ARMATURA

User Manual

AMTL-UHF-10

Date: March 2025

Version: 1.0

About This Manual

- This manual introduces the operation of user interfaces and menu functions of **AMTL-UHF-10.**
- The pictures in this manual may not be exactly consistent with those of your product; the actual product's display shall prevail.
- Not all the devices have the function with △, which the real product prevails.

Table of Contents

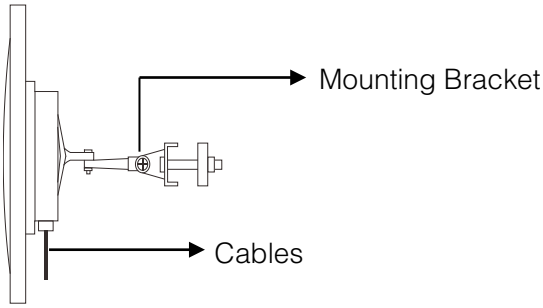
1 Overview

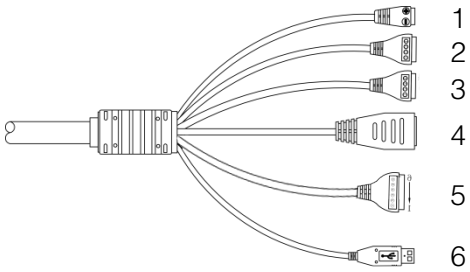
AMTL-UHF-10 is Armatura's latest third-generation UHF reader, featuring enhanced stability, an extended reading range, and quicker recognition. It utilizes a passive UHF card, making it suitable for vehicle and personnel management. It conforms to CE and FCC standards, awaiting further security certifications.

Features

- AMTL-UHF-10: UHF standalone reader terminal
- AMTL-UHF-10F Pro is suitable for FCC: 902MHz-926MHz
- AMTL-UHF-10E Pro is suitable for: 865MHz-868MHz
- Long reading distance
- Compatible with the Armatura One Security Platform
- Access control function
- IP66 protection level

2 Side View & Wiring





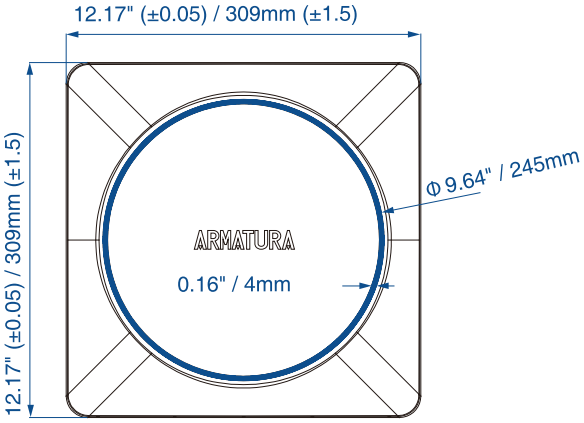
No.	PIN	Description
1	+12V	Power In
	GND	
2 (Green)	+12V	Power Out
	GND	
	IWD0	Wiegand In
	IWD1	
3 (Black)	SEN	Sensor, Button, Trigger
	BUT	
	GND	
	TRIG	
4		Ethernet
5	NO1	Lock
	COM1	
	NC1	
	NO2	Lock
	COM2	
	NC2	
6		USB

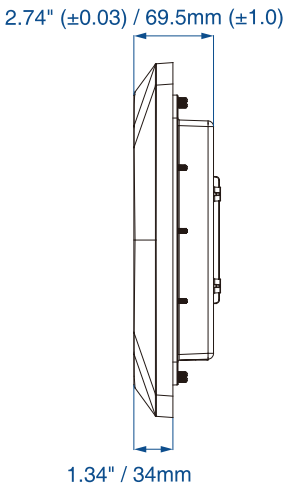
3 Specifications

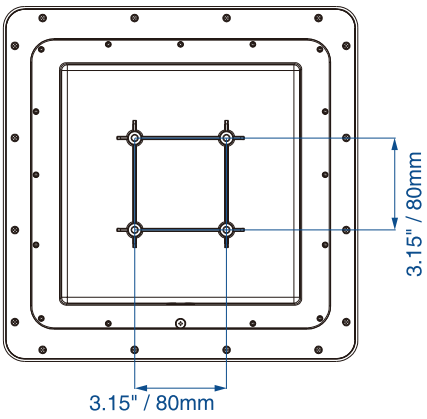
Menu	Description
General Information	
Primary Power	12 VDC (3A min @12V)
Ethernet Network	10 Base-T/100 Base-TX, Auto MDI/MDIX
Communication	TCP/IP
Ports	Ethernet, Relay, Wiegand, USB, Button, Sensor
Inputs	Wiegand*1, Button*1, Sensor*1
Outputs	2 Relays with dry contacts (Parking Barrier, Lock, Alarm)
Audio Indicator	Internal Buzzer
Visual Indicator	RGB LEDs
Operating	Frequency F Series: 902MHz–926MHz (FCC compliant) E Series: 865MHz–868MHz
UHF Card Capacity	5,000 (1:N)
Transaction Buffer	Records: 30,000
On-Board Access Point Control	1 Access Point on Board
Cable Requirements	
Power & Relays	Twisted pair, 18 to 16 AWG
Ethernet	CAT-5E, Wire diameter (24AWG), maximum 330ft (100m)
Wiegand Port	20 AWG shielded, 164ft (50m)
Mechanical	
Dimensions	12.17" x 12.17" x 2.74" (309 x 309 x 69.5mm)
Weight	3.2KG
Mounting	Suited for any at surface mounting
Housing Material	Polycarbonate

Environmental	
Operating Voltage	DC 9V–12V
Operating Current	150mA (Always reading)
Operating Temperature	-4°F to 140°F (-20°C to 60°C)
Operating Humidity	<95% (77°F / 25°C)
Protection Level	Weather & Dust Proof (IP66 compliant)
Certifications	CE, FCC
Software Interface	
TCP/IP Mode	10 Base-T/100 Base-TX, Auto MDI/MDIX
TCP/IP Protocol	VLAN, SSH, HTTP, IPv4, DNS
TCP/IP Communication	Push Protocol over HTTP/HTTPS
Supported Software	Armatura One Security System

4 Dimensions





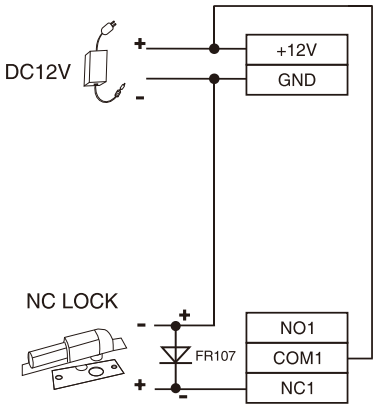


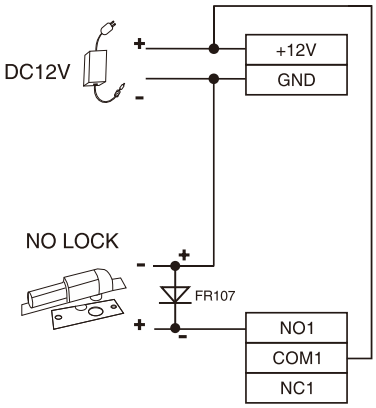
5 Device Connection

5.1 Lock Connection

Shares Power with the Lock:

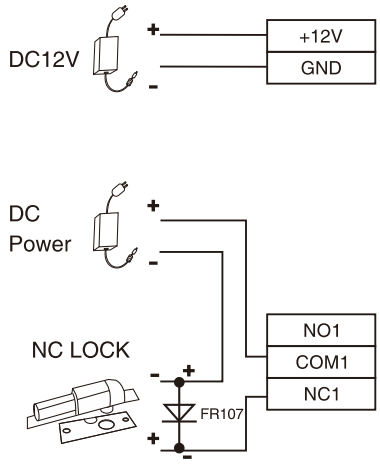
U_{LOCK}=12V, I ⩾ I_{Device} + I_{Lock} (The maximum operating current of the device is 100mA, and the rated current is 60mA); and the lock is near to the device.

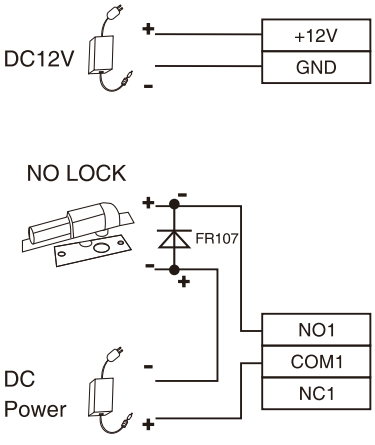




Does not Share Power with the Lock:

1. When U_{LOCK}=12V, I < I_{Device} + I_{Lock} (The maximum operating current of device is 100mA, and the rated current is 60mA);
2. When U_{LOCK}≠12V;
3. When the lock is far from the device.

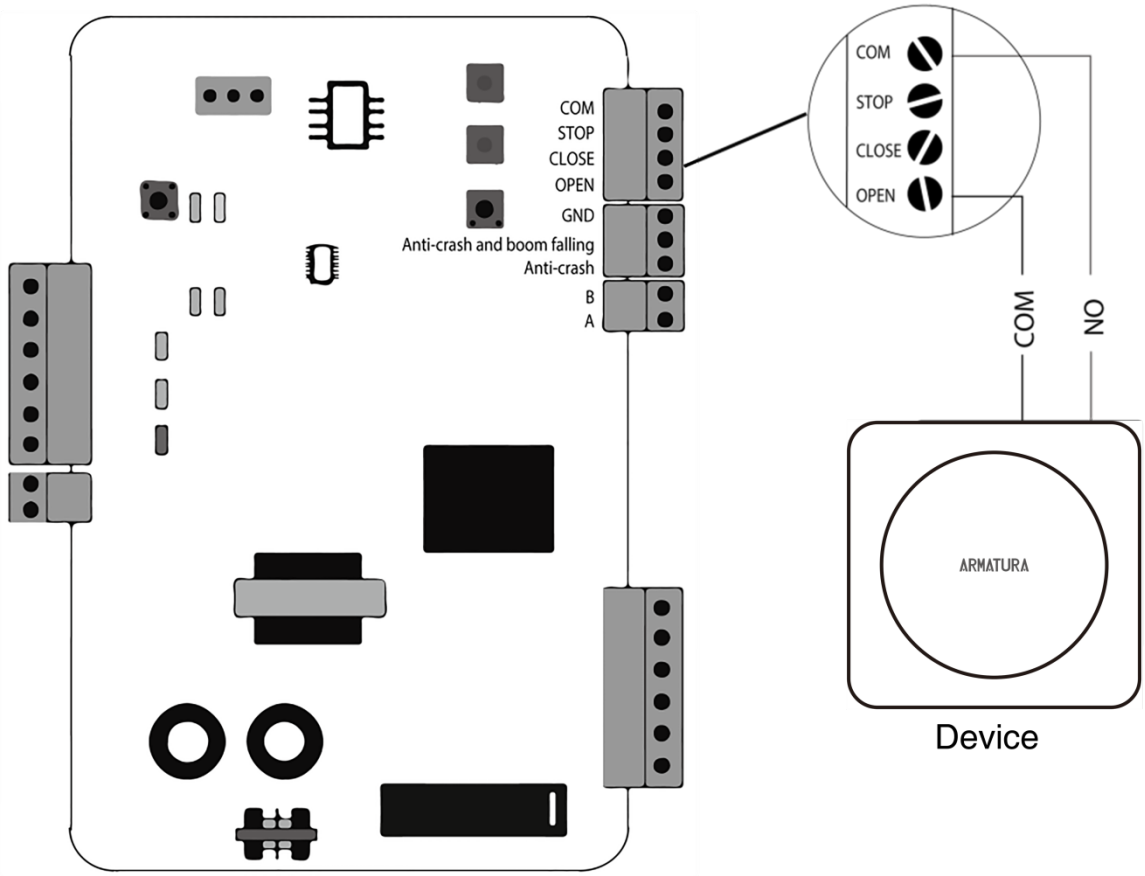




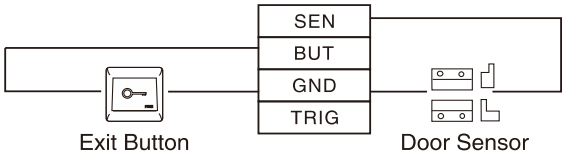
Note:

- The system supports NO LOCK and NC LOCK. The NO LOCK (normally open by power on) is connected to the NO terminal, and the NC LOCK is connected to the NC terminal.
- To prevent the generation of self-inductance EMF which would affect the system, when the electrical lock is linked to the Access Control System, it is required to connect one FR107 diode (equipped in the package, do not reverse the polarities) in parallel to release the self-inductance EMF.

5.2 Barrier Connection



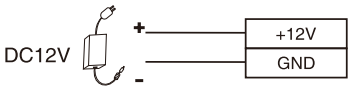
5.3 Connected with Other Parts



5.4 Connected with Power

Input DC12V, ⩽110mA (⩽80mA standby)

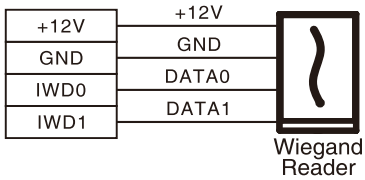
Positive is connected with +12V, and negative is connected with GND (do not reverse the polarities).



5.5 Wiegand Input

Wiegand Input

The device features Wiegand signal input capability, allowing it to connect with an independent card reader. When installed on each side of the door, they work together to control access and the lock.

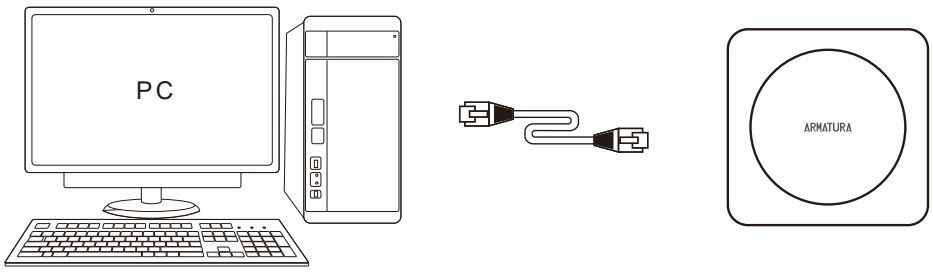


Note:

- Please keep the distance between the device and Card Reader less than 90 meters (Please use a Wiegand signal extender in a long distance or interference environment).
- To keep the stability of the Wiegand signal, connect the device and Card Reader in the same 'GND' in any case.

5.6 Connected with Computer

Connect the RJ45 port of the device to the computer's Ethernet port. The device is compatible with the Armatura One Security Platform.

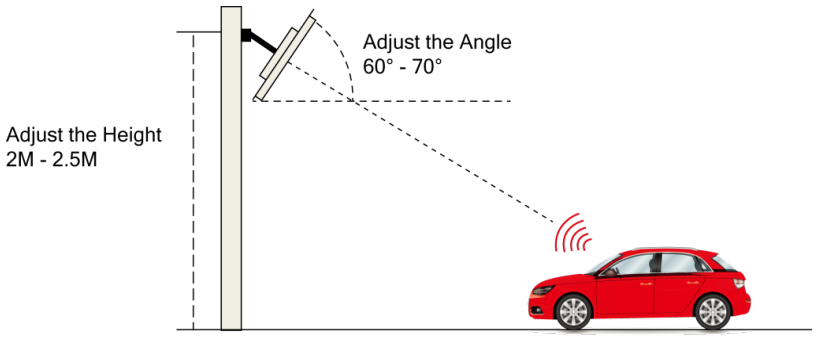


6 Installation Procedure

6.1 Install the Reader

The device uses the Hang Mounting method for installation. Please refer to the following chart for installation instructions. Mount the device on the bracket and adjust the angle according to the desired swing card effect.

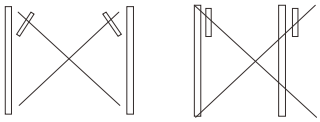
Method A:



Method B:

Note:

- Avoid installing the integrated machine facing another.



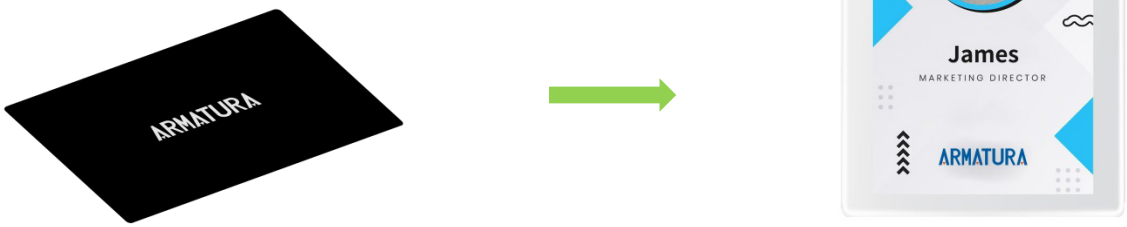
- The detection distance of the integrated machine may vary depending on weather conditions such as rain, snow, or wind.

- The device should be away from strong magnetic field when working.

6.2 Install the UHF Card

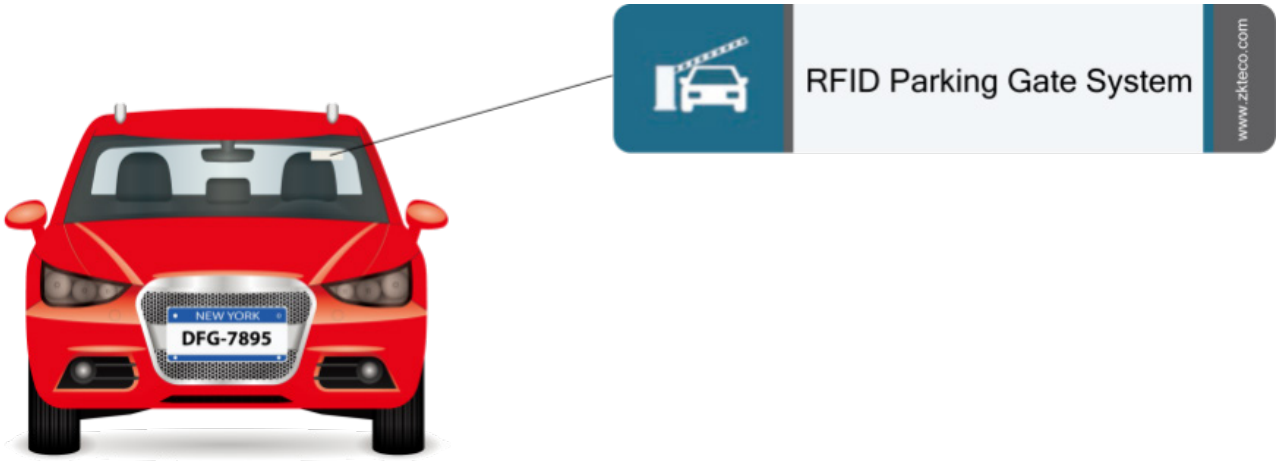
AMTL-UHF-Tag

AMTL-UHF-Tag is generally used in long distance access control management and long distance pedestrian crossing control management.

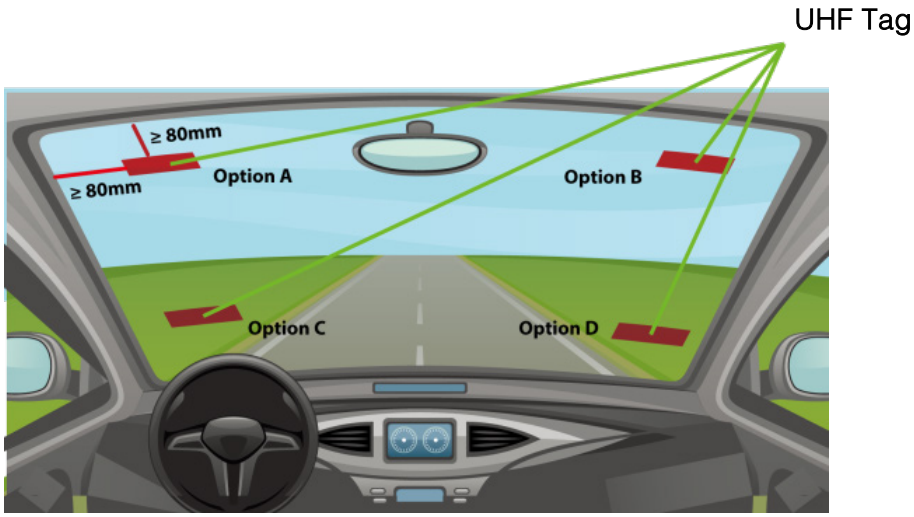


AMTL-UHF-Mini Tag

AMTL-UHF-Mini Tag is also generally used in long distance fixed vehicle access management. It is pasted on the interior windshield of the car.

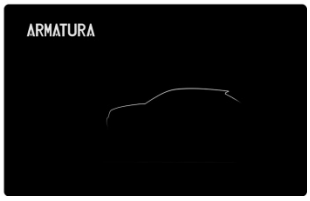


The distance between the UHF tag and the metal frame shall be 80 mm at least. The position of the tag/card in the vehicle is as follows:



7 Recommended Tags

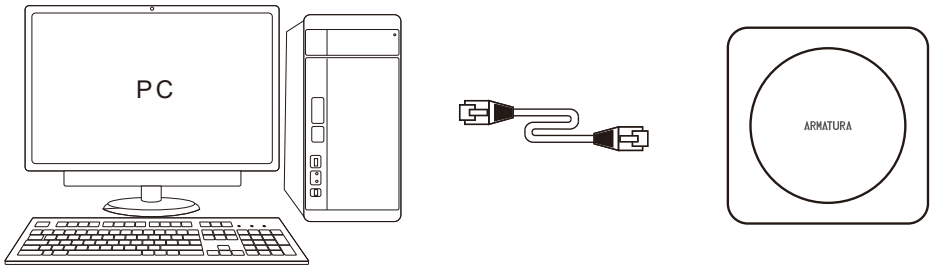
AMTL-UHF-Mini Tag



AMTL-UHF-Tag

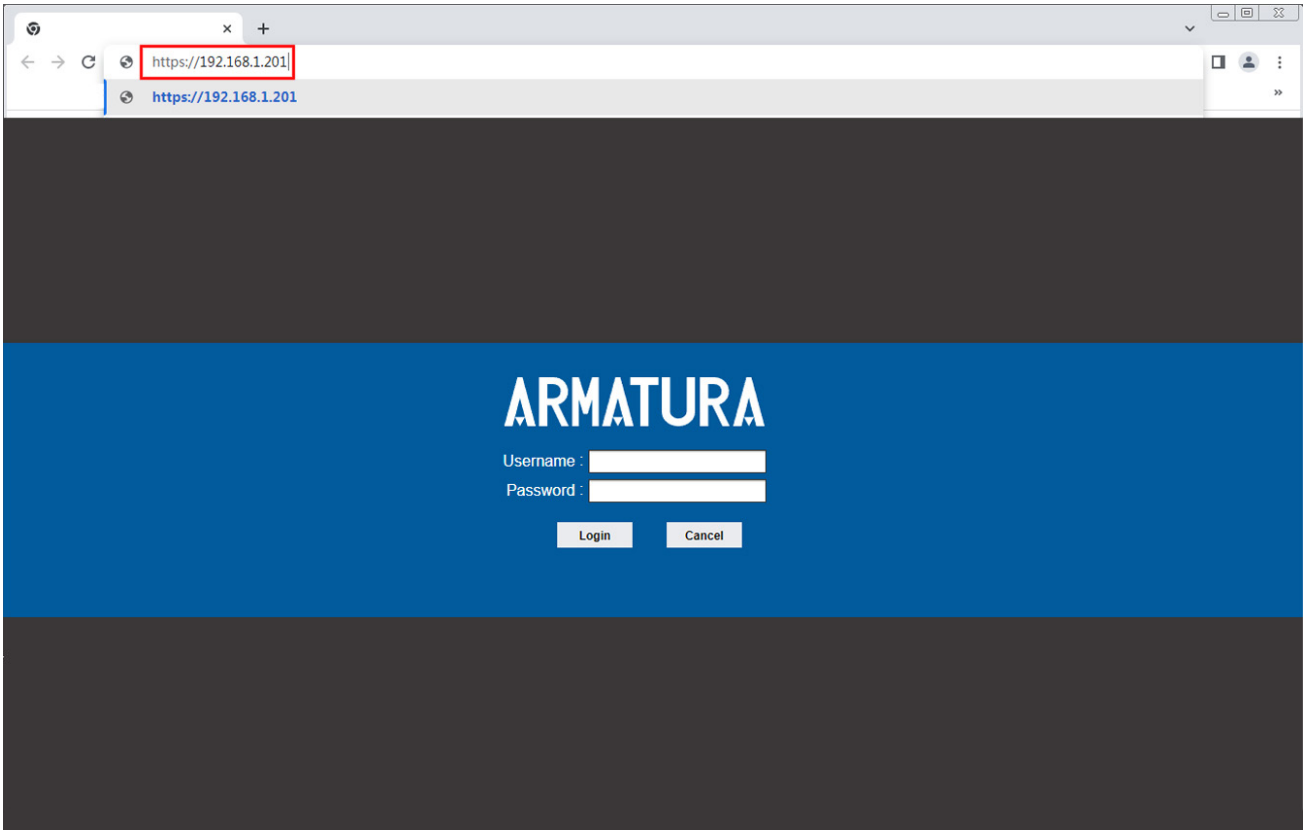
Type	Description
AMTL-UHF-Mini Tag	Standard protocols: ISO18000-6C, EPC Gen2 (V1.2.0) Operating frequency: 860 to 960MHZ Storage capacity: 128Bits Operating temperature:-10℃ to 50℃ Storage temperature:-20℃ to 65℃ Storage humidity:40% to 50%RH Recognition distance:10m (AMTL-UHF-10)
AMTL-UHF-Tag	Standard protocols: ISO18000-6C, EPC Gen2 (V1.2.0) Operating frequency: 860 to 960MHZ Storage capacity: 128Bits Operating temperature:-30℃ to 55℃ Storage temperature:-10℃ to 40℃ Storage humidity:40% to 50%RH Recognition distance:11m (AMTL-UHF-10)

8 Software Configuration



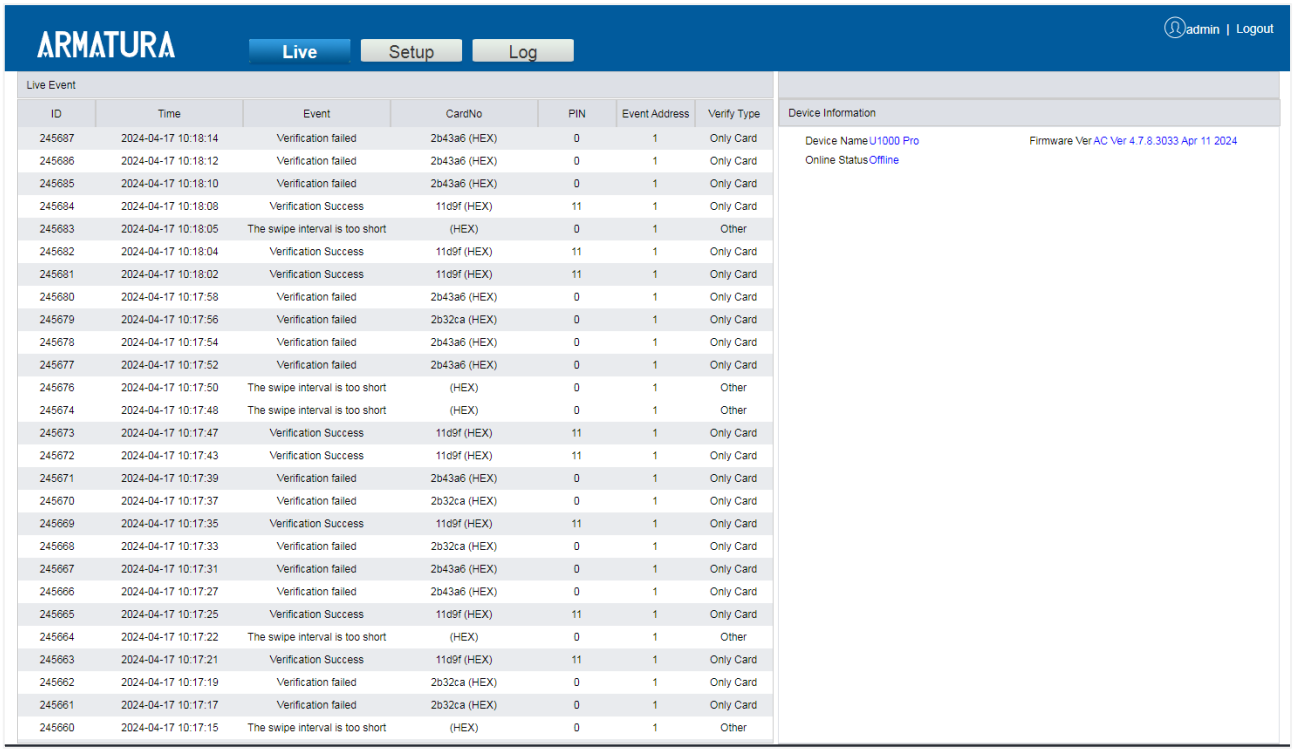
8.1 Login

Enter the IP Address (default: 192.168.1.201) of the device in the address bar of a web browser. The address format should be https://IP Address. For example: https://192.168.1.201. Then enter the Username (default: admin) and password (default: 123456), as displayed in the below figure.



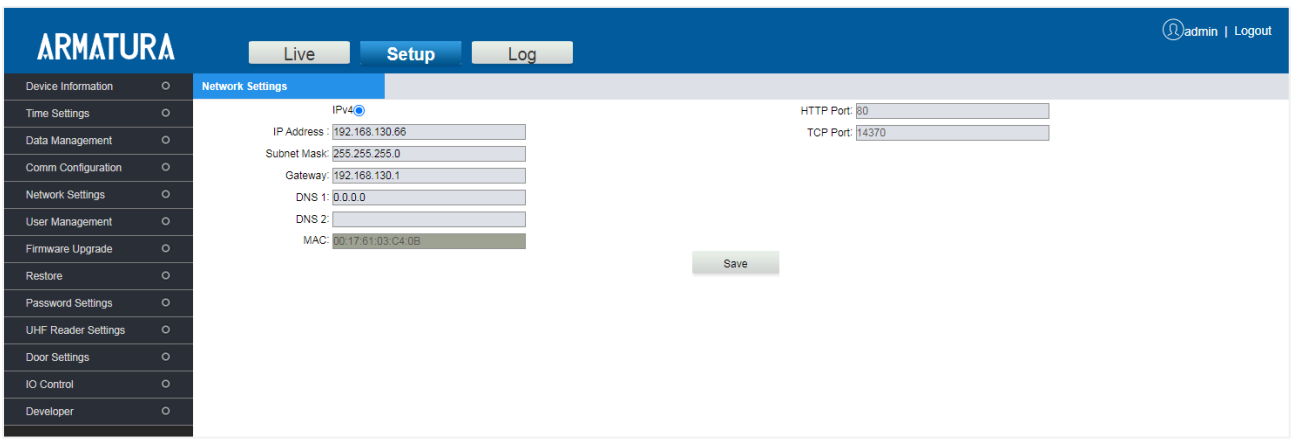
8.2 Live

After successful login, you will directed to the **live** page. On the page, the left side is displays real-time card information whenever the reader reads the card, and the right side displays basic information about the device.



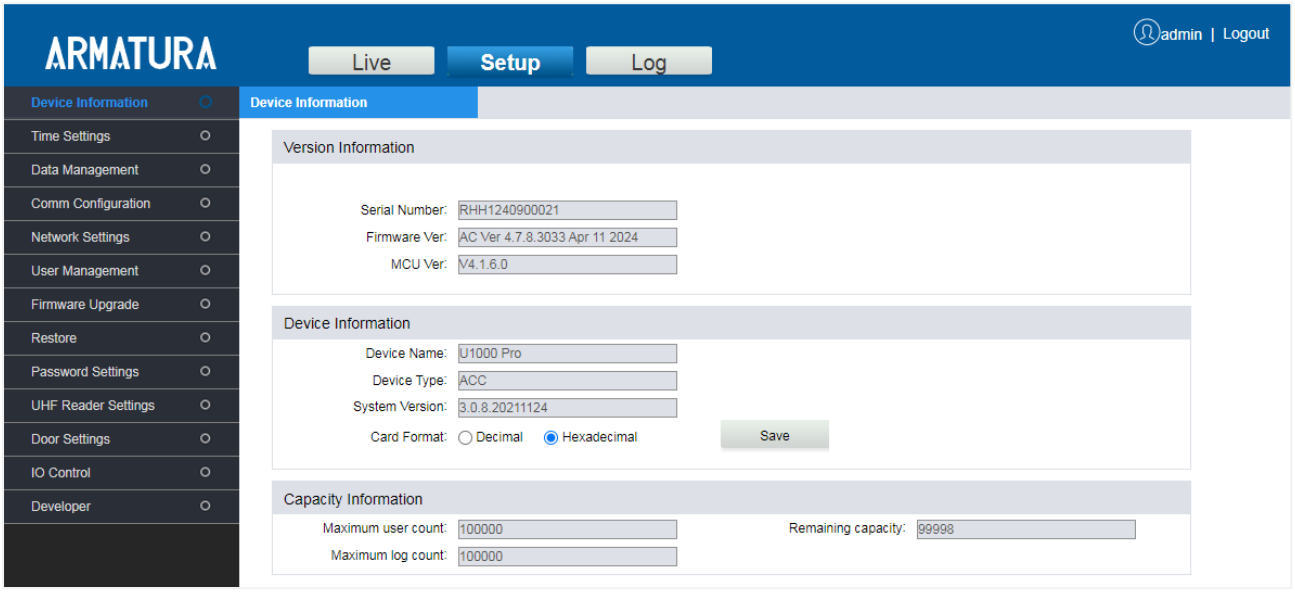
8.3 Setup

Click **[Setup]** in the navigation bar at the top of the page to enter the setup page, in this page you can view or modify the functions and parameters of the device information, including Device Information, Time Settings, Data Management, Comm Configuration, Network Settings, User Management, Firmware Upgrade, Restore, Password Settings, UHF Reader Settings and Developer.



8.3.1 Device Information

Click **[Device Information]** on the Setup.



Version Information

- **Version Information:** Displays the basic parameters of the device, including serial number, firmware version, and MCU version.

Device Information

- **Device Information:** Displays the device name, device type, and system version, and sets the card format.
- Click **[Save]** after setting the parameters.

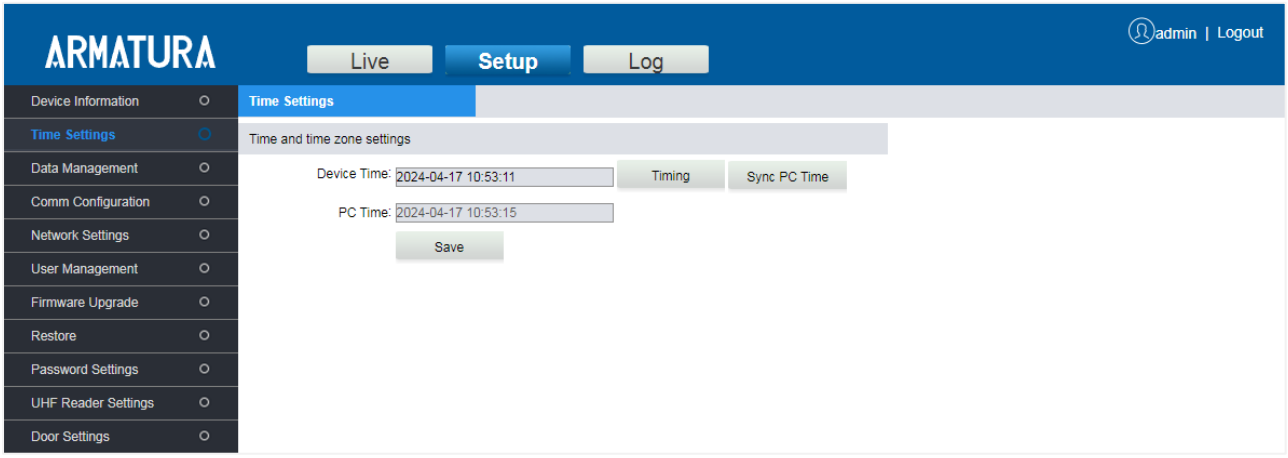
Capacity Information

- Displays the maximum user count, remaining capacity, and maximum log count of the current device.

8.3.2 Time Settings

The Time Settings is used to set the system date and time. The user can choose to synchronize with the local system, or set the time manually. After setting the time as needed, [Save] users can click **[Save]** to apply the changes.

Click **[Time Settings]** on the Setup.

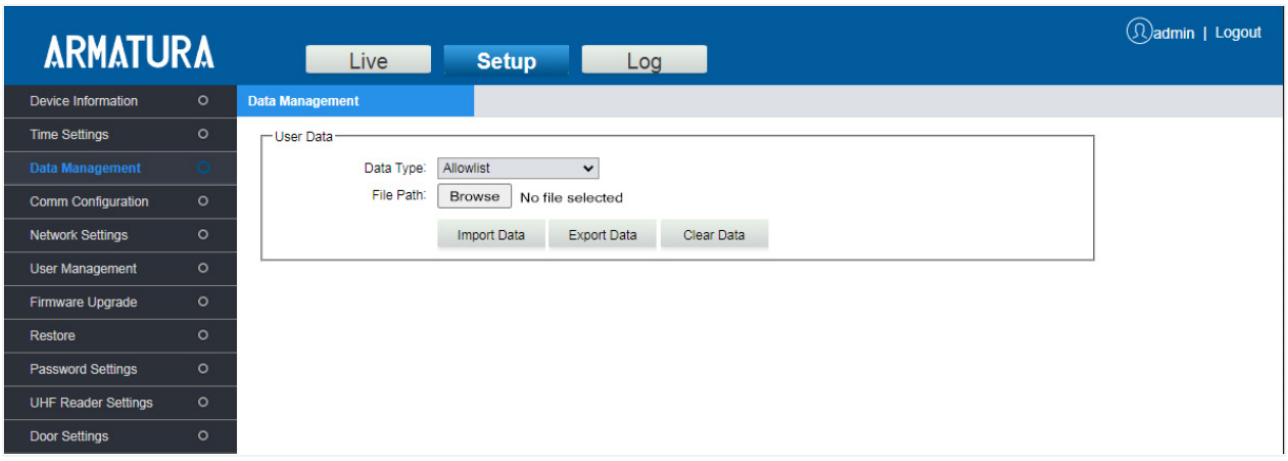


- **Set the time manually:** Enter the date and time manually and click **[Timing]** to save the changes.
- **Synchronize with Local System:** Click **[Sync PC Time]**, and the time will be consistent with the local computer.
- Click **[Save]** after setting the parameters.

8.3.3 Data Management

This option is used for the management of specific data such as allowlist. The user can import, export, and clear the data as needed to meet their requirements.

Click **[Data Management]** on the Setup.

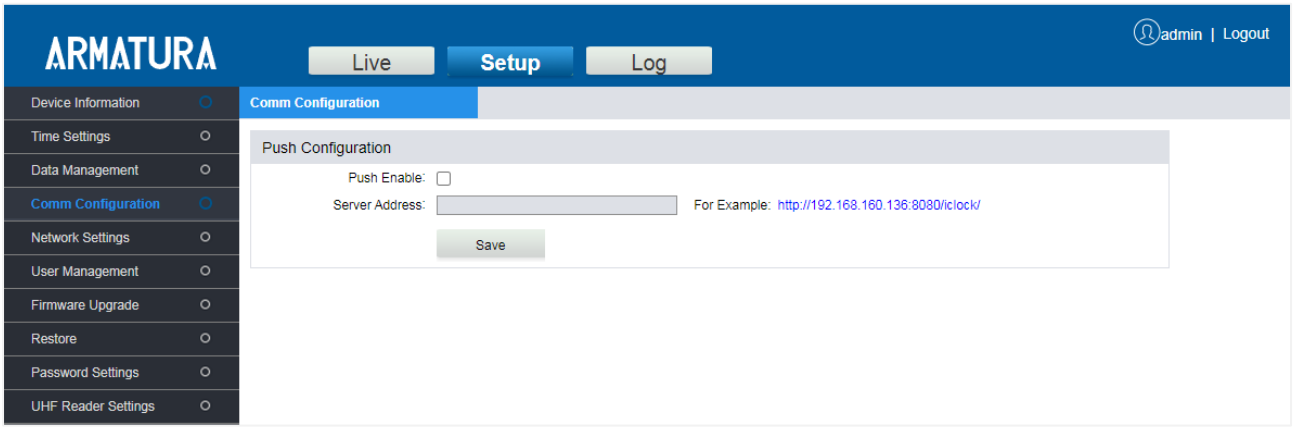


8.3.4 Comm Configuration

Push protocol allows to communicate with various software platforms. To use this feature, set the corresponding parameters here.

Note: Parameters in the POMS Configuration need to be set only when communicating with the Parking Operation and Maintenance System.

Click [Comm Configuration] on the Setup.

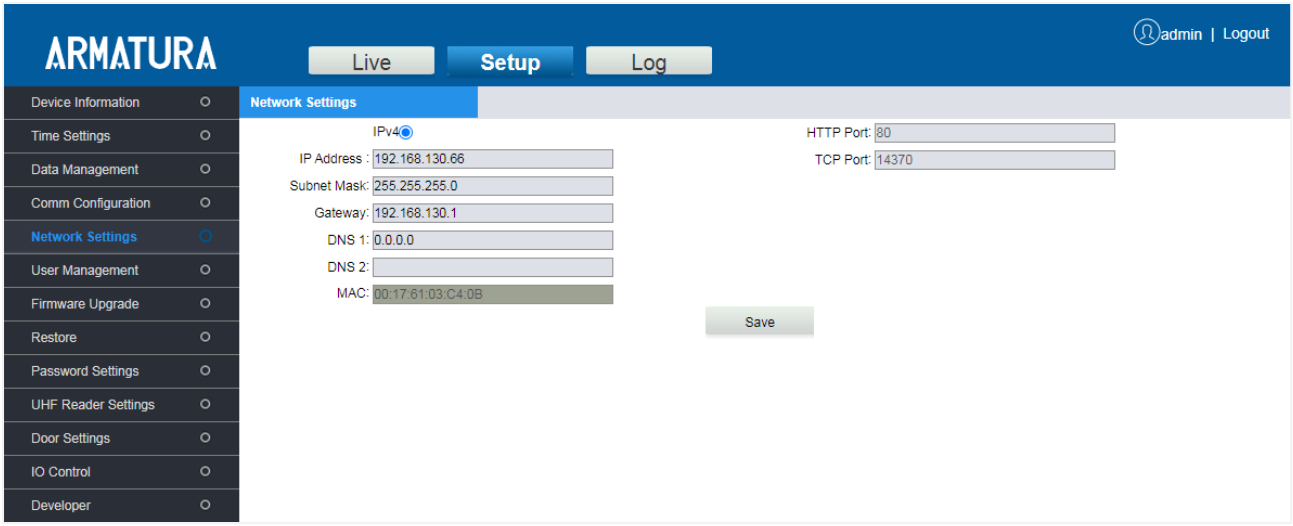


- **Push Enable:** Select the check box to enable this feature.
- **Server Address:** Enter the server address of the push configuration.
- Click [Save] after setting the parameters.

8.3.5 Network Settings

Here, the user can view or set the device network parameters.

Click [Network Settings] on the Setup.

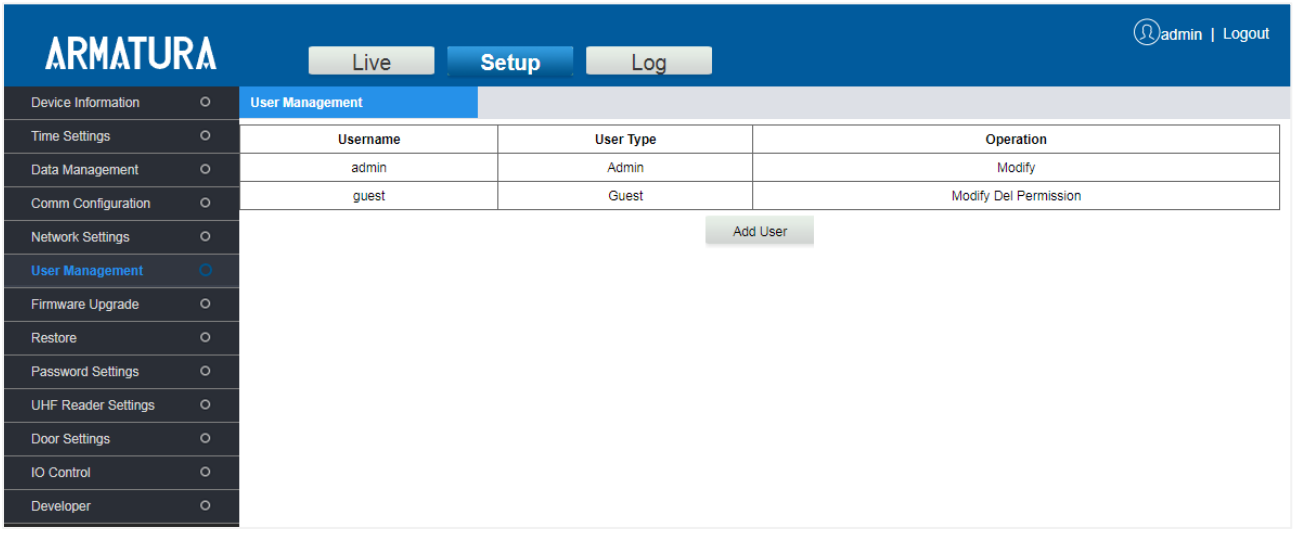


- **LAN:** Set the related parameters of the Local Area Network, including IP Address, Subnet Mask, Gateway, DNS, and MAC according to the actual situation.
- **HTTP Port:** Enter the corresponding port (the default port number is 80).
- **TCP Port:** Enter the corresponding port (the default port number is 14370).
- Click [Save] after setting the parameters.

8.3.6 User Management

Modification preferences differ based on user roles, Administrators can modify the modification passwords and user types of all users. They can also add new users, delete users, and set user rights. Normal users can only modify their passwords and user types.

Click **[User Management]** on the Setup.



- **Modify:** Modify the user password and user type.
- **Del:** The administrator can delete all users in the user list.
- **Permission:** Administrators can set permissions for normal users
- **Add User:** Administrators can add new users.

Note:

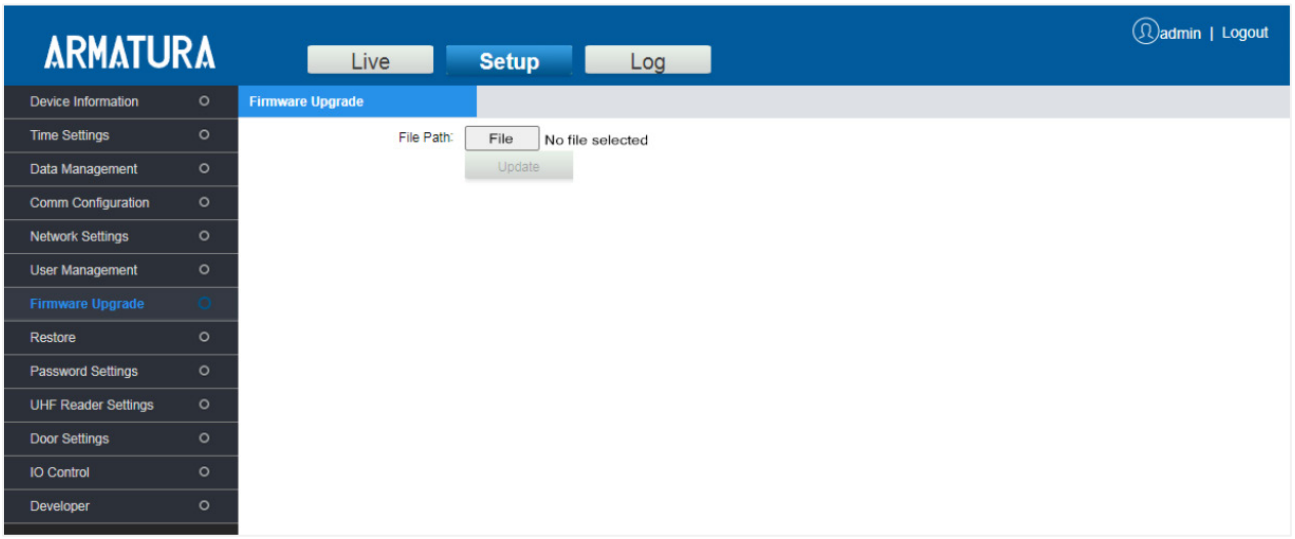
a) Username, Password may consist of a to z, 0 to 9, underscores, and a single dot (.), 1 to 15 characters. Password is case-sensitive.

b) When the username or password is modified, it is required to log in again to update the change.

8.3.7 Firmware Upgrade

To upgrade the device firmware, click **[Browse]** and select the firmware upgrade file in the format of .tgz, and click **[Update]**. After upgrading the firmware, restart the device.

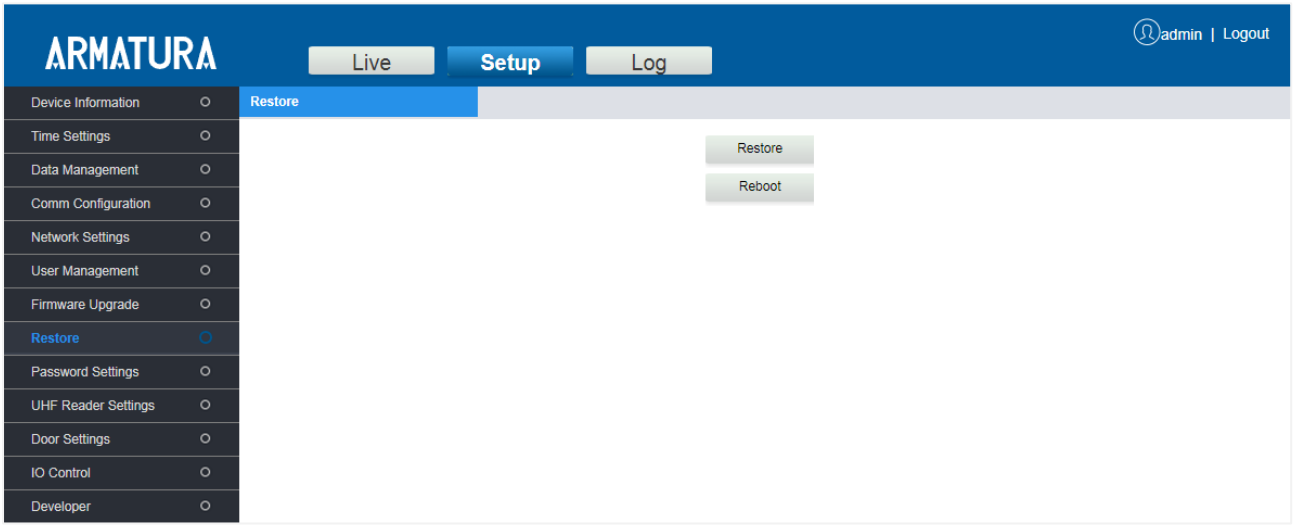
Click **[Firmware Upgrade]** on the Setup.



Note: Contact the corresponding technician for an upgrade package or remote upgrade support.

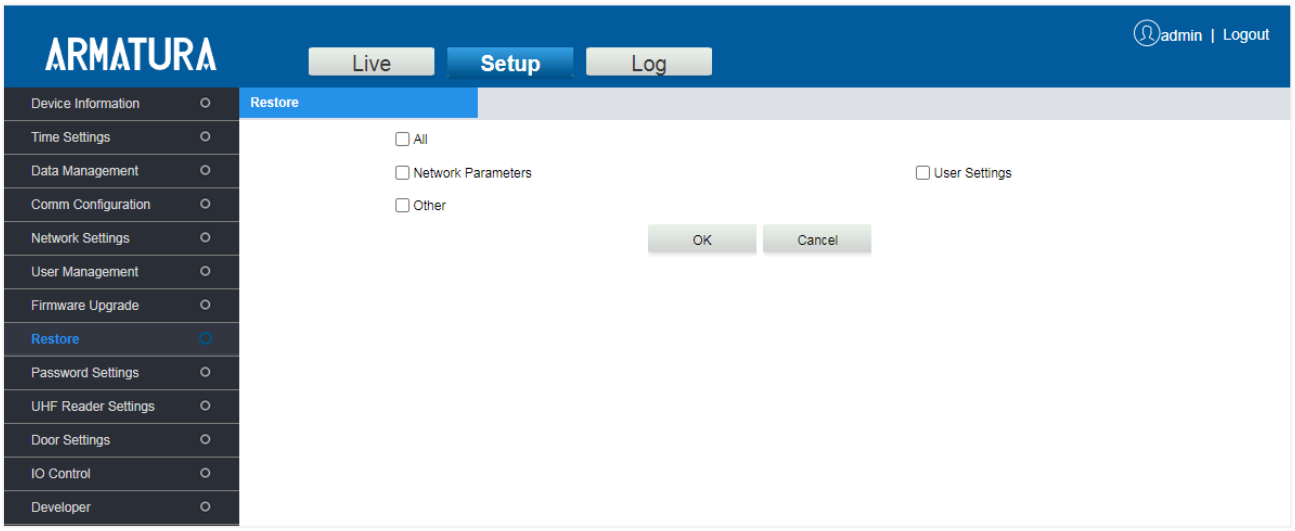
8.3.8 Restore

Click **[Restore]** on the Setup.



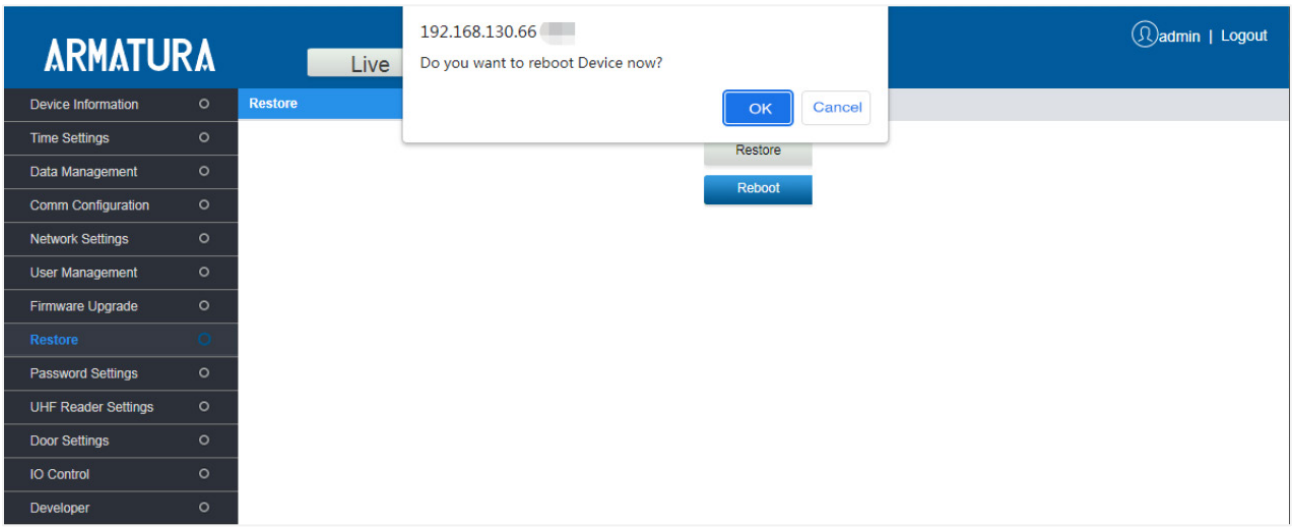
Restore

Restores the device parameter settings. With this function, all the settings of the device can be restored to factory default values. Click **[Restore]**, select the parameters to be restored, and click **[OK]**.



Reboot

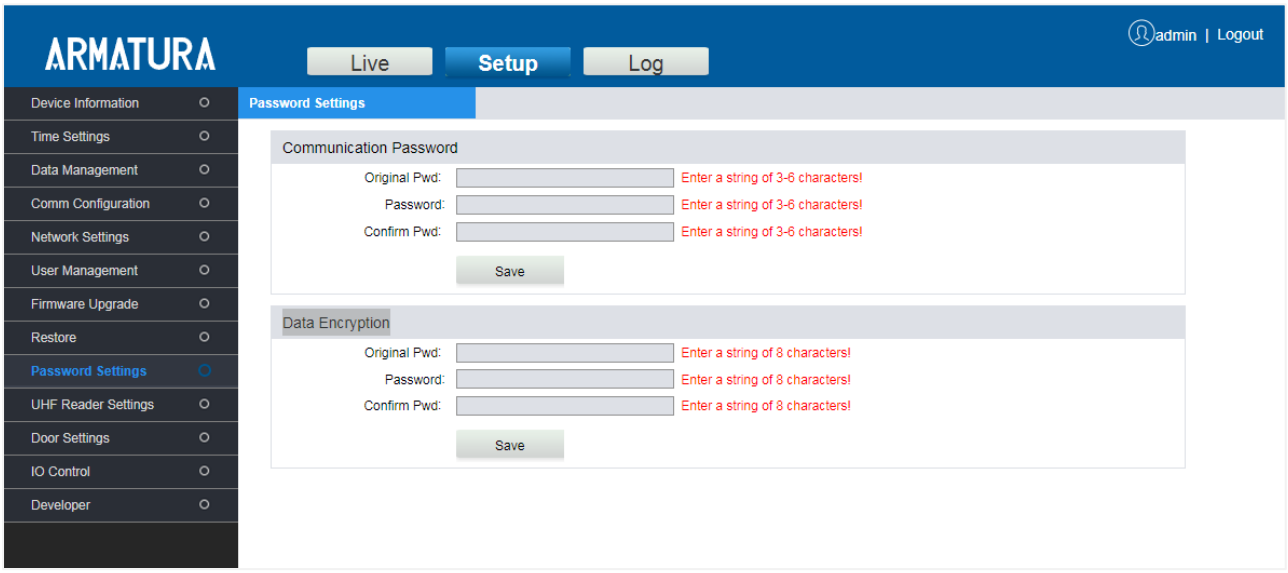
It restarts the system.



8.3.9 Password Settings

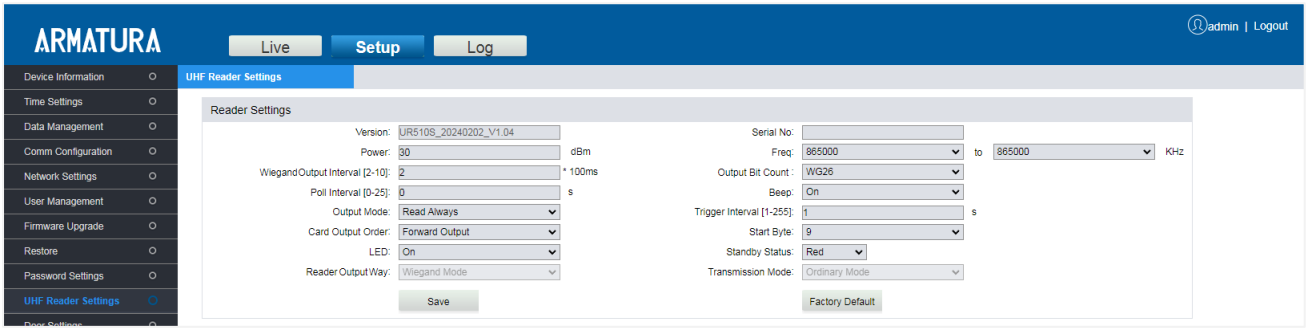
For security reasons, you can set passwords for Communication and Data on the device.

Click **[Password Settings]** on the Setup.



8.3.10 UHF Reader Settings

Click **[UHF Reader Settings]** on the Setup.

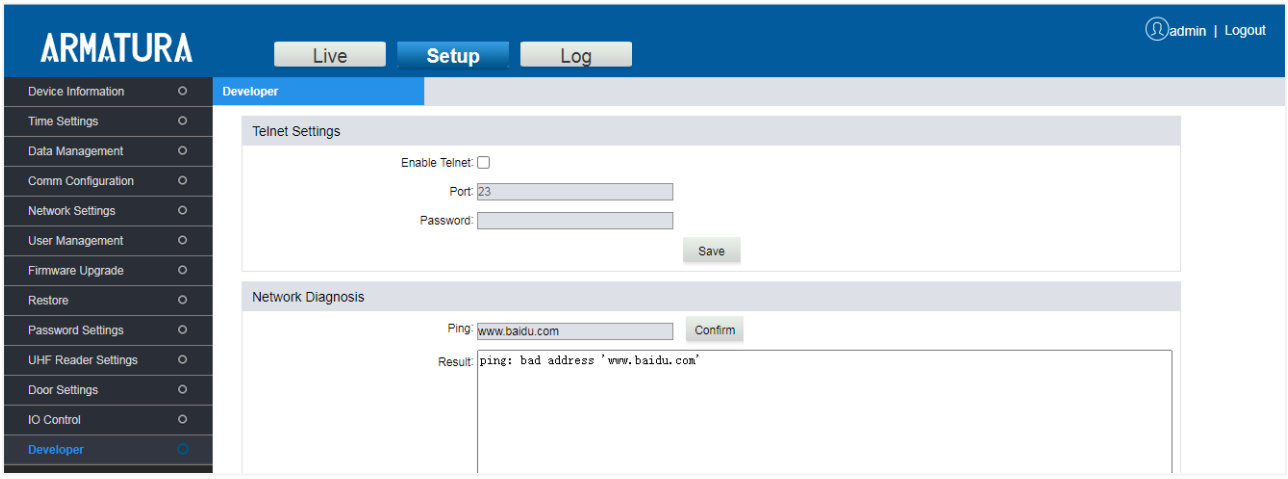


- **Version:** Displays the version number of the device.
- **Serial No:** Displays the serial number of the device.
- **Power:** Set the power of the device, valid values of 7 to 30.
- **Freq:** Set the frequency values, valid values of 865000 to 868000.
- **Wiegand Output Interval [2-10]:** Sets the interval time between Wiegand output, valid values are 2 to 10.
- **Output Bit Count:** Select the Wiegand output bit count for the device. The default Wiegand format is WG26, and it can be set as WG34, WG42, WG50, WG58, WG66, WG74, WG82, WG90, WG98.

- **Poll Interval [0-25]:** Sets the poll interval time for the device, valid values of 0 to 25.
- **Beep:** Enable/disable the sound when device reading the card.
- **Output Mode:** Set the Wiegand output mode, either read always or read by trigger.
- **Trigger Interval [1-255]:** Sets the trigger interval time for the device, valid values of 1 to 255.
- **Card Output Order:** Sets the card output order of the device, either forward output or inverted output.
- **Start Byte:** Sets the start byte when the device reads the card, valid values of 0 to 9.
- **LED:** Enable/disable the LED of the device.
- **Standby Status:** Sets the color of the LED when the device is in standby.
- **Reader Output Way:** Displays the reader output way for the device.
- **Transmission Mode:** Displays the transmission mode for the device.
- Click **[Save]** after setting the parameters.
- Click **[Factory Default]** to restore the device to factory parameters.

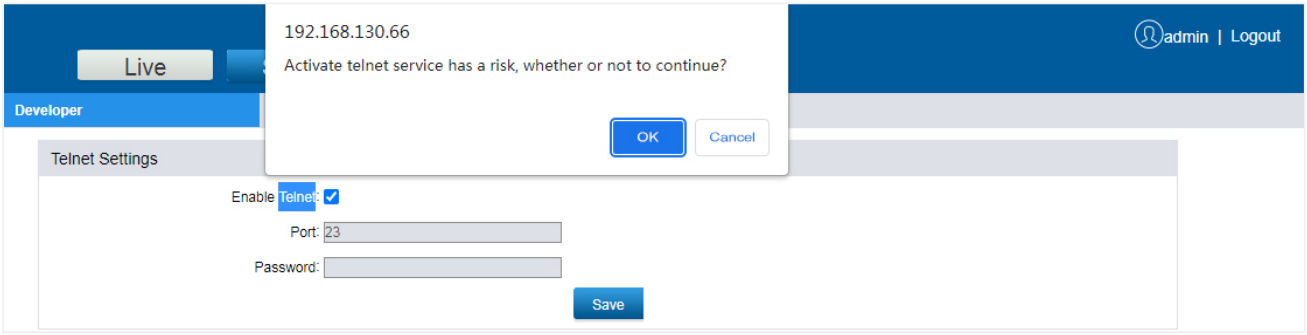
8.3.11 Developer

Click **[Developer]** on the Setup.



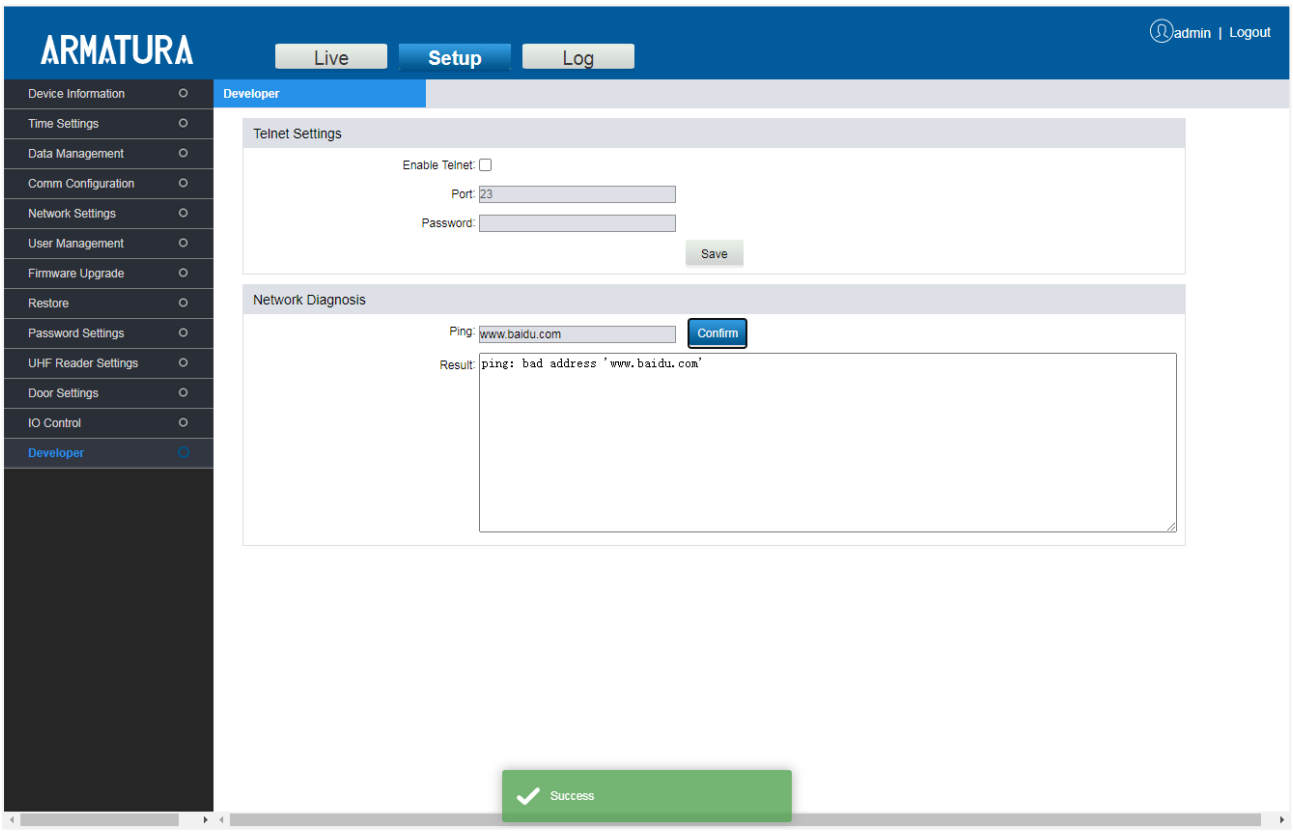
Telnet Settings

Whether to enable telnet function.



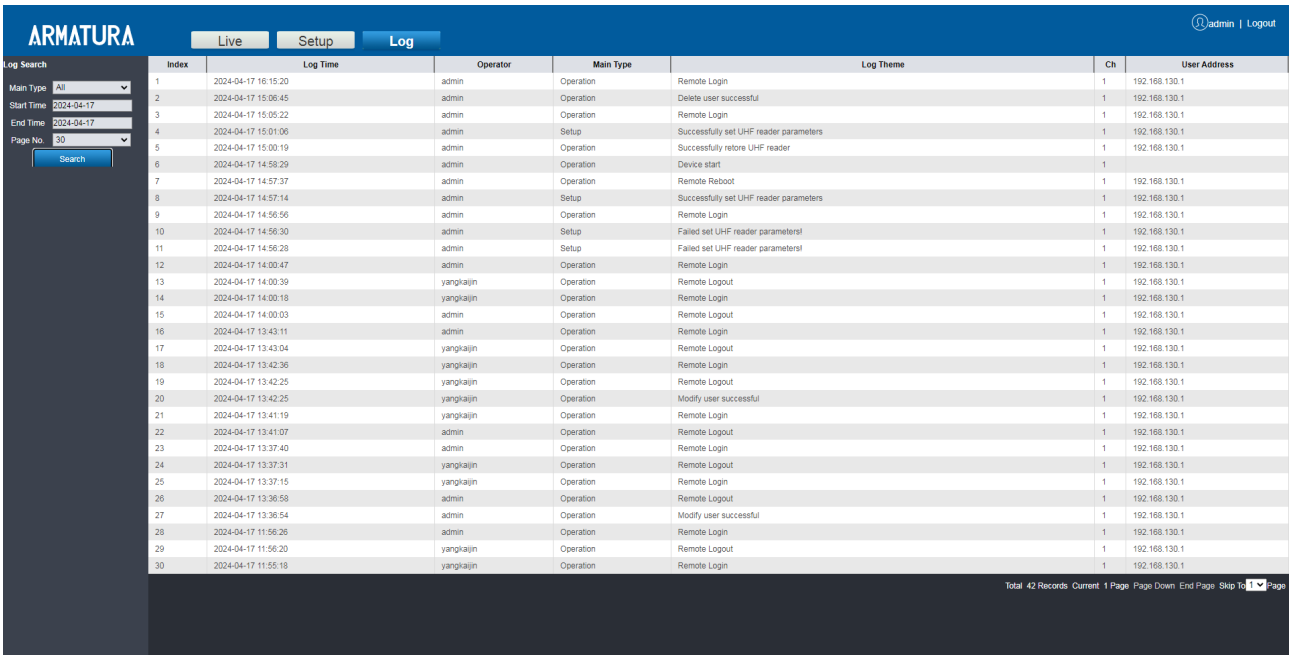
Network Diagnosis

Tests whether you can ping the server.



8.4 Log

Click **[Log]** in the navigation bar at the top of the page to enter the log page, the log is used to search the recording history. The user can filter the search list with options such as search type, start time, end time, and the number of log results per page. After selecting the criteria, click **[Search]** to related logs.



Eco-friendly Operation

The product's "eco-friendly operational period" refers to the time during which this product will not discharge any toxic or hazardous substances when used in accordance with the prerequisites in this manual.

The eco-friendly operational period specified for this product does not include batteries or other components that are easily worn down and must be periodically replaced. The battery's eco-friendly operational period is 5 years.

Hazardous or Toxic substances and their quantities

Component Name	Hazardous/Toxic Substance/Element					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr6+)	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Chip Resistor	×	○	○	○	○	○
Chip Capacitor	×	○	○	○	○	○
Chip Inductor	×	○	○	○	○	○
Diode	×	○	○	○	○	○
ESD component	×	○	○	○	○	○
Buzzer	×	○	○	○	○	○
Adapter	×	○	○	○	○	○
Screws	○	○	○	×	○	○

This table is prepared in accordance with the provisions of SJ/T 11364.

○ indicates that the total amount of toxic content in all the homogeneous materials is below the limit as specified in GB/T 26572.

× indicates that the total amount of toxic content in all the homogeneous materials exceeds the limit as specified in GB/T 26572.

Note: 80% of this product's components are manufactured using non-toxic and eco-friendly materials. The components which contain toxins or harmful elements are included due to the current economic or technical limitations which prevent their replacement with non-toxic materials or elements.

FCC Warning

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC RF Radiation Exposure Statement:

- This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
- This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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

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