Quick Start Guide

QR Code Access Control Card Reader (QR600 Series)

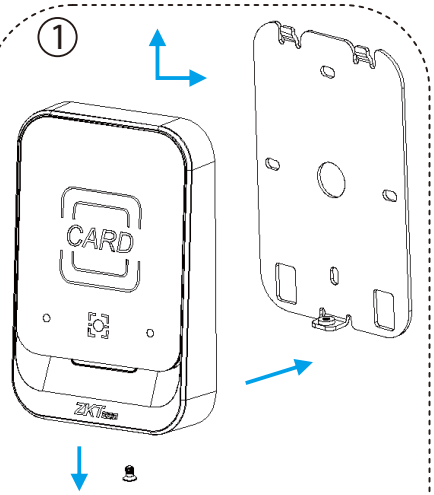
Version: 1.0

Due to the regular upgrades of systems and products, ZKTeco could not guarantee exact consistency between the actual product and the written information in this manual.

1 Installation

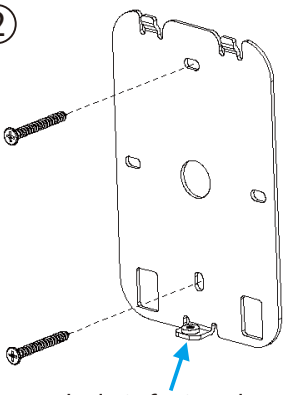
Product size 1: (length 120 (±0.5) * width 80 (±0.5) * height 22.67 (±1)) (mm)

①



As shown in the figure above, remove the screw and remove the backplate from the device.

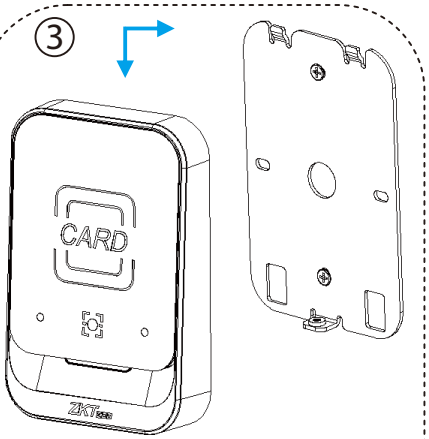
②



screw hole is facing down

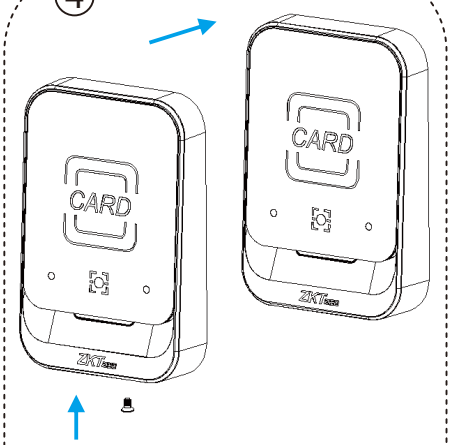
Align the screw holes of the backplate with the holes drilled on the wall, and fix the backplate on the wall with the screws.

③



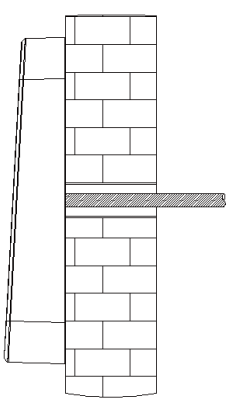
Connect the wires well, and install the device on the backplate.

④



Use the screw removed in step 1 to fix the device on the backplate.

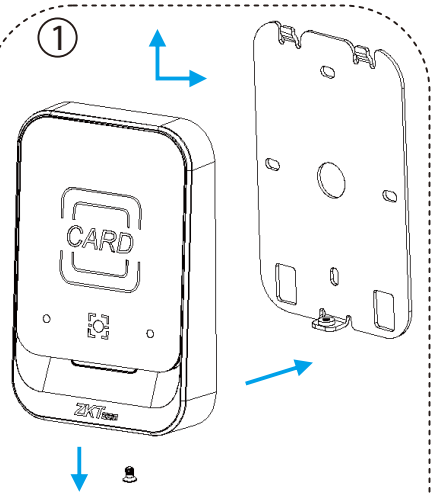
⑤



Installation of device cable through the wall.

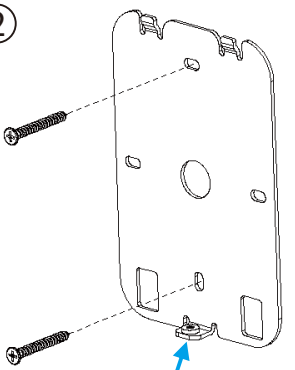
Product size 2: (length 138 (±0.5) * width 58 (±0.5) * height 22.67 (±1)) (mm)

①



As shown in the figure above, remove the screw and remove the backplate from the device.

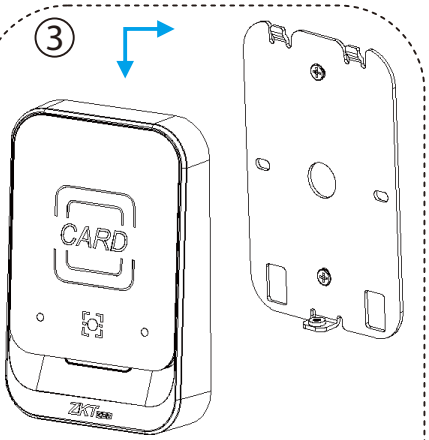
②



screw hole is facing down

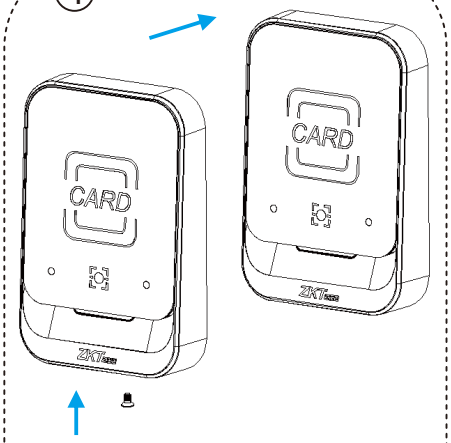
Align the screw holes of the backplate with the holes drilled on the wall, and fix the backplate on the wall with the screws.

③



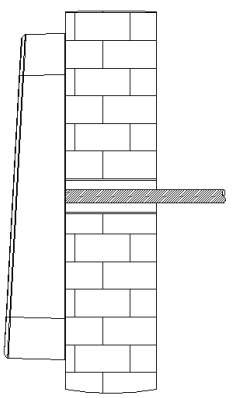
Connect the wires well, and install the device on the backplate.

④



Use the screw removed in step 1 to fix the device on the backplate.

⑤



Installation of device cable through the wall.

2 Product Introduction

The QR600 series QR code reader is a new generation of intelligent access control card reader developed by our company. The product has high-end appearance, high scanning speed, high recognition rate, strong compatibility, and can be connected to any access control controller that supports Wiegand input. The reader adapts to various application scenarios and supports the identification of RFID radio frequency cards and QR codes, and uses non-contact identification to replace traditional RFID cards. Dynamic QR codes can better protect user information security, and the product supports IP65 waterproof, which can be applied in community management, visitor management, hotel management, unmanned supermarkets, and other fields. The design of this series of products is also in line with CE, FCC and other certification standards.

The features of QR600 QR code reader are as follows:

- New QR code access control technology
- ID supports EM4100/EM4200
- IC supports identification of MF, Desfire EV1, resident ID card and QR code
- Support QR code recognition: 2D: QR, Data Matrix, PDF417; 1D: GS1 databar, code128/Ean128, UPC/EAN, Codebar, code39/code93
- Support Wiegand34/26/32/66/RS485 switching at the same time
- Support OSDP
- Number keyboard (optional)

3 Wiring Instructions

3.1 Wiring Definition

QR600 series: 11 core wire connection mark

Red	Black	White	Green	Gray	Pink	Yellow	Orange	Blue	Light Blue	Light Green
VCC	GND	WD1	WD0	/	/	/	/	/	485A	485B

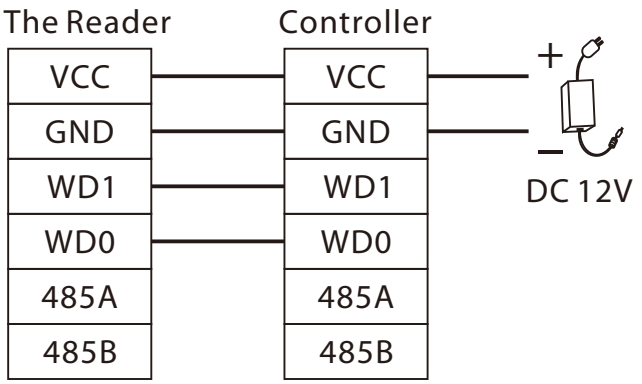
3.2 Device Connection

Please connect the device to other equipment according to the wiring definition of the QR code reader. In addition, the following only refers to the partial wiring of the QR code reader and the controller. It does not represent all wiring definitions of the controller. Please refer to the actual controller wiring definition.

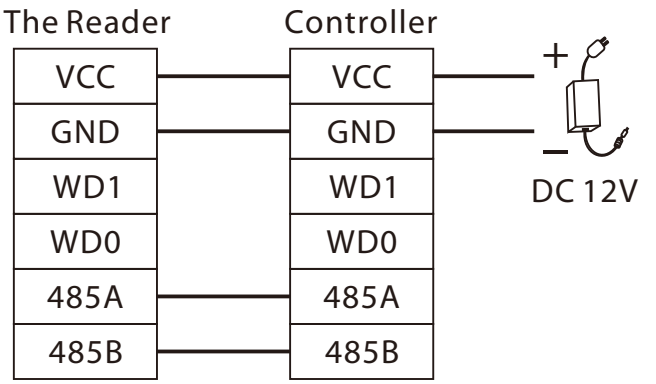
❖ **Wiegand or 485 connection**

1. Connect the QR code reader to the controller via Wiegand or RS485 and then connect it the +12V power supply. The QR code reader does not need to be connected to the lock body when it is used as a reader. The controller in the figure only lists some of the wirings, and there are many kinds of connections between the machines. Wiegand or RS485 common connection reference as shown below:

RS485 Connection Mode:



Wiegand Connection Mode:



2. Open DEMO, select the serial port number, the default baud rate is 115200, click "**Connect**" and "**Scan Address**" and then put the card or QR code (paper, electronic , mobile phone) into the recognition range of the card reader, and read the card. The device automatically obtains and transmits the information carried by the card or QR code to the controller.

❖ **USB connection**

1. First, connect the QR code reader to the PC terminal through the USB cable.
2. Open DEMO, select USB for the serial port number, click "**Connect**" and "**Scan Address**", it prompts that the connection is successful, and then place a card or QR code (paper, electronic, mobile phone) within the reader's recognition range, the card reader will automatically obtain and transmit the information carried by the card or QR code to the controller.

4 Set up the QR Cord Reader with Demo Software

This section describes how to configure the QR code reader through the DEMO software.

4.1 Configuration

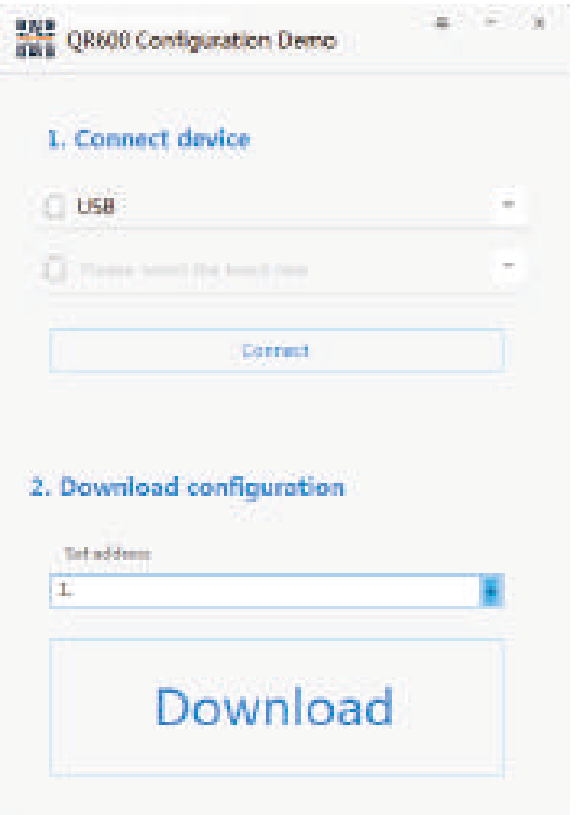
1. Connect the QR code reader to the computer with a USB cable, open the Demo software, select the USB port, and click "**OK**". (Note: If a serial connection is selected, the baud rate is 115200 by default).

Note:

① Support to connect the configuration tool through USB and serial port.

② USB: Connect to the configuration tool by means of USB communication; COM: Connect to the configuration tool by means of 485 communication.

③ The version number in the screenshot only represents the version number of the test sample, please refer to the version number of the actual product.

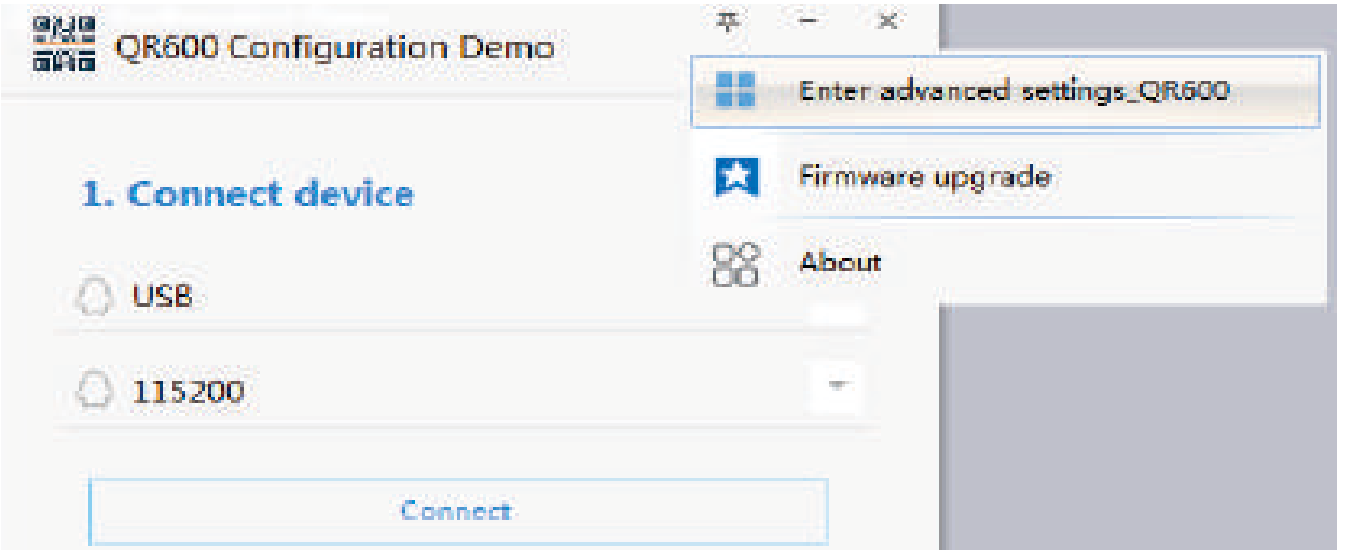


2. When the connection is successful, in the Download Configuration area below, click "**Download**".
3. When it prompted "**Download configuration is complete!**", you can complete the QR code reader configuration in one click, easy to operate.

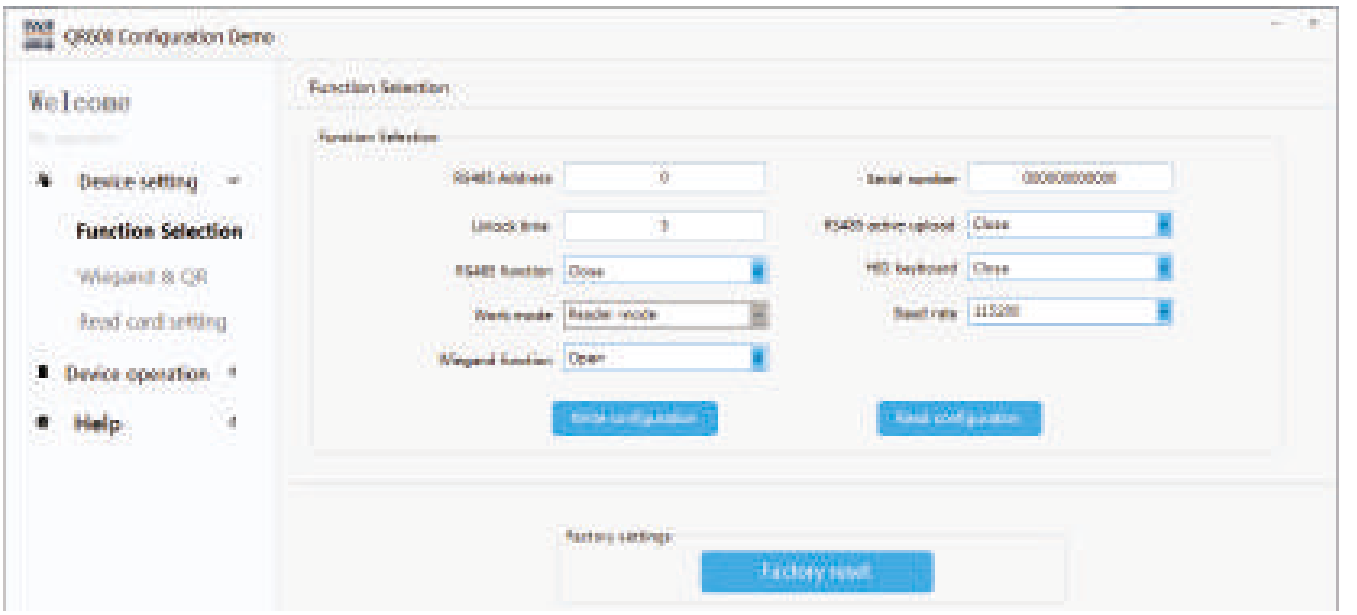
4.2 Device Operation

Operation Steps:

1. If the user needs to set the parameters of the QR code reader by themselves, open the Demo software, after successful connection, enter the advanced settings page in the top right corner of the page.

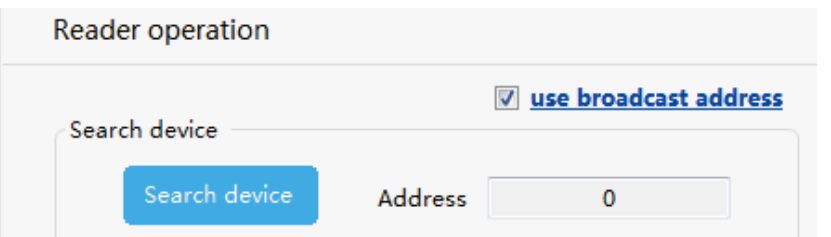


2. Enter advanced settings page.



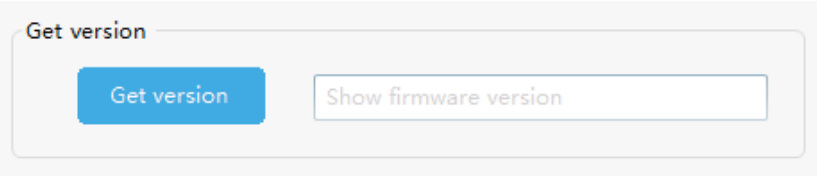
3. On the "**Reader Operation**" page, set the configuration parameters of the card reader as required.

① Click "**Search Device**" to view the communication address of the card reader.

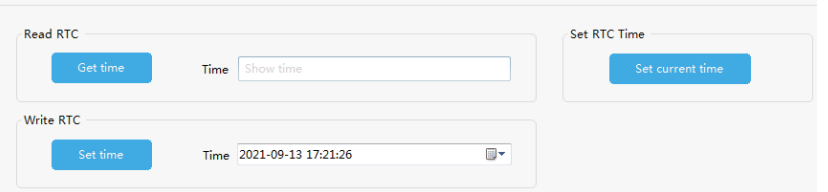


Note: If you select the RS485 address, you can click "**Search Device**" to get the correct device address before you can perform other operations.

② Click“**Get Version**”to view the version number information of the card reader.



③ Set the relevant parameters of the card reader.

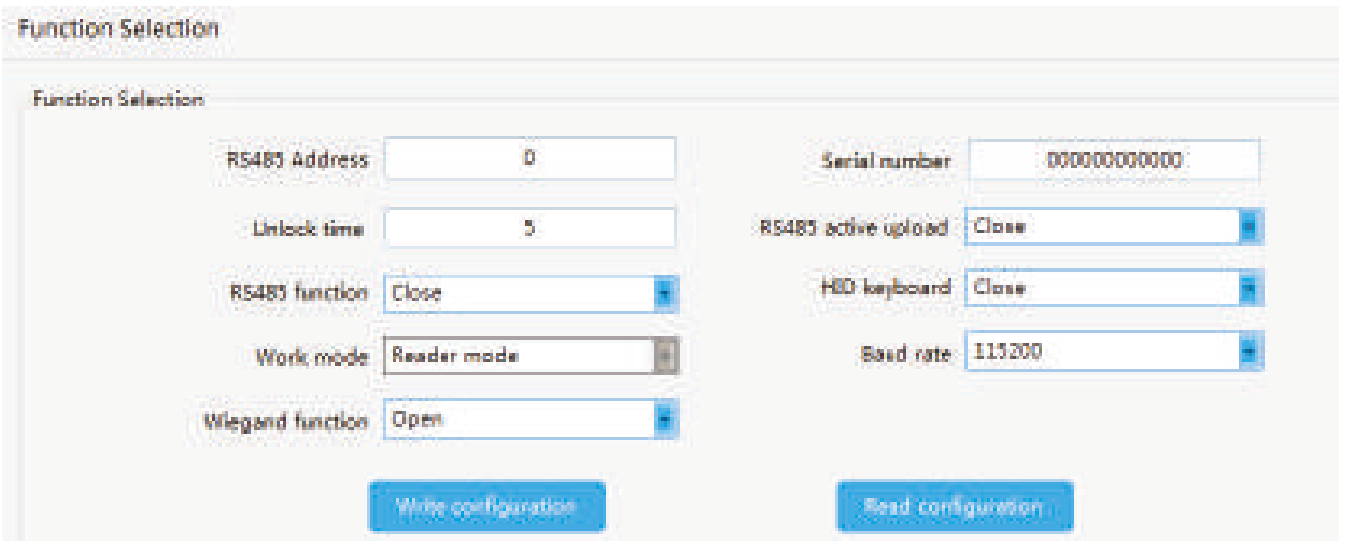


Parameter	Description
Read RTC	Get the time of the card reader.
Write RTC	Set the time of the card reader.
Set RTC Time	Set to the current time of the PC.

4.3 Function Selection

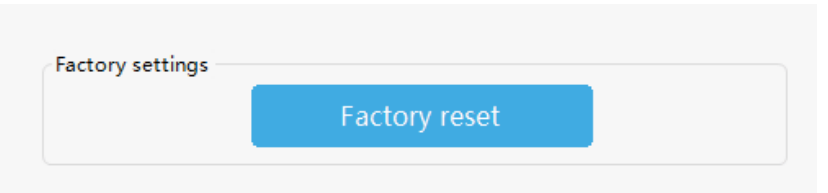
Operation Steps:

1. On the “**Function Selection**” page, click "**Read Configuration**" to view the configuration information of the current card reader.
2. Users can also set the parameter information of the reader by themselves, and then click "**Write Configuration**" to configure the parameter information of the QR code reader.



Parameter	Description
RS485 Address	0: Broadcast address, that is, the communication connection can be made regardless of whether the machine 485 address is set to 0~255. If the machine 485 address is set to 1~255, fill in the corresponding, you can also communicate.
Unlock Time	When the card reader is directly connected to the door lock and the card/QR code with normal door opening permission is swiped, the door opening time.
RS485 Function	Open or Close of the RS485 communication method of the card reader. The configuration tool can still be connected via 485 when it is closed.
Work Mode	Reading head mode: When connecting a card reader, select the reading head mode, and set the parameters of the reading head through the DEMO software. Offline mode: When connecting the all-in-one, select the all-in-one mode, and set the parameters of the all-in-one through the DEMO software.
Wiegand Function	Open or Close of Wiegand mode.
Serial Number	The serial number of the device of the reader.
RS485 Active Upload	When opened, the card reader data is automatically uploaded to the server under the 485 interface. When closed, the reader data will not be uploaded to the server.
HID Keyboard	When opened, the USB communication can transfer the card number/information to the computer (such as a text file). When closed, the card/QR code will have normal feedback, but the USB will not transfer the card number/information to the computer.
Baud Rate	If a serial connection is selected, setting the baud rate is supported.
Write Configuration	After modifying the above parameters, click "**Write configuration**", that is, the new configuration information is successfully written to the card reader.
Read Configuration	Get the current configuration information of the reader and display it.

3. Support for restoring the card reader to its factory settings.



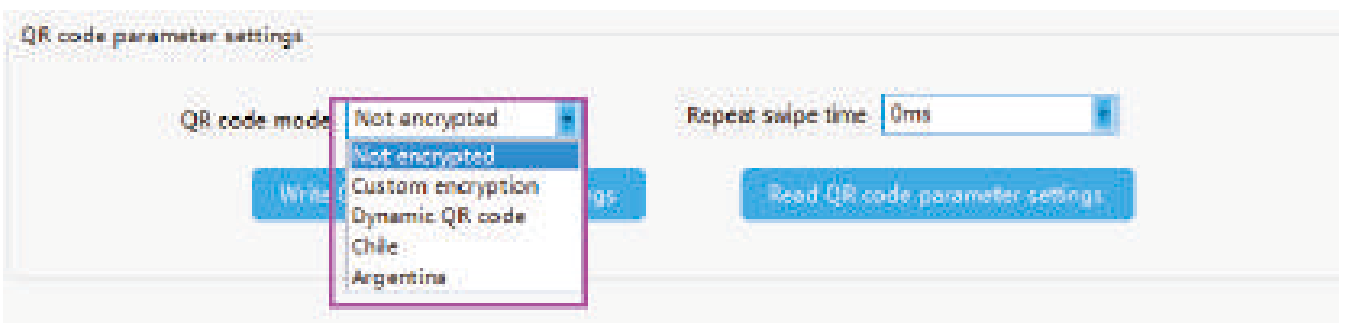
4.4 Wiegand and QR Parameter Settings

Operation Steps:

1. On the "**Wiegand Setting**" page, set the parameters for Wiegand.

Parameter	Description
Wiegand Mode	Wiegand 26, 34 and 66 are available.
Output Format	When Wiegand outputs the card number/information, the card number can be output in forward/reverse direction.
Parity Check	Whether to transmit the Wiegand check bit, output/non-output can be selected.
Pulse Width	Wiegand pulse width, optional (1~99) * 10us
Pulse Interval	Wiegand pulse gap, optional (0~89) * 100+1000us.
Write Configuration	After modifying the above parameters, click "**Write configuration**", that is, the new configuration information is successfully written to the card reader.
Read Configuration	Get the current configuration information of the reader and display it.

2. On the "**QR Code Parameter setting**" page.



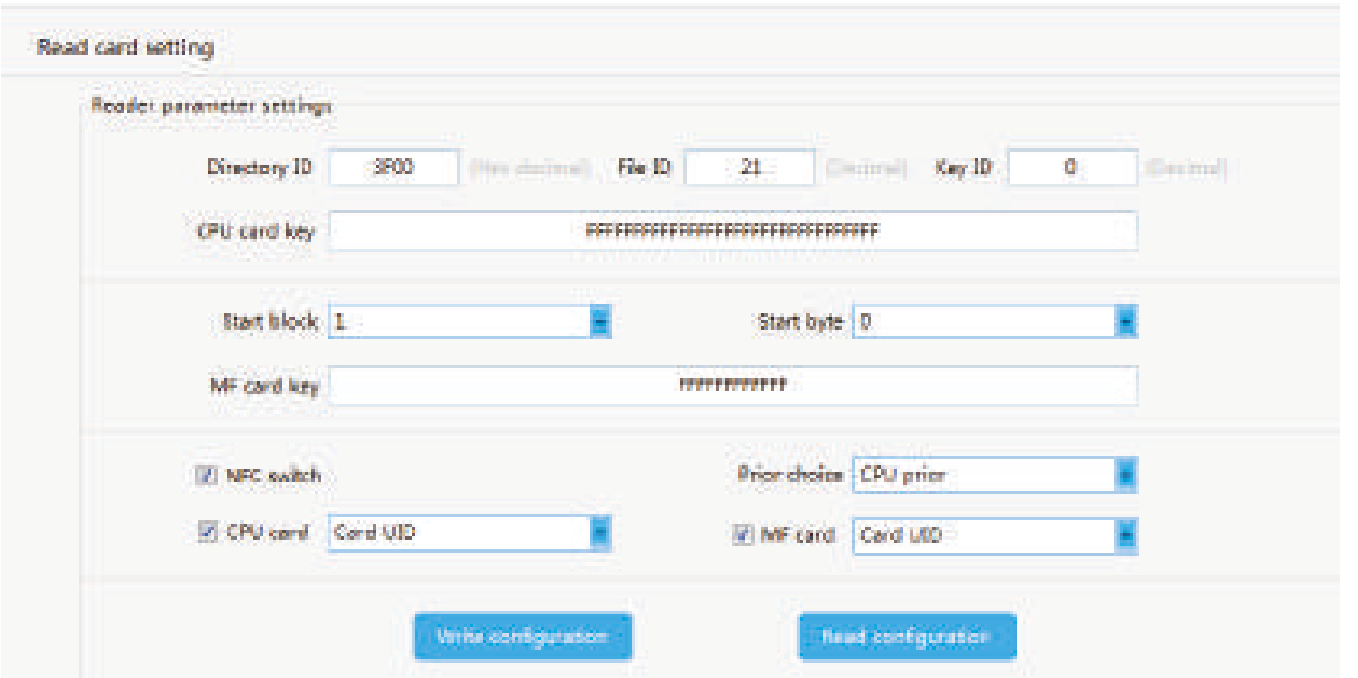
Parameter	Description
QR Code Mode	Choose "Not encrypted", "Custom encryption", "Dynamic QR code", "Chile" or "Argentina"
Repeat Swipe Time	Repeat swipe time can be set by 0(ms), 500(ms), 1000(ms), 1500(ms) or 2000(ms).

After setting the parameters, click "**Write QR code parameter settings**" to write the information into the card reader. Click "**Read QR code parameter settings**" to display the configuration information of the card reader.

4.5 Reader Parameter Setting

Operation Steps:

1. On the "**Read Card Setting**" page, set the reading parameters of the card reader.



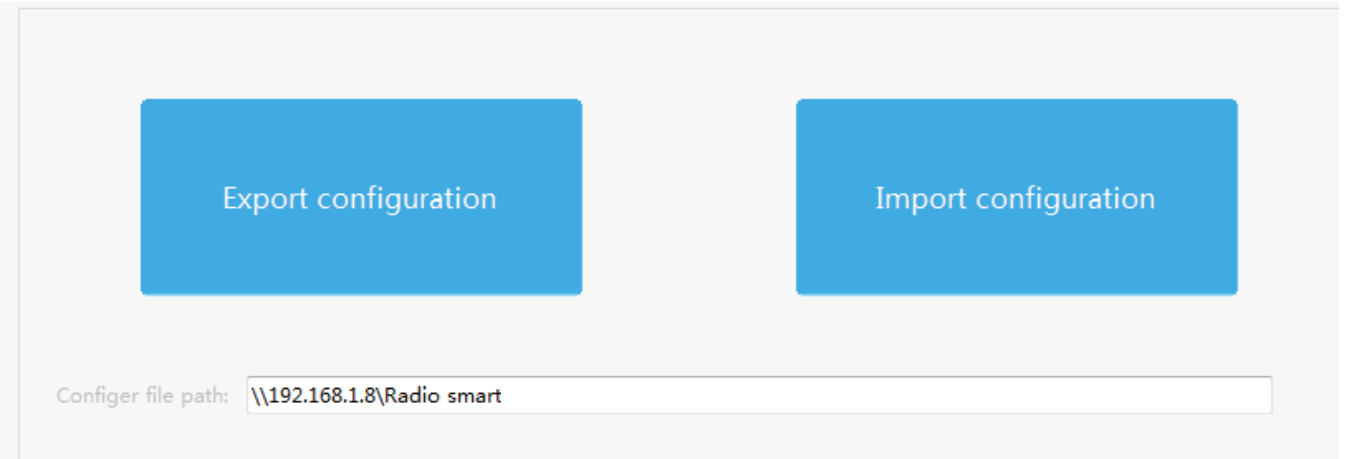
Parameter	Description
Directory ID	The ID of the directory file where the content of the user card to be read is located.
File ID	The file ID where the content of the user card to be read is located.
Key ID	The key ID of the external authentication of the CPU card.
CPU Card Key	The key of the CPU user card content to be read. Note: The authentication key of the user card must be consistent with the "User Card Key" set on the configuration card.
Start Block	The content of the user card to be read starts from the first few blocks.
Start Byte	The content of the user card to be read starts from the first few bytes.
MF Card Key	The sector key of the MF user card content to be read.
NFC Switch	NFC function can be enabled or disabled.
Prior Choice	When setting the card reader to swipe the composite card, select CPU priority or MF card priority.
Read Card Mode	Custom settings read the physical card number or content of the CPU card, the physical card number or content of the MF.
Write Configuration	After modifying the above parameters, click "**Write configuration**", that is, the new configuration information is successfully written to the card reader.
Read Configuration	Customised settings to read CPU card physical card number or content, MF physical card number or content, ID card physical card number or content, ISO15693 physical card number or content.

2. Once you have set the parameters, click "**Write Configuration**" to write the information to the card reader.
3. Click "**Read Configuration**" to display the configuration information of the card reader.

4.6 Import and Export Configuration

Operation Steps:

On the "**Page Configuration**" page, click "**Export Configuration**" to exporting the page configuration information of the current device, click the "**Import Configuration**" to importing configuration information.



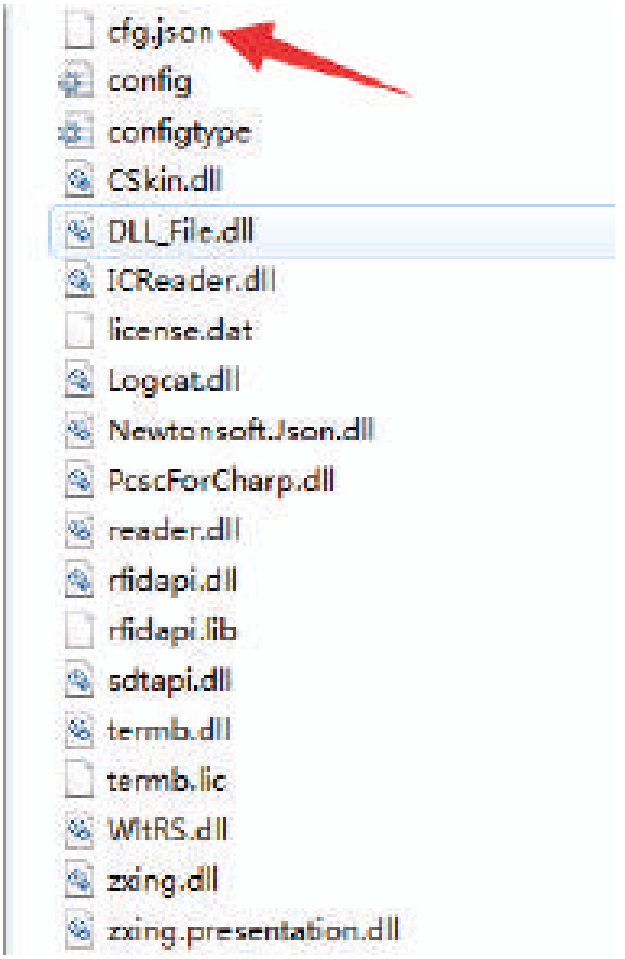
Note:

This function is used by before and after reset. After the reset, the function parameters will be restored to the default values, and need to be reload the setting parameters to read PDF417 and QRcode. Therefore, it needs to be configured according to section 4.2.Before reset, you need to back up .json. Otherwise, please do not restore factory settings.

① The imported and exported configuration files can only be cfg.json files.

② The exported configuration file can be used for one-key configuration. When entering the advanced settings page, the configuration information will also be loaded according to the cfg.json configuration file.

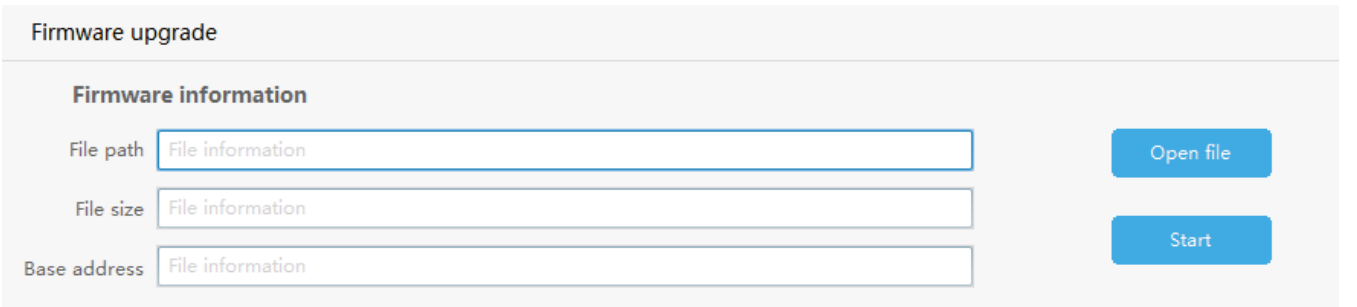
③ If there is no cfg.json configuration file in the .exe directory, when you enter the advanced settings page, the background will generate a cfg.json file by default.



4.7 Firmware Upgrade

Operation Steps:

On the "**Firmware Upgrade**" page, click "**Open File**", select the upgrade program, click "**Start**" button, plug in the USB and reconnect the computer to the computer to view the prompt message, indicating that the upgrade is successful.



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