

User Manual

US1000/2000

Date: February 2023

Doc Version: 1.0

English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



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www.zkteco.com.

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If there is any issue related to the product, please contact us.

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About the Company

ZKTeco is one of the world's largest manufacturers of RFID and Biometric (Fingerprint, Facial, and Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

About the Manual

This manual introduces **US1000 and US2000**.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.

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1. Overview

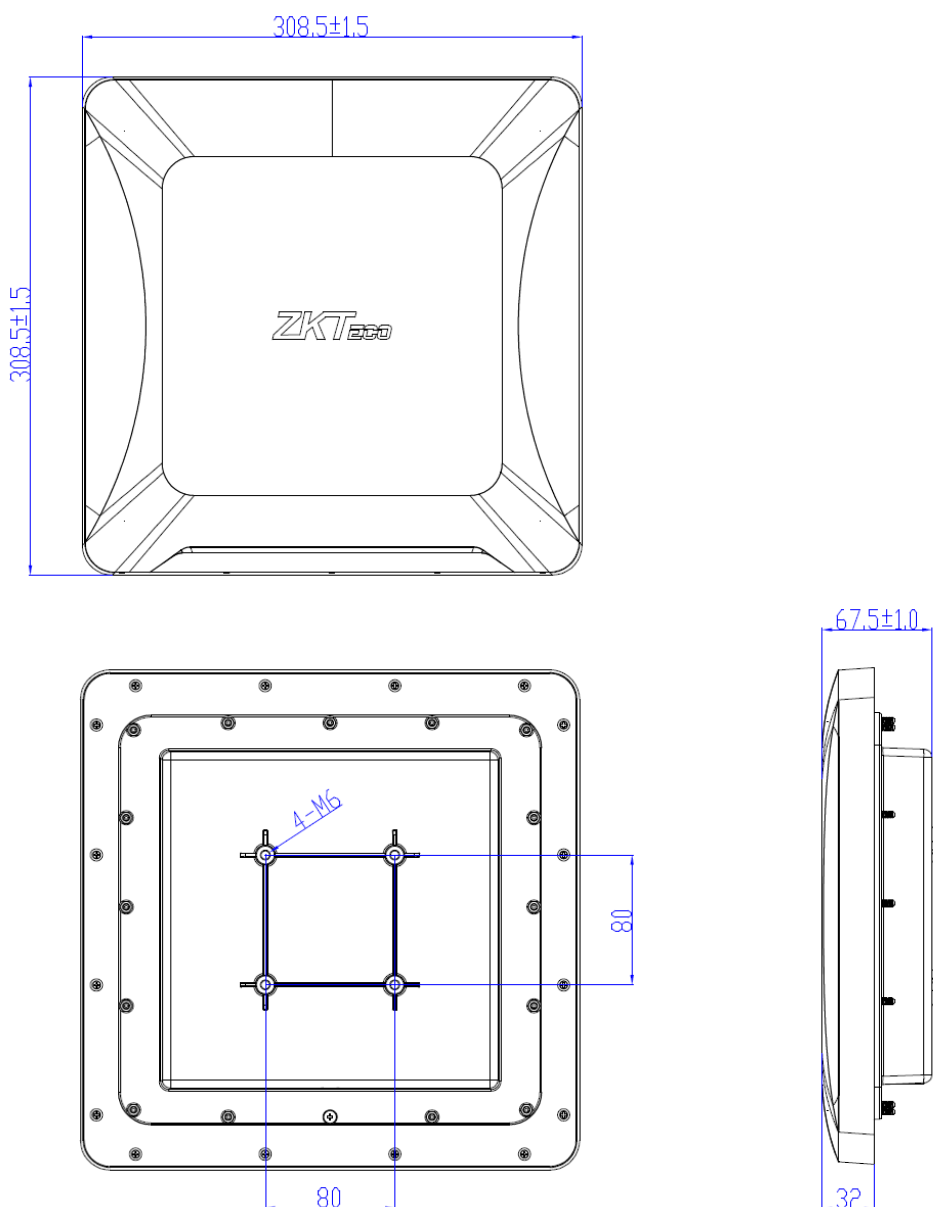
US1000/2000 is based on upgraded the third-generation UHF reader of ZKTeco, it supports offline management, can be connected to a mobile APP via Bluetooth, does not require an external controller and software, we can use DEMO to issue user permissions.

US1000/2000 is a remote RFID access control machine that integrates UHF reader module and controller module. Support USB, WG, TCP/IP, RS485 and Bluetooth communication. Support USB upgrade, easy to install and use.

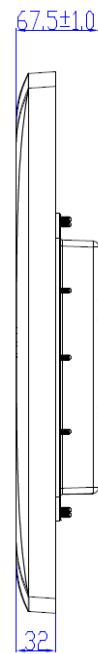
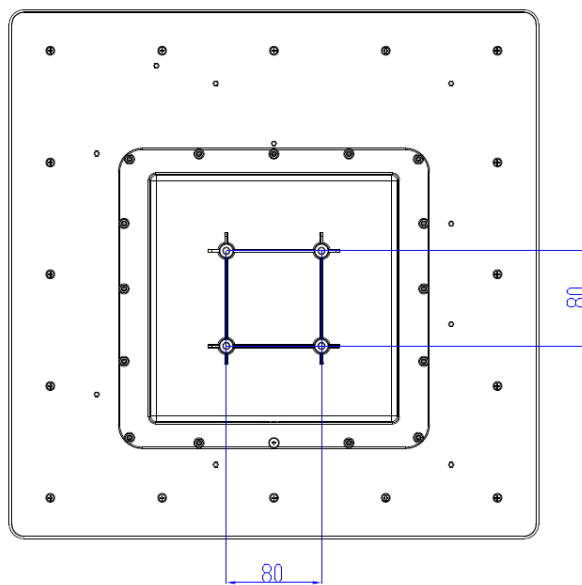
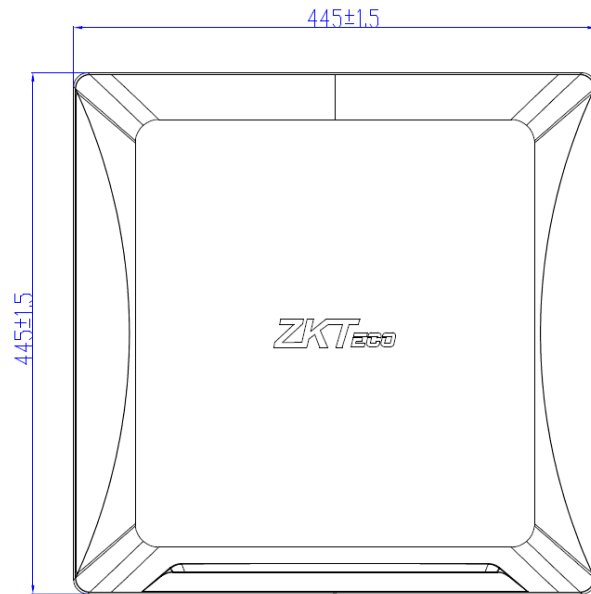
2. Appearance Introduction

2.1. Dimension (Unit: mm)

US1000:

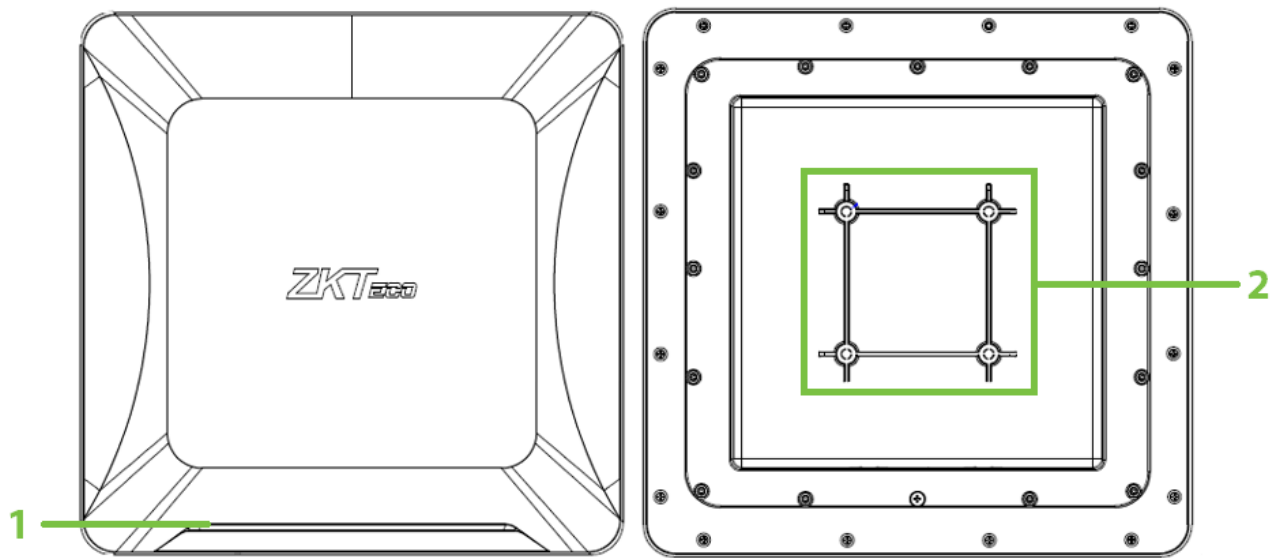


US2000:



2.2. Appearance Description

Take US1000 for example:



Number	Name	Description
1	Indicator of the Status	Displays device status. By default, the standby red light is steady on.
2	Position of the Support Mounting	Four screws to fix the body, clamp rod installation, rod or column diameter range of 40-75mm.

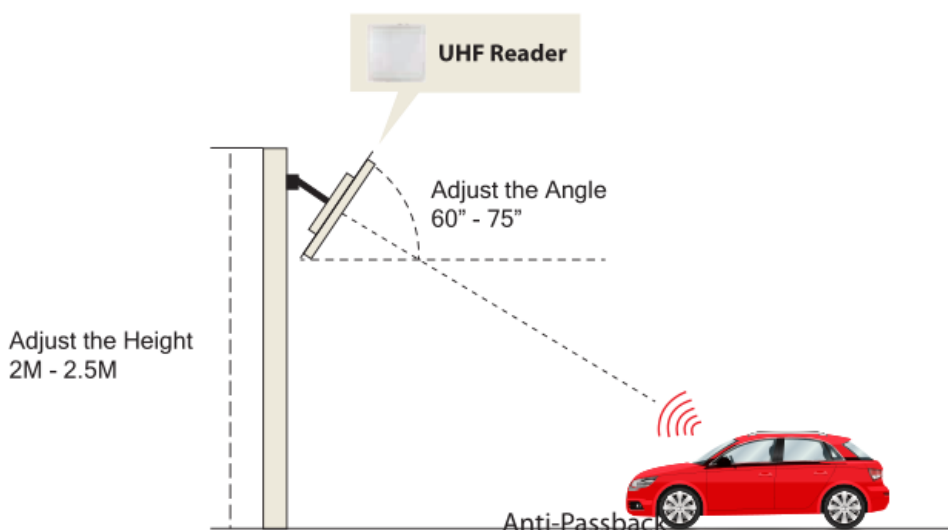
3. Wiring and Installation

3.1. Wire Connection Definition

Number	Colour	Function
1	Red	Power +12V
2	Black	Ground
3	White	Wiegand output D1
4	Green	Wiegand output D0
5	Black with White	Ground
6	Brown	RS485+
7	Orange	RS485-
8	Purple	Trigger INT
9	USB Male Connector	USB Interface
10	RJ45 Female Connector	Network interface (Only TCP/IP models are supported)

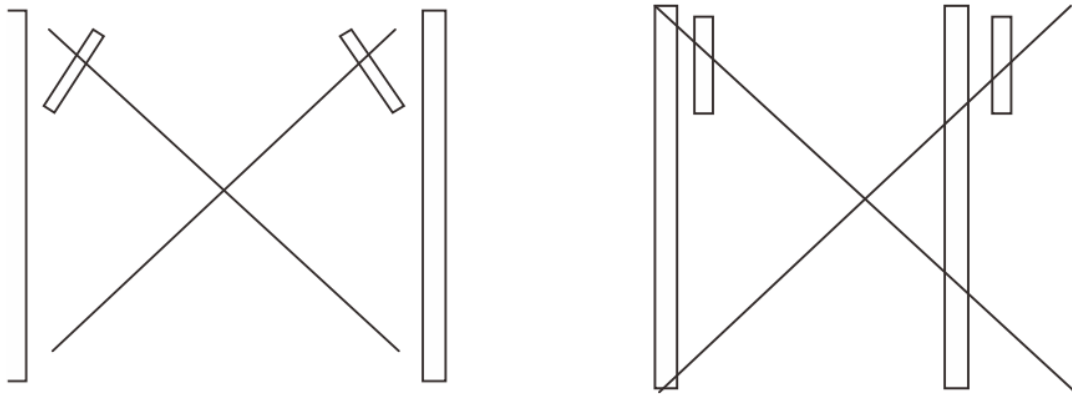
3.2. Installation

The reader is mounted on an object such as a rod or column by fixing the support part. The installation height and angle can be adjusted according to the specific application scenario to achieve the best recognition effect. The recommended installation height ranges from 2 to 2.5 meters and the angle ranges from 60 to 75 degrees, as shown below.

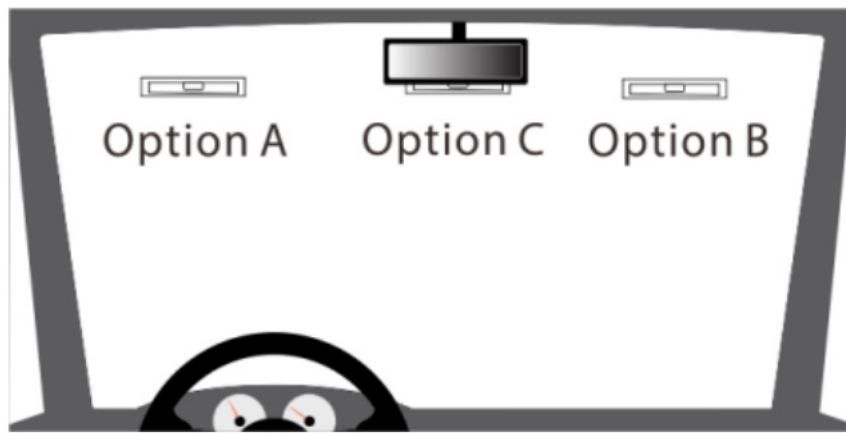


Note: Please install the reader as shown in the above picture. The facing direction of the reader and the travel direction of the vehicle must be in a straight line.

Avoid installing the reader opposite to each other:



The position of the tag/card in the vehicle must be as follows:



The reader detection distance may vary depending on climatic conditions such as rain, snow or wind.



The reader should be away from any strong magnetic field while working.

4. Operating Instruction

4.1. Card Reading Test

First, the machine is connected to +12V power supply and wait for startup. When the machine is started, the red light is on and the buzzer sounds once, indicating that the machine is started successfully.

Swipe Card Test:

Put the user card close to the card swiping area of the machine, the machine buzzer will sound 1, and the machine will transmit the card data through Wiegand, RS485 or network data cable.

If you need to modify the working mode of the reader, RF power, and reading card interval, you can connect the PC Demo via USB to customize the settings.

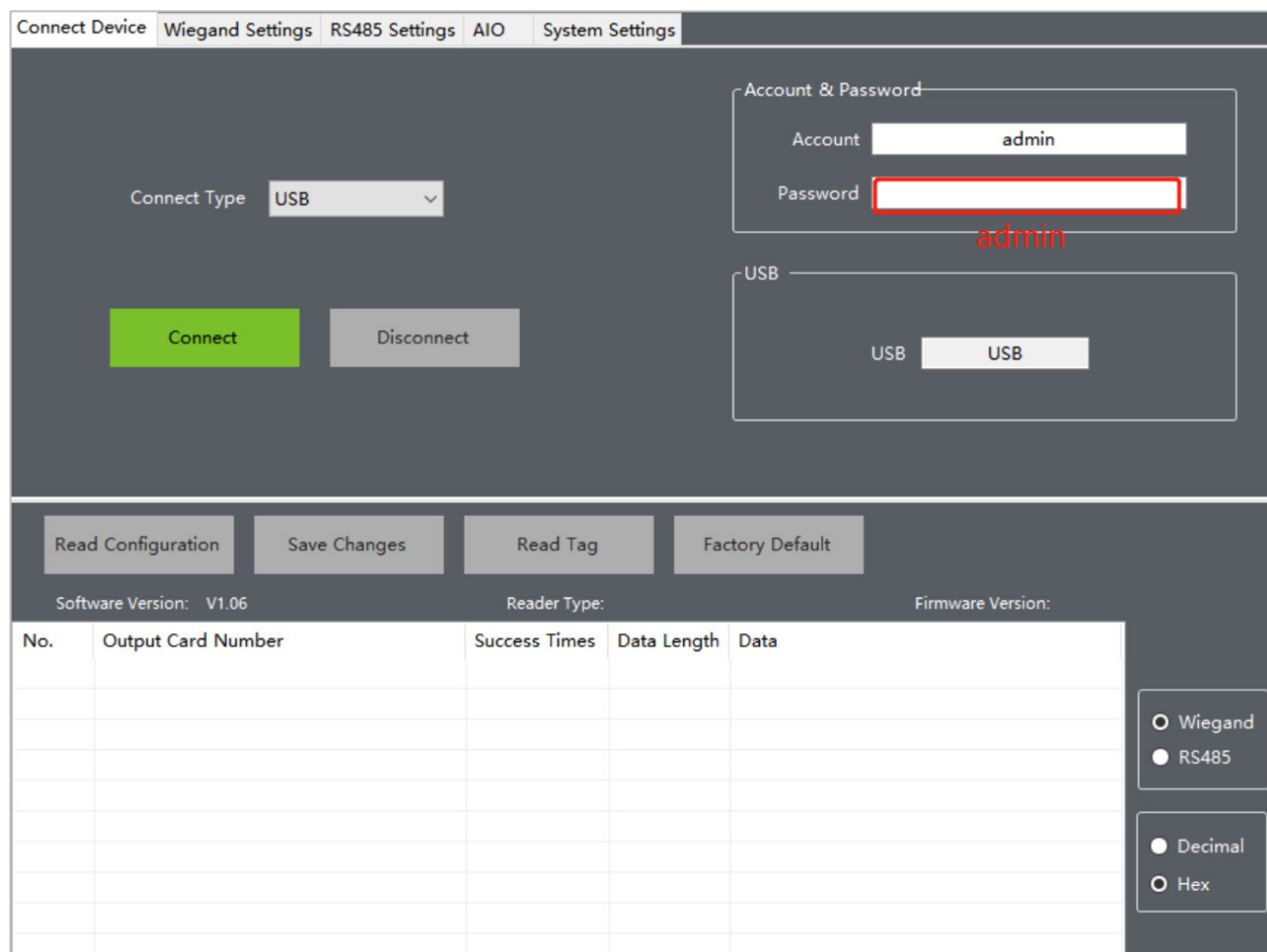
4.2. Description of Configuring Demo

4.2.1. Login Software

1. The machine connects to the computer via USB to find and run the software.



2. Go to the login page, enter the default password admin, and click **Connect**.



4.2.2. Wiegand Settings

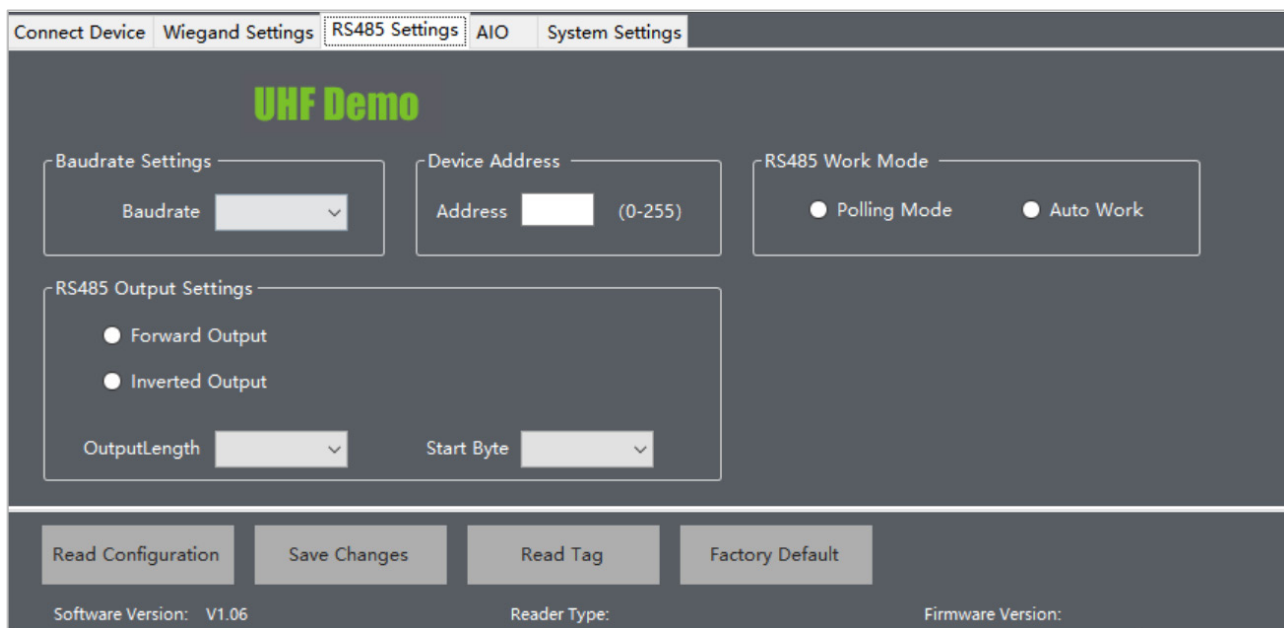
On this page, you can set the work mode of the machine, Wiegand output interval, Wiegand data format, RF parameters, card reading prompt, card reading interval and Wiegand output.

Descriptions:

Work Mode	Read always, that is, the machine reads the card after it is powered on. Read by trigger, that is, when the purple line (int trigger line) is low, the machine will read the card. At the same time, you can set the time for the machine to read the card once triggered, ranging from 1 to 255 seconds.
Wiegand Output Time	The interval between the Wiegand data and the next Wiegand data ranges from 200 milliseconds to 1 second.
Wiegand Format	Supports Wiegand 26, 34, 42, 50, 58, 66, 74, 82, 90, 98.
RF Settings	Set the RF power and RF frequency band for the module.
Reader Indicator	Set the machine reader card to beep or not.
Tag Reading Interval	Set the time between one card read and the next.
Wiegand Output Settings	Sets the machine's forward and inverted output of Wiegand data, and from which bit to take.
Read Configuration	Read the machine's existing configuration.
Save Changes	After modifying the configuration, click Save Changes .

4.2.3. RS485 Configuration

On this page, you can set the RS485 communication baud rate, RS485 address, RS485 working mode, and RS485 output configuration.

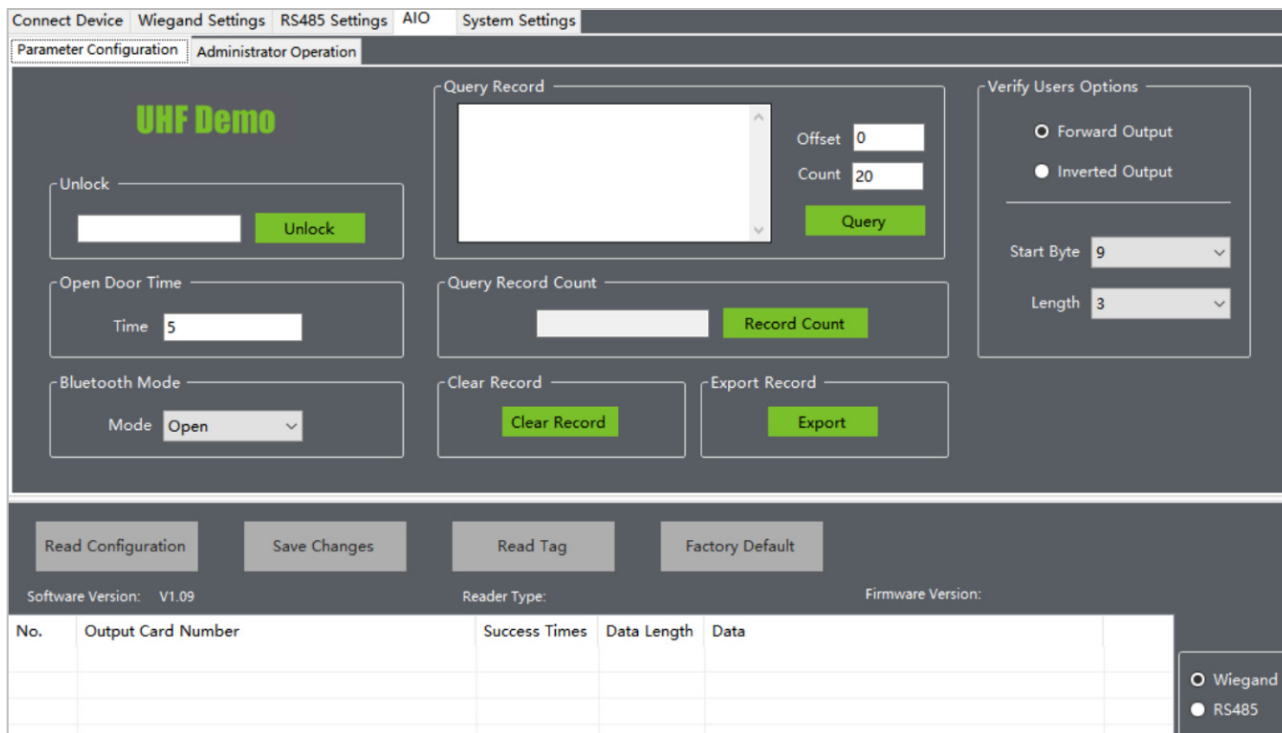


Descriptions:

Baudrate Settings	Set the baud rate for the RS485 communication.
Device Address	Set the communication address for the RS485 port.
RS485 Work Mode	Polling mode: the host or controller sends different address of the card reading instruction, the machine replies to the data. Auto mode: The machine reads the card, then output data.
RS485 Output Settings	Set the forward and inverted output, data length, and starting byte of the RS485 data for the machine.
Read Configuration	Read the machine's existing configuration.
Save Changes	After modifying the configuration, click Save Changes .

4.2.4. Parameter Configuration of AIO (All in One Machine)

This page is used to set user authentication parameters and query, clear, and export open door records.

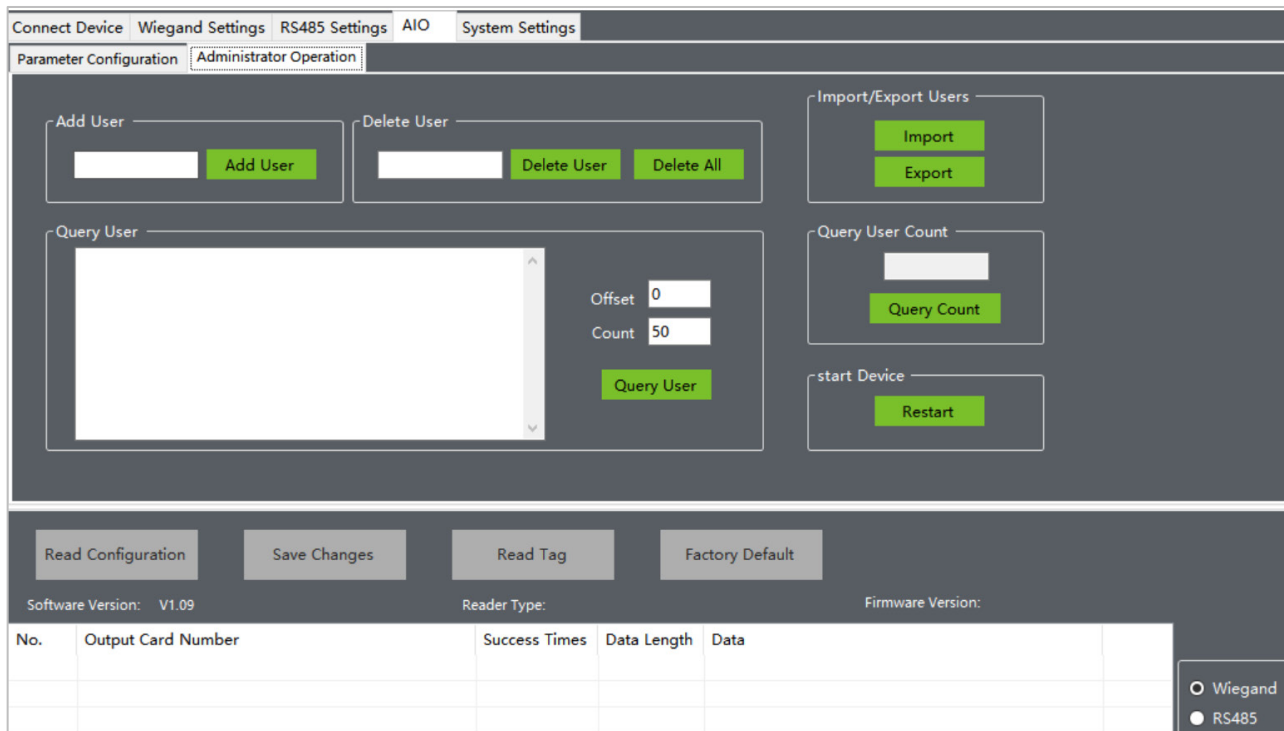


Descriptions:

Unlock	Fill in the card number that is registered and click Unlock to realize the remote unlock function.
Open Door Time	Opening duration of door lock or barrier gate.
Bluetooth Mode	When Bluetooth is turned on, you can use the Android Bluetooth APP to set device parameters.
Query Record	Query the door opening record of the device.
Query Record Count	Query the total number of door opening records.
Clear Record	Clear the door opening record of the device.
Export Record	First query the door opening record, and then click Export record to export the door opening record in the device. Export to the computer in Excel form.
Verify User Options	Sets the machine's forward and inverted output of Wiegand data, and from which bit to take. Normally, these setting are same that of the reader mode.
Read Configuration	Read the machine's existing configuration.
Save Changes	After modifying the configuration, click Save Changes .

4.2.5. Administrator Operation

This page is used to manage users, including adding, deleting, querying, importing, and exporting users.

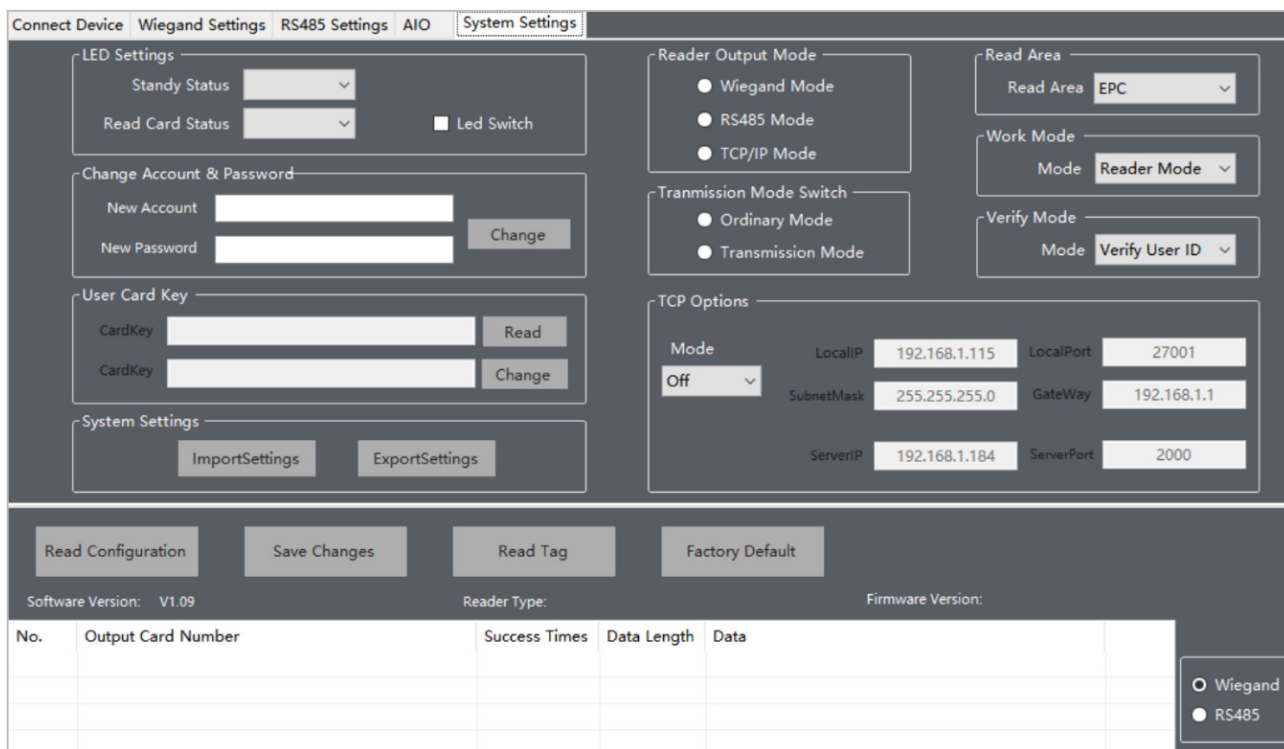


Descriptions:

Add User	Fill in the card number and click Add User to add the card to the device.
Delete User	Fill in the card number and click Delete User to cancel the unlocking authorization of the card. Click Delete All to delete all authorization information from the device.
Import/Export Users	Import: Import users to the device using an Excel table. Export: Query the user first, and then click Export , you can export the user in the device to Excel. The table form is exported to the computer.
Query User	Query the authorized users added to the device.
Query User Count	Query the total number of users added to the device.
Read Configuration	Read the machine's existing configuration.
Save Changes	After modifying the configuration, click Save Changes .

4.2.6. System Settings

This page can set the machine LED light configuration, login user name and password, output mode, read area, transparent mode switch, working mode, import and export configuration, and network parameters.



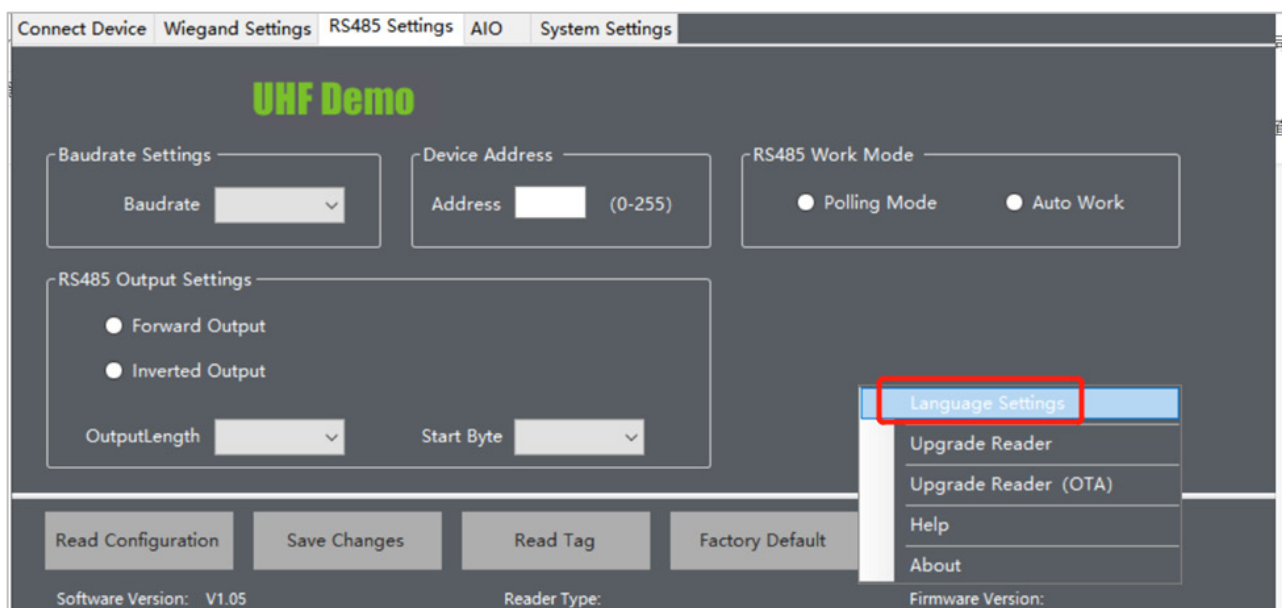
Descriptions:

LED Settings	Set the color of the LED when the machine is in standby status and swiping the card status.
Change Account & Password	Change the user name and password for logging in to Demo.
User Card Key	The key used when the user card is issued. Key authentication will authenticate this key.
System Settings	You can export or import the configuration of the set machine to quickly set the machine.
Transmission Mode Switch	This parameter takes effect only when TCP/IP communication is used. You can select the ordinary mode or transmission mode.
Reader Output Mode	Set the machine data transmission mode.
Read Area	Set which part area of the card is read when the machine reads the card. The default value is EPC. You can choose to read the data in TID or USER area. When you read the data in TID or USER area, the card reading distance is relatively short.
Work Mode	Set the machine to reader mode or all-in-one mode. Reader Mode: Swipe the card, the card data is transferred to the controller or other host. AIO Mode: Swipe the card, obtain the card data, and then verify the key, or with the added authorization card data comparison, if successfully, unlock the door

	or open the barrier gate.
Verify Mode	<p>Reader Mode: Verify User ID: Swipe the card to output the data of the card reading area. Verify key: When swiping the card, the data of the card reading area can only be output after compared to the issuing key.</p>
	<p>AIO Mode: Verify User ID: Swipe the card to obtain the card data and compare it with the authorized card data. If it is successful, the door will be opened. Verify key: Swipe the card, obtain the card data, and then compared to the issuing key, if consistent with the issuing key, the door will be open. Verify key & User ID: Swipe the card, obtain the card data, and then compared to the issuing key with the card data that has been added authorization. Only when the key and the user ID are the same, can the door be unlocked.</p>
Read Configuration	Read the machine's existing configuration.
Save Changes	After modifying the configuration, click Save Changes .
TCP Options	<p>Mode: when set to off, the network communication is off. Sever: The device listens on the Local Port until the client initiates a connection. After the connection is established, the device uses the local port to send and receive data. It is the easiest to set compared to other modes. The only parameter you need to care about is the Local Port. Simple and convenient configuration, LAN application is the main. Client: Initiate a connection to the Remote Host + Remote Port of the remote server, and realize two-way data communication after the connection is established. The user must fill in the correct remote server address and corresponding port, and specify the trigger method to initiate the connection. Suitable for LAN, Internet and other large-scale networking applications.</p>
Local IP	Set the IP address of the device. The default is 192.168.1.200.
Subnet Mask	Set the subnet mask of the device. The default is 255.255.255.0.
Gate Way	Set the gateway to 192.168.1.1 by default.
Local port	Sets the local port that the device uses for communication (mainly for server mode).
Sever IP	Set the IP address of the remote host/server used to communicate with the module.
Sever Port	Set the remote server port for communication with the module.

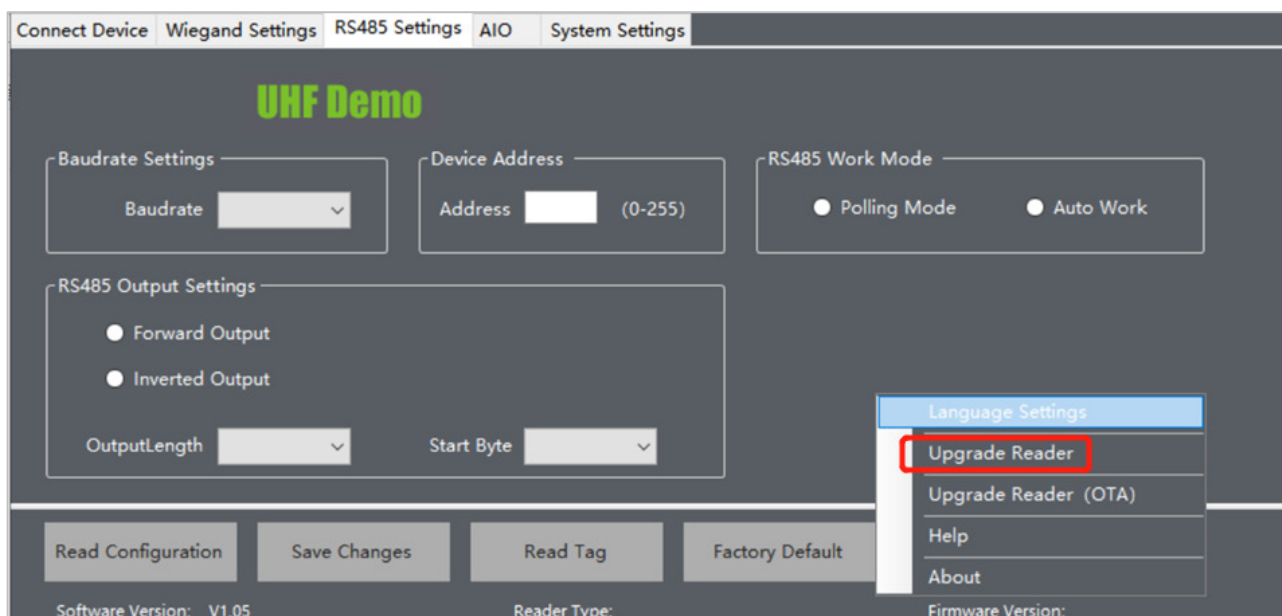
4.2.7. Switch Language

Right-click on the Demo page to display the function list. Click **Language Configuration**, select the language to be switched from the drop-down list, and click **OK**, demo software will restart automatically.

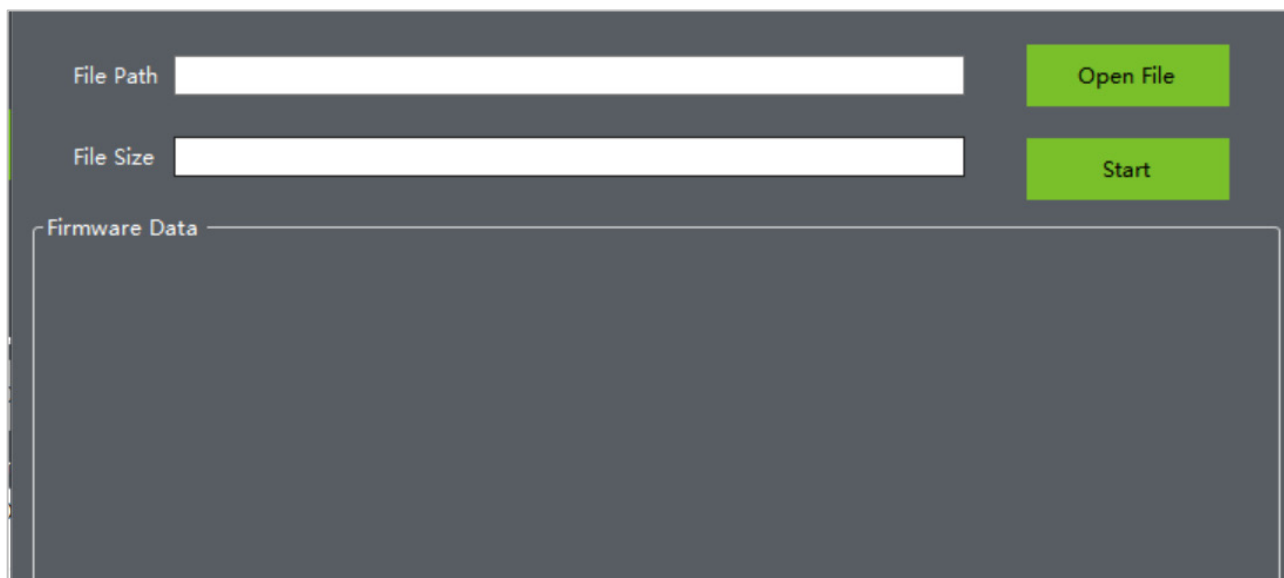


4.2.8. Upgrade Firmware

1. Right-click on the Demo page to display the function list. Click **Upgrade Reader**.



2. Click **Open File**, select Upgrade firmware, click **Open**, and then click **Start**. Power off the machine and unplug the USB. Then connect USB and power on again, the machine will automatically start upgrading, wait for the progress bar at the bottom of the page to complete. When the progress bar is complete, the upgrade is successful.



5. Reader Status Description

Indicator	Description
The buzzer sounds once and the green light blinks once.	Card number verification is successful.
The status light is always red.	Machine stand by.

6. Attention

1. For the power supply of the machine, it is recommended to use non-switched linear DC power supply. The power supply distance is not more than 100 meters. If it exceeds 100 meters, please use a separate power supply.
2. To ensure the normal operation of the machine, please ensure that the input power is between 12V±10%.
3. It is recommended that the distance between the two machines be at least 30 cm.
4. To reduce long-distance noise, the shielding layer of the transmission line should be co-located with the machine.

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