireless bridge to the PoE module exceeds 60 m.
2. The network cable cannot meet the standard of Category 5e.
3. The registered jack of the network cable is not firmly connected, or the connection order is improper.

Solution

1. Use a network cable shorter than 60 m.
2. Use a network cable with Category 5e or higher standard.
3. Remake the registered jack.

5.2 Why devices pairing failed?

Reason

The devices pairing status depends on the distance, direction, and DIP switch setting.

Solution

You can check as follows:

1. Check distance and direction: Ensure the AP and CPE are directly faced to each other, and the distance between them is within the limit.
2. DIP switch enabled: Ensure the pairing codes of the AP and CPE are consistent.
3. DIP switch disabled: Ensure the SSID name and PSK password are correct.

5.3 Why the wireless connection rate is relatively low?

Reason

The wireless system makes connection with its maximum working rate, and the actual rate depends on the distance and environment.

Solution

You can check as follows to ensure the highest connection rate:

1. Device position: Adjust the device position and direction.
2. Wireless channel or frequency: Change to another signal channel or frequency to reduce interference.
3. Wireless interference: Adjust, shield, or disable the device causing interference.

5.4 Why the signal intensity is too low?

Reason

1. There is a large-sized obstruction between the CPE and the AP.
2. The CPE is not directly faced to the AP.

Solution

1. Remove the obstruction or bypass it.
2. Adjust the angle of the CPE and the AP.

5.5 Why the throughput is inadequate even with high signal quality?

Reason

1. Excessive interference or multipath interference.
2. Wired device error.

Solution

1. Remove the interference or change the device frequency.
Method of changing frequency: Reboot the AP of wireless bridge to allow auto search of available signal channel.
2. Change a network cable or use another PC.

5.6 Why there are excessive packet loss and time delay when PC pings the device IP address?

Reason

1. The registered jack of the network cable is not firmly connected.
2. The IP addresses of multiple devices conflict.

Solution

Port isolation should be conducted for APs connected to the same switch.

1. Remake the registered jack.
2. Modify the IP addresses of different devices.



See Far, Go Further