RTscan

# Configuration Tool

## User Manual

(RTX200A/B, RTMU86 , RT820, RT840)

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# General Introduction

## Introduction

This software is used for RTX200A/B, RTMU86, RT820, RT840. Its main functions include:

- ✧ Online device: get the device info and the parameters of the settings, can also modify the settings and interacting with device
- ✧ Connect or save the device configuration settings
- ✧ Generate configuration QR code
- ✧ Language switch

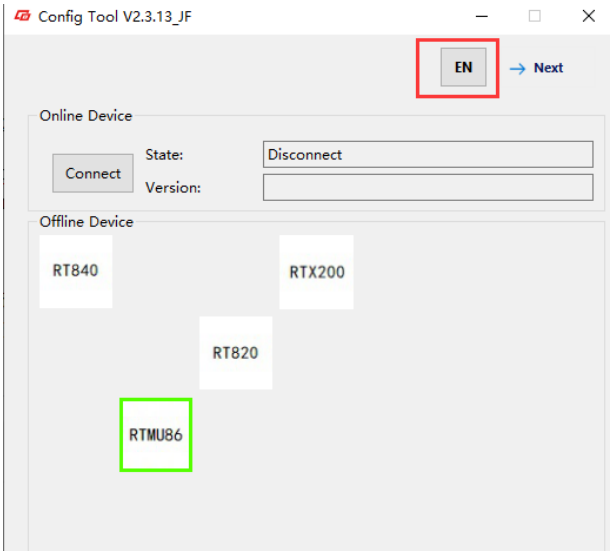
## Supported devices

RTX200A/B, RTMU86, RT820, RTX200, RT840

***Note:*** When you run this ConfigTool, it's highly recommended to modify the PC's resolution to: 1280*768, so as to show the interface fully.

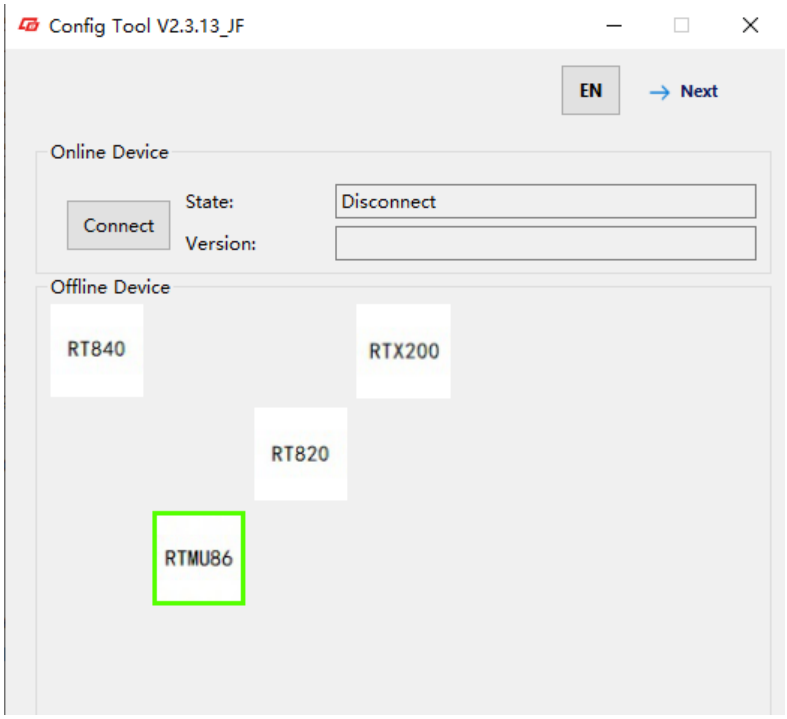
## Start to Use

The software do not need to install, after decompressing the file, double click the ConfigTool.exe iron to run it. Click the language switch (red circle below) and come to the English interface



# Configuration User Guide

## 1. Main interface




### 1) Configuration methods

The tool support both online and offline mode.

Offline device: (all the device will need offline config if the device was not USB connection) you can select the corresponding model and choose the settings you want, then generate configuration QR code, and scan it to achieve the configuration.

Online device: (only support USB connection), the device connects to PC, click connect to connect the scanner with this tool, it will detect the device and get its settings.

### 2) Language switch

The Config tool support both Chinese and English, click “中”or “EN”

### 3) Switch interface

If already entered the other interface, click “main “to back to the main interface or click “return”. You can also switch the configuration interface via Tab

# 2. Online device configuration

### 1) Device info

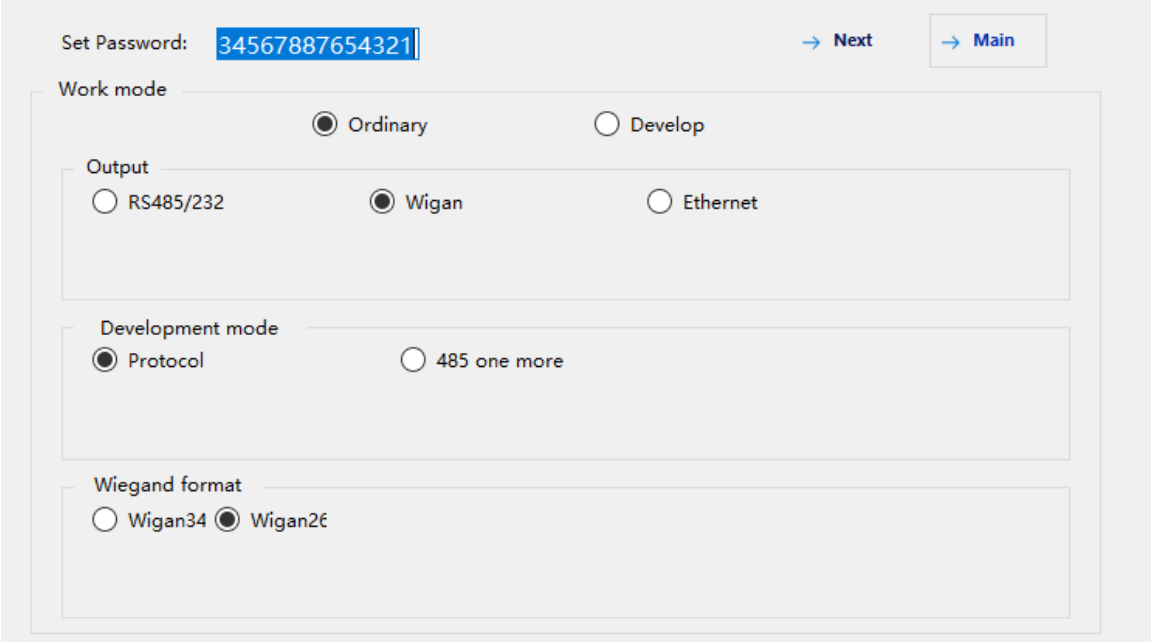
The ConfigTool can detect the device which connected to PC(Only for USB connection), click connect device, after success, it will shows the device connection status and its firmware version.

When the device was connected to computer, click connect the tool will connect with the device successfully.

Notes: if the work mode was develop-USB keyboard-protocol, you will need to configure by scanning the configuration QR code which was generated by the tool. This mode cannot connect the tool.

### 2) Device configuration

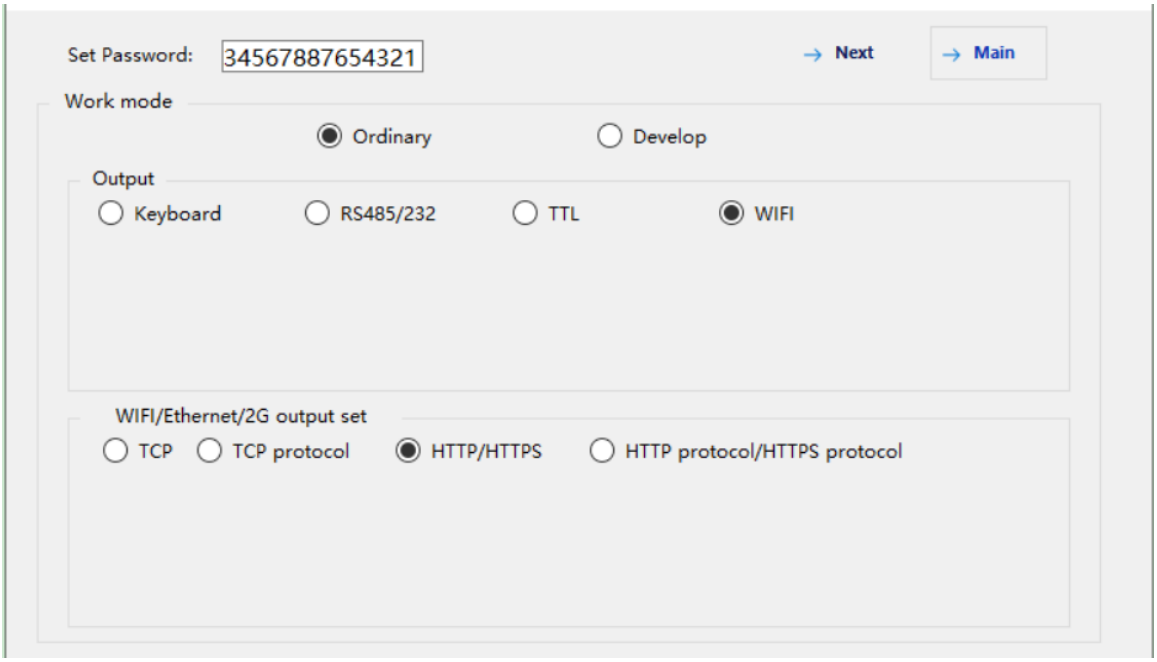
After the device was connected successfully, click “next” in the main interface, then you will see the pic below and you can choose all of setting as your needs, and then click next to enter the detail pages.




# 3. Offline device

You can also offline use the configTool, run it and select the corresponding device, and then click next to configure the options you want and then generate setting codes.

# 4. Configuration interface



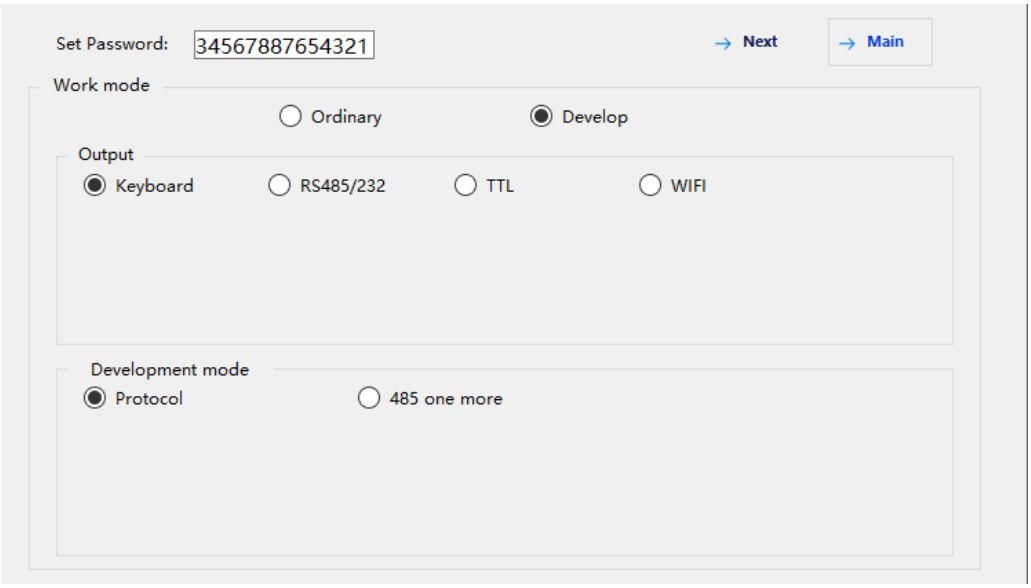

## 1) Work mode

- Working mode: ordinary, develop

When need to write a program to control the scanner or calling the scanner output interface, need to use develop mode, the others cases use ordinary mode.

- Output interface: select the corresponding output interface according to the device you purchase. One device can only support one output interface.
- Development mode

The development mode means the way you choose when doing develop, all the devices select "protocol "at present.



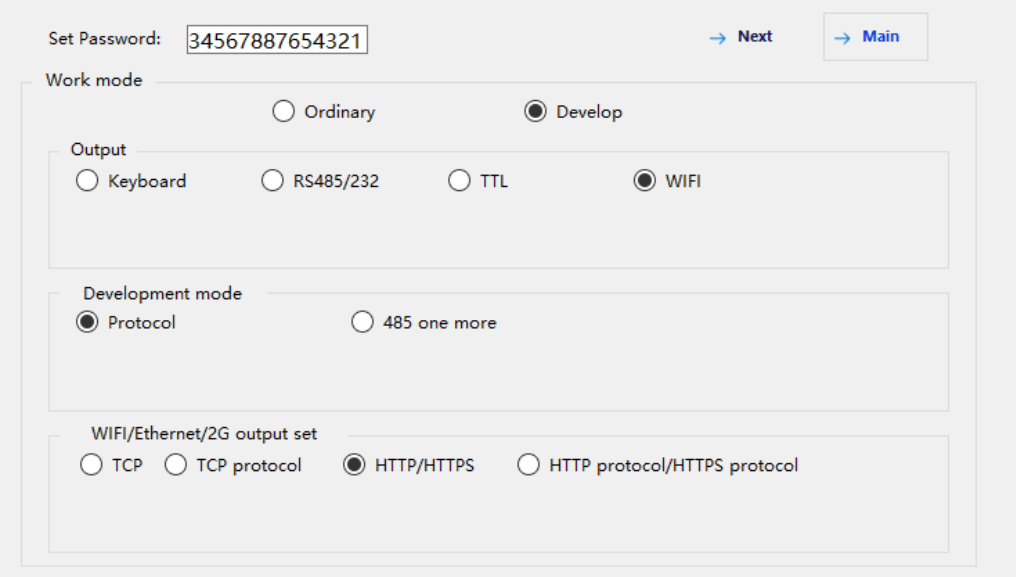
➢ Serial parameter

When the output interface selected RS232/RS485/TTL, need to set up the corresponding serial parameters, such as baud rate, stop bit, check bit, etc.

➢ WIFI/Ethernet/2G output interface settings

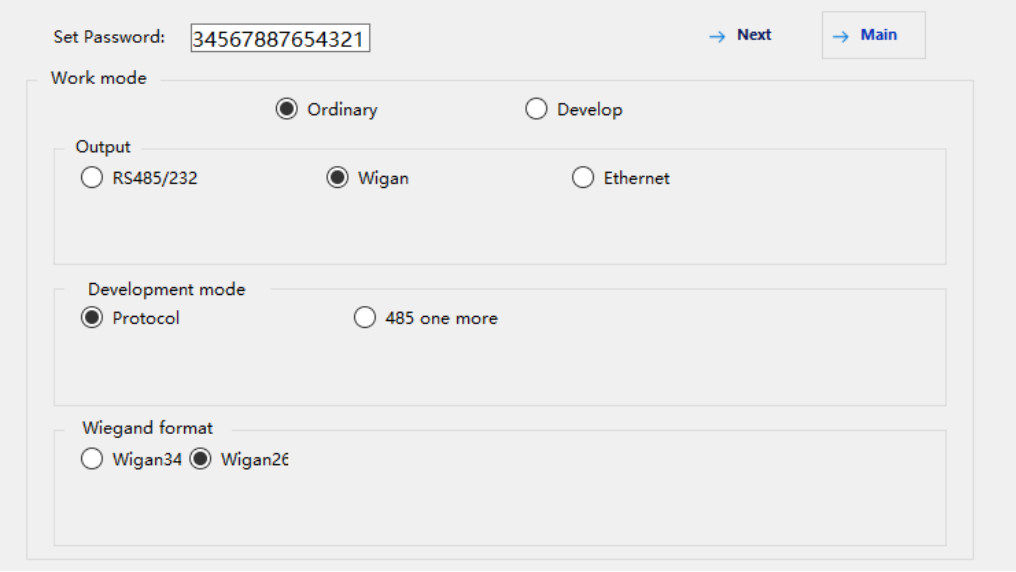
When the output interface selected WIFI/Ethernet/2G, need to select corresponding networking protocol.

The difference between TCP and TCP protocol, HTTP and HTTP protocol: TCP/HTTP pass through the content of the QR code, while TCP protocol/HTTP protocol upload character string which has filed format. For more details, please check " QR code scanner WIFI interface specification V1.2"




➢ Wiegand output format

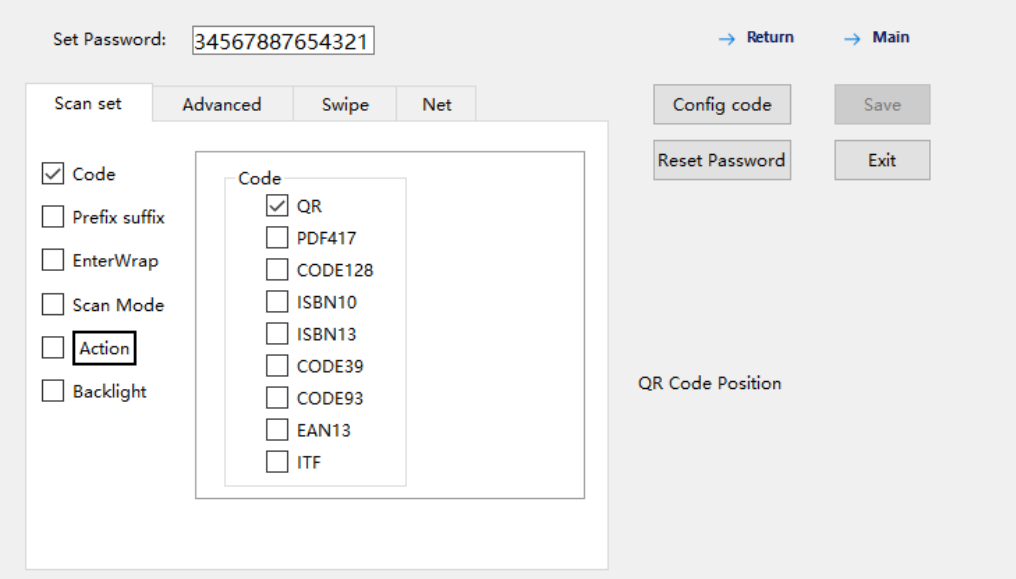
If selected Wiegand output, need to specify whether to choose Wiegand 26 protocol or Wiegand 34 protocol, this two protocol can be switch.



## 2) Scan set

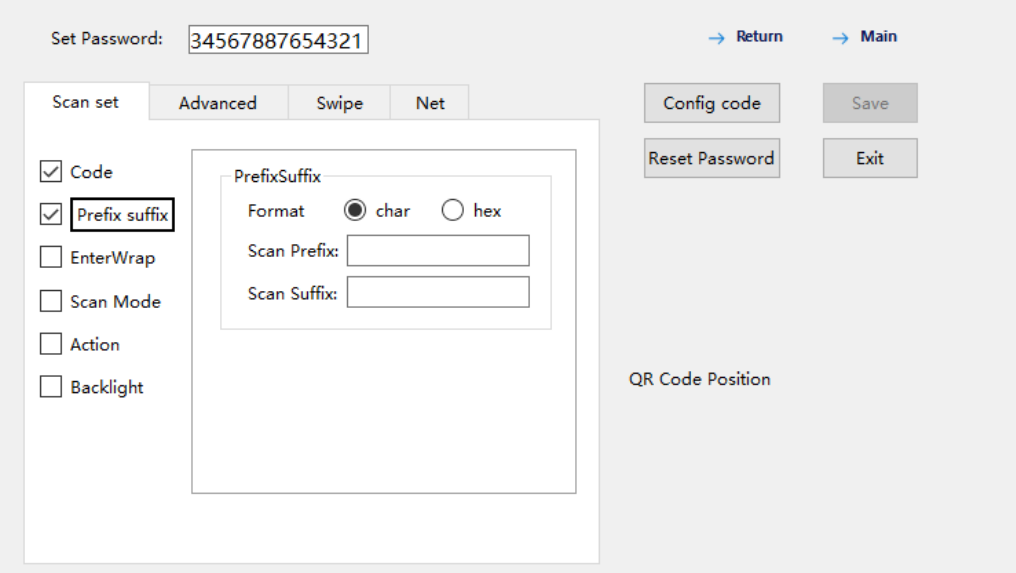
➢ Symbologies

Select the “code” firstly, and then select the code you need to read in the optional bar




➢ Prefix and suffix

Select “prefix suffix”first, and then fill in the prefix or suffix content which need to set. The prefix and suffix format setting is supported.




➢ “Enter wrap”

First select “Enter wrap” and then select enter or line feed.

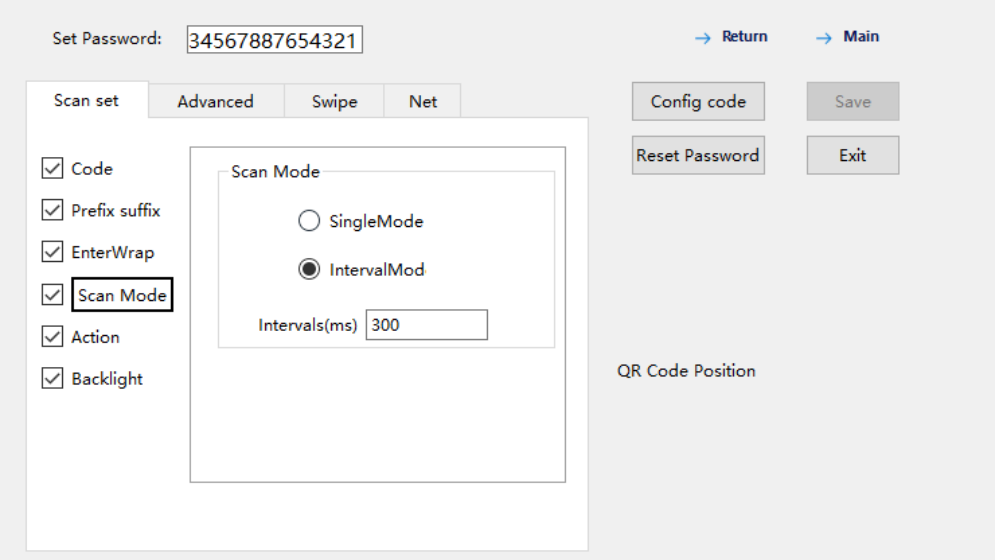
➢ Backlight

Backlight means the white light fill light in the scanner

➢ The scan mode

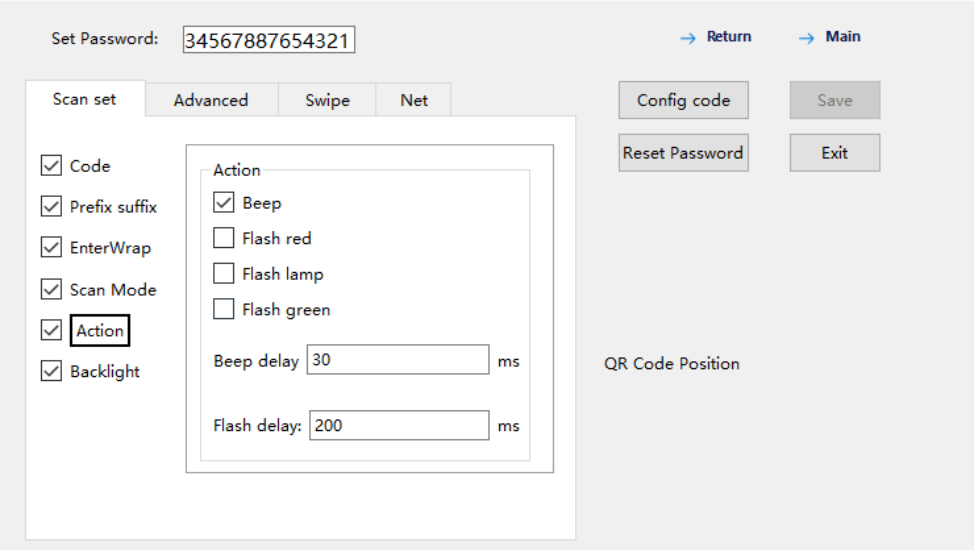
**Single mode** means that the same code cannot be scanned twice continuously, for example, if scanned code A one time, then we can't scan this same code again. But, if scan code A one-time then scan code B one time, after this it can scan code A again.

Interval mode means the interval time between the two scans of the same code. The unit is ms, if need 1 second interval, then fill in 1000.



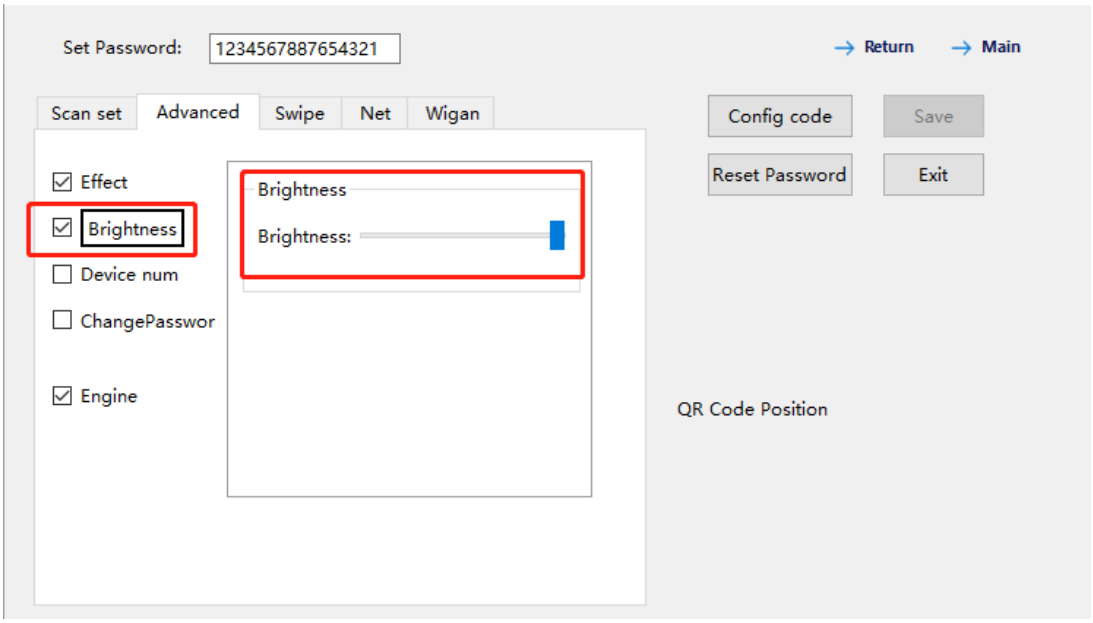

➢ Scan action

The “action” means the device feedback after the device scanned the code. According to the function that the device supported, it can be beep, or flash light of different color. The delay means the length of the action, default is okay for most cases.



➢ Brightness control

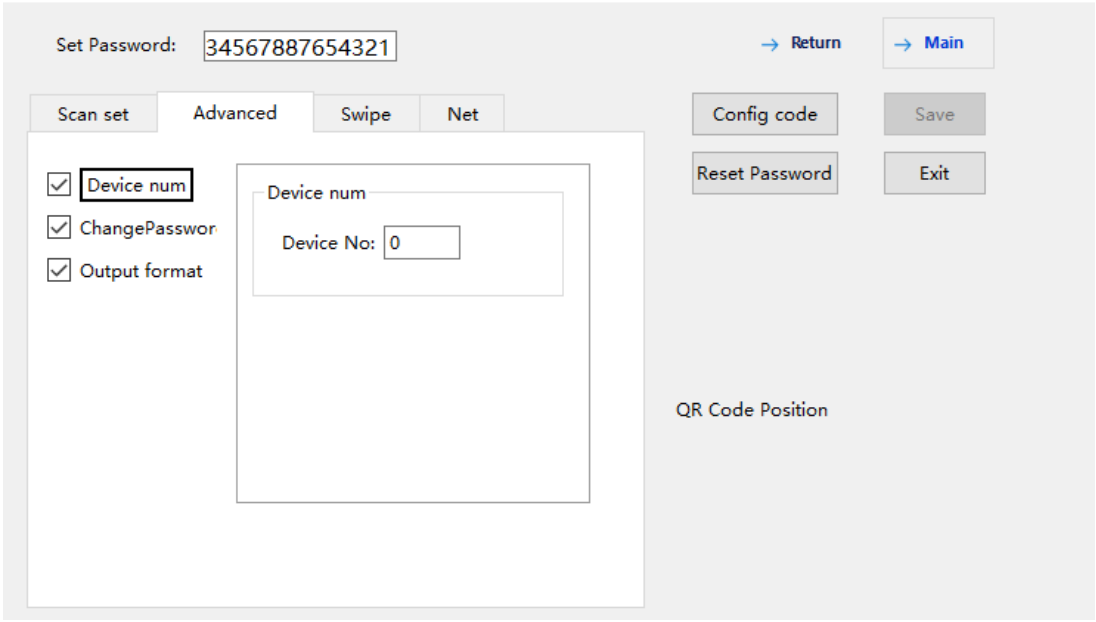
Brightness used to control the background light brightness of the scanner




## 3) Advanced settings

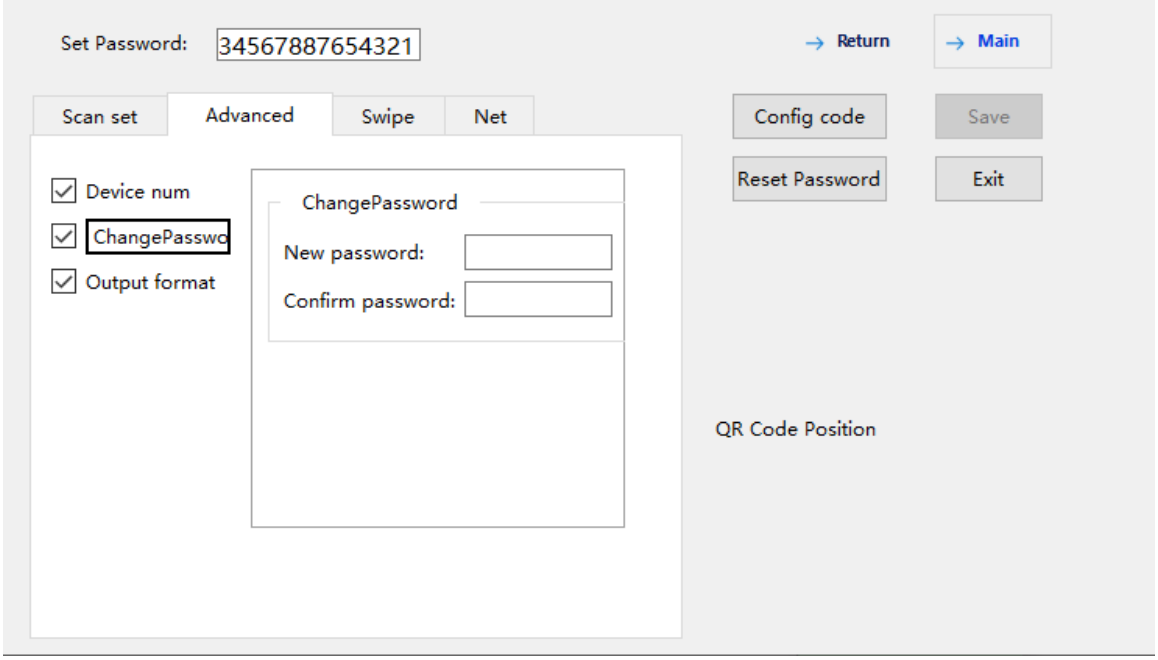
➢ Device number

The device number can bet set, the device number can get via the protocol instruction, or in the Ethernet/WIFI output can be upload to server together with the QR code contents. The content of the device number can only be Int data.




➢ Change the configuration password

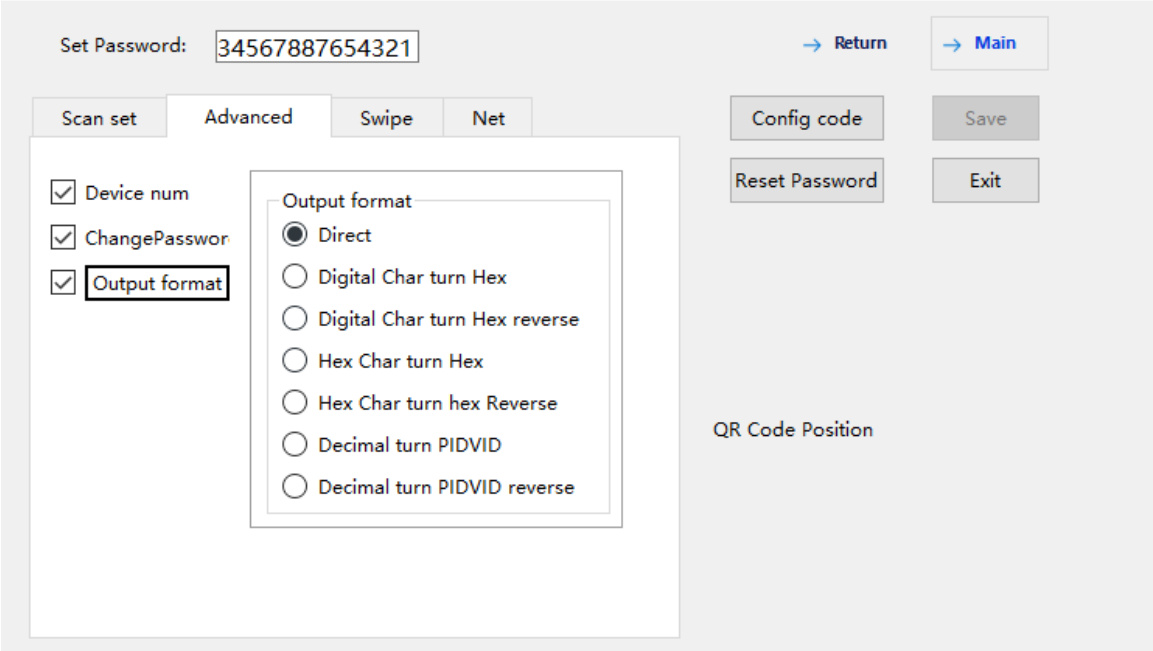
The configuration password can be changed in case of someone tamper it, please keep the new password in mind, will need to fill in the new password first then start config when next configuration is needed.




➢ Output format

This option are only for RTMU86's wiegand interface. For others devices, please select "direct "output, otherwise there would be no data output when scan code.

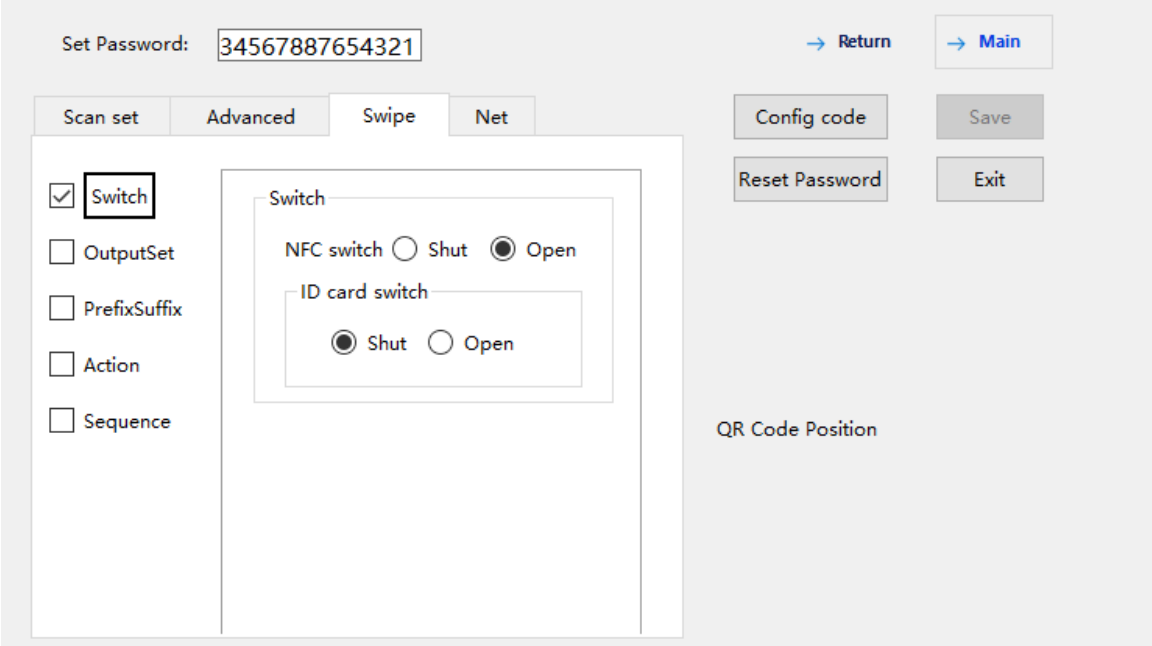
For RTMU86's wiegand interface, please select others output format except the "direct", select according to the controller you are using. You can also refer the configuration code below.



## 4) NFC Card Reading Set: “Swipe”

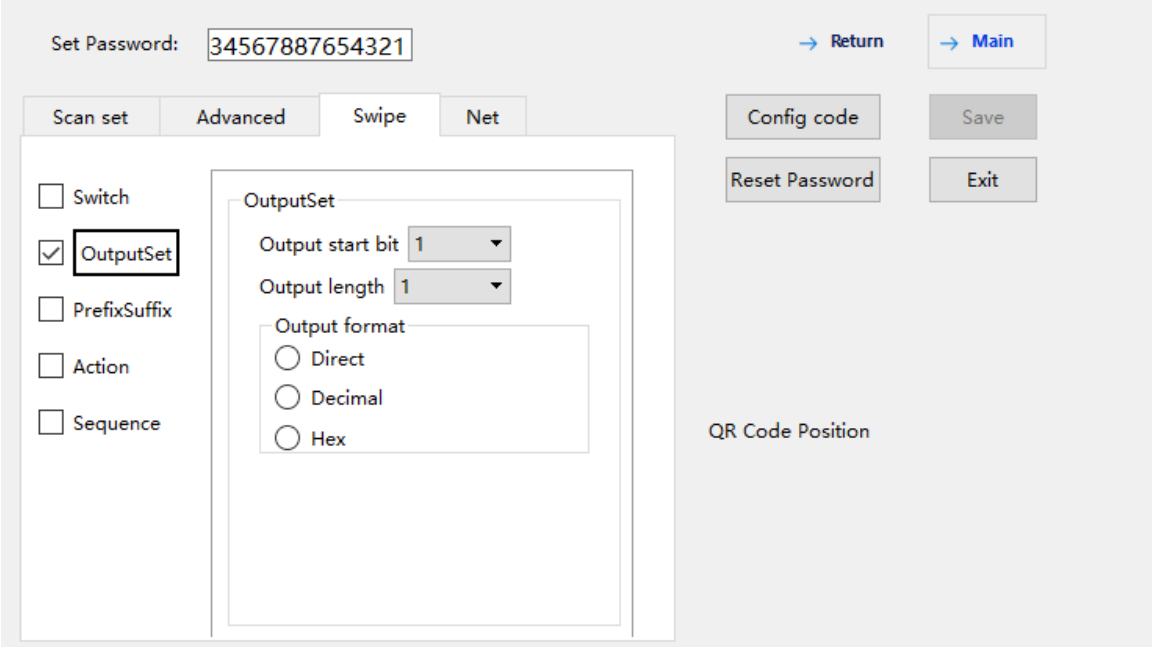
➢ Read NFC switch

If need to read NFC cards, then select Swipe> Switch, then select Open for “NFC switch”.



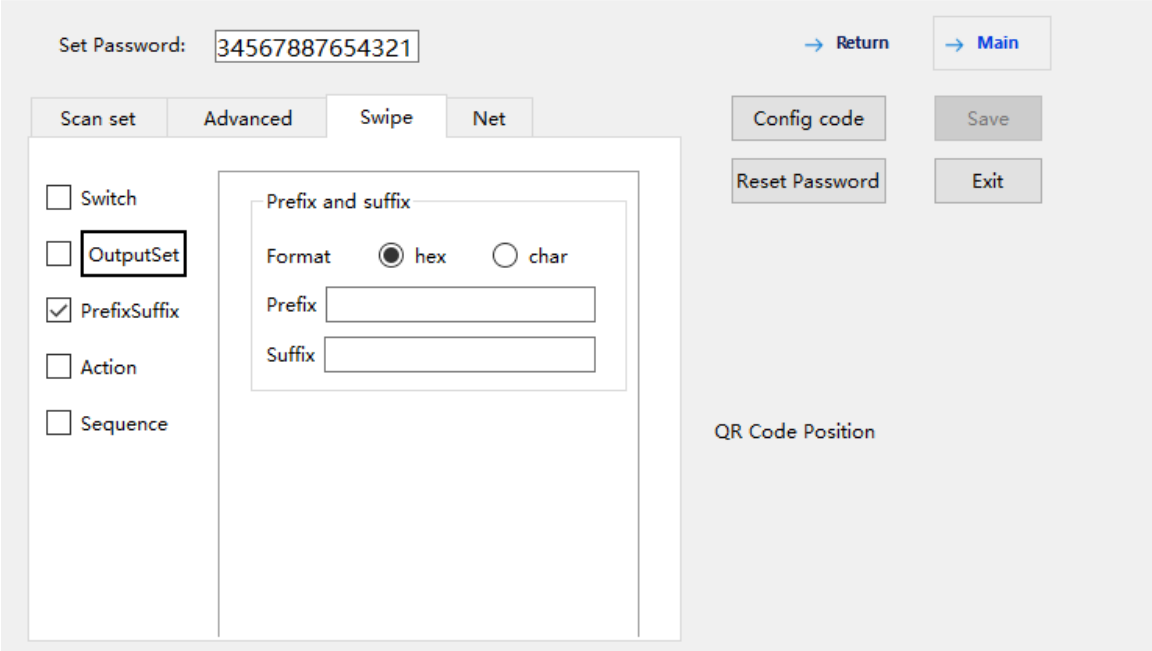

➢ Output set

The card output set can be set, if the device was wiegand output, mostly select “direct”, for other output methods select as your needs. The “start output bit”are only valid for Chinese ID card.



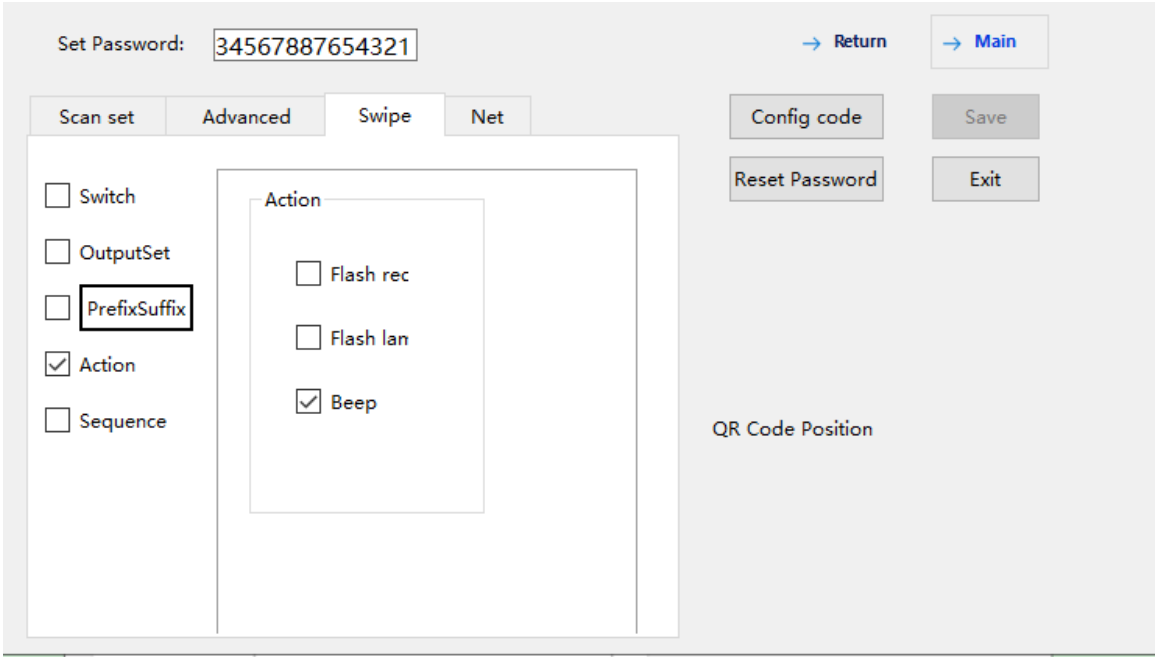

➢ Prefix and suffix

This function can be use for adding prefix and suffix for card number.



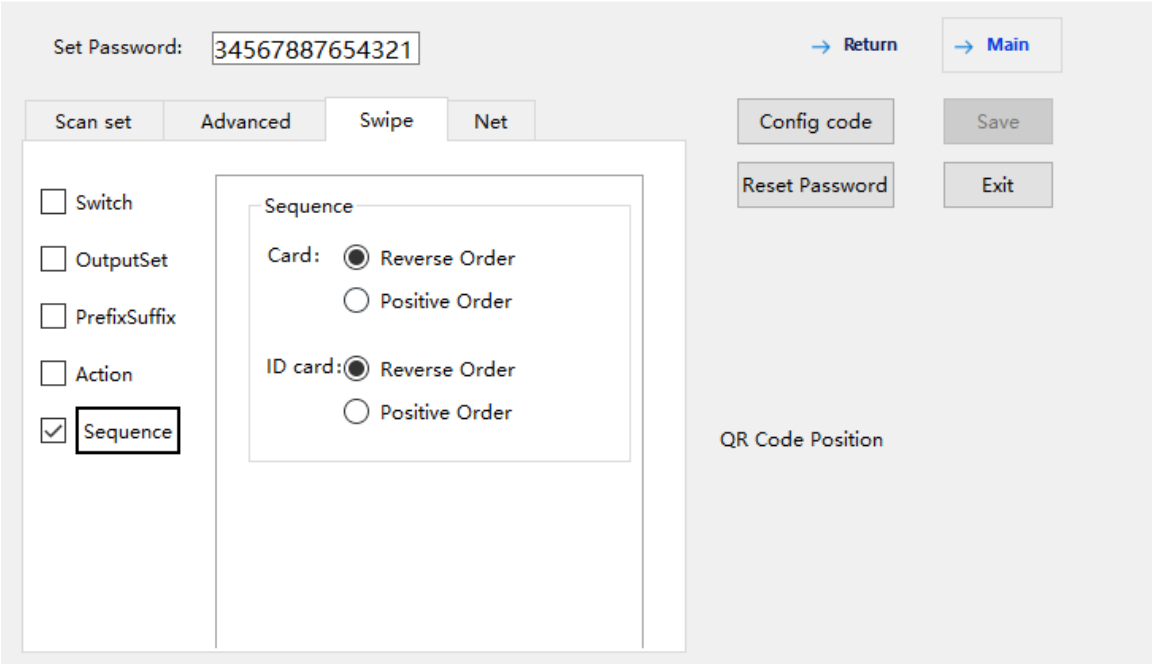

➢ Swipe action

Swipe action means the action when read NFC cards.




➢ Sequence

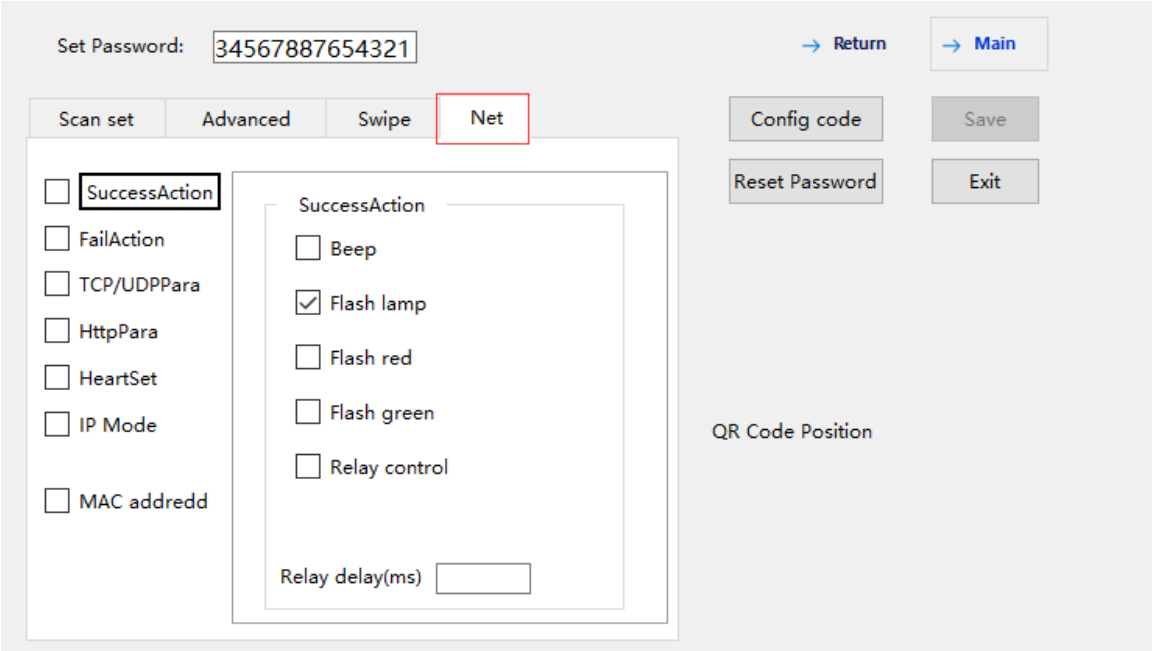
Support the card number output in positive order or reverse order.




## 5) Network settings

➢ WIFI setting

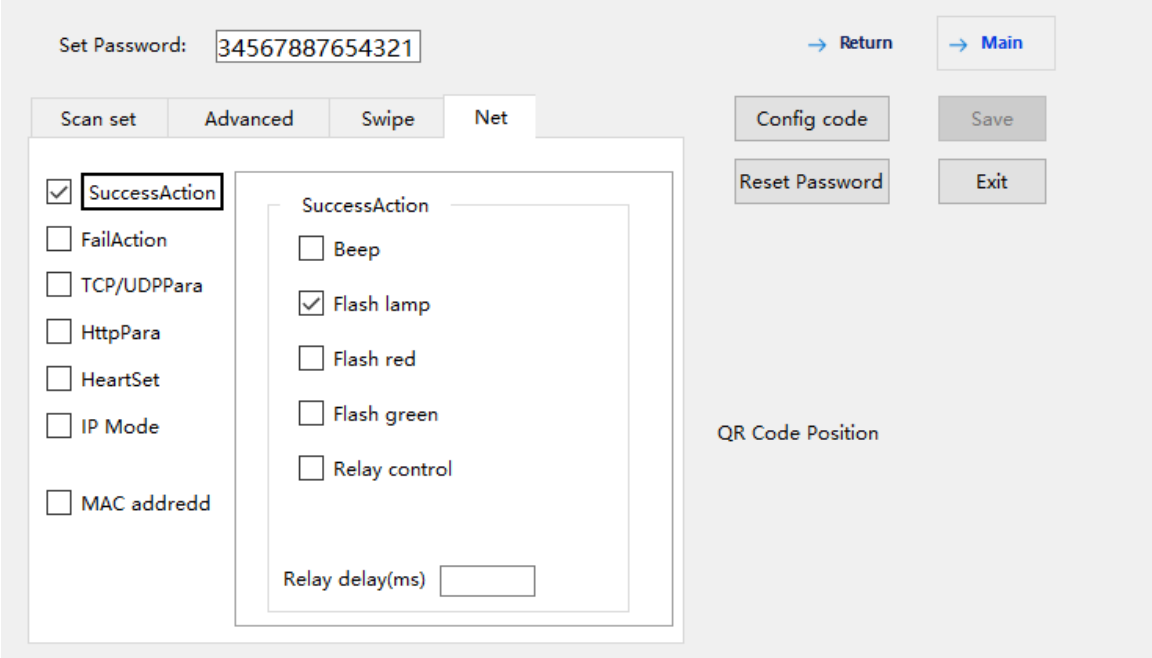
This option are used to configure the WiFi account and password that the device are going to connect.




➢ Transmission success/ failed action

Transmission success/failed: it means the action that the data was sent successfully via internet

If set TCP protocol mode or HTTP protocol mode, after the server received data,it will return “code=0000”first, then will shows the success action, error value or didn't return will shows fail action




➢ TCP/UDPara parameter

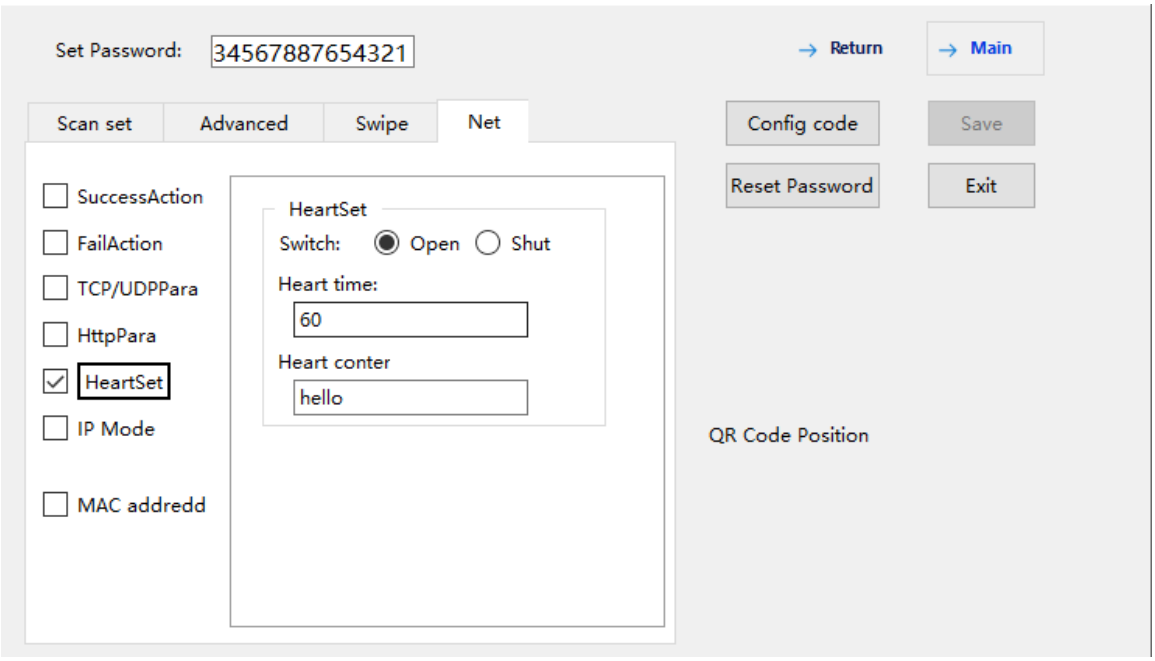
Set the TCP server address, port number, and time-out period. (within 5 seconds)

➢ HTTP parameter

Set the HTTP server address, format：http://serveraddr:port/path.

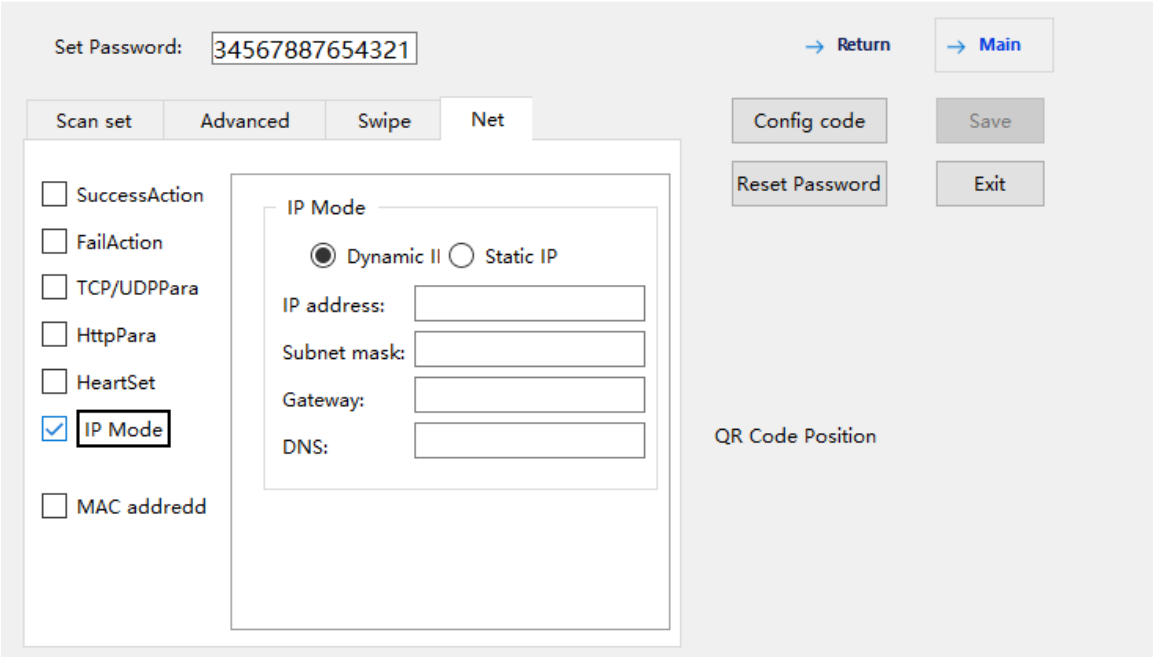
➢ Heartbeat setting

The heartbeat can be set under TCP mode, the http mode was not supported




➢ IP mode

Support dynamic IP and static IP configuration, for static IP, need to fill in the IP address, sub-off mask, gateway. Dynamic IP not needed.



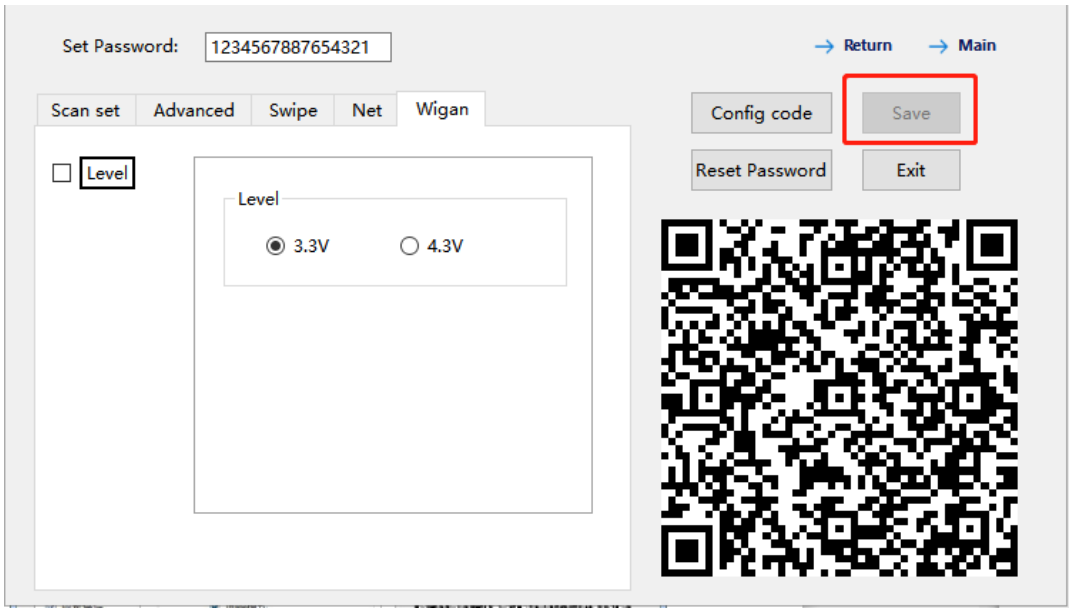

## 6) Generate the configuration QR code

After configured all the above options, click “config code”, a configuration QR code will be shows in the right side. Then use the scanner to scan it, after beep sound or light feedback, it means configuration success. Now power off and restart the scanner so that the configuration will become valid.

The above options do not need to select all, just configure as your needs.

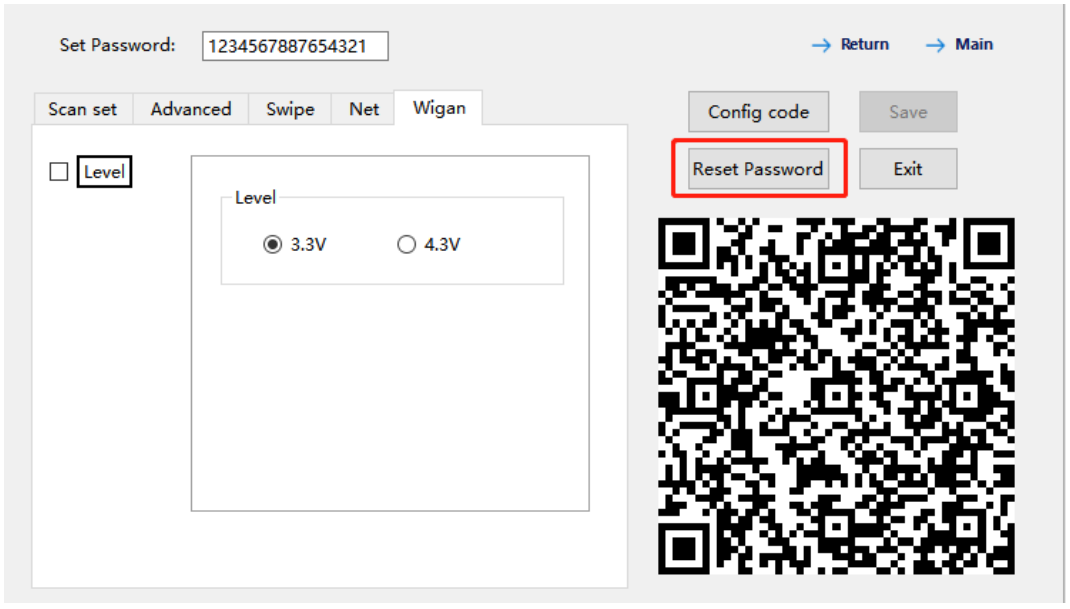
## 7) Save configuration

For the online use mode, click 'save' to save the configuration to the scanner directly and no need to scan the setting code. Then power off and re-plug the scanner so the new configuration will become valid.




## 8) Reset the default password

If you changed the changed password but forgot it, then you can use online configure, after connect to the tool, click "reset password" the password will become the default password(1234567887654321)



# 5. Quick configuration QR code

Using methods: Use the scanner to scan the configuration QR code you need, then re-plug the scanner, configuration success.

**1) USB mode**

USB-ordinary mode

USB-develop mode-protocol

USB-develop mode-USBHID

**2) 232 mode**

RS232-ordinary mode-115200

RS232-develop mode-115200

**3) TTL mode**

TTL- ordinary mode- 115200

TTL- develop mode-115200

**4) 485 mode**

485- Ordinary mode-115200

486- Develop mode-115200

**5) Wiegand mode**

Using method: this configuration was comprised of 3 parts: Wiegand protocol (26 or 34) and Wiegand level(3.3v or 4.4v) and scan code/read card output format(the output format can refer to the universal configuration QR code). The device can scan the wiegand26 or Wiegand 34 configuration QR code, if there is still no uploaded data in background, scan the configuration code which change the scanning output format. If doesn't know use which one, could try all of them. (the scanner will need to restart after each configuration)

## A. Wiegand 26

Wiegand26-PIDVID inverted sequence-3.3V

Wiegand26-PIDVID inverted sequence-4.3V

## B. Wiegand 34

Wiegand34- number to HEX- 3.3V

Wiegand34- number to hex-4.3v

## C. Scanning QR code output format

Numeric character to hex

Numeric character to hex inverted sequence

Hexadecimal to HEX

Hexadecimal to hex inverted sequence

Decimal to PIDVID

Decimal to PIDVID inverted sequence

**6. Universal configuration QR code.**

## A. Add barcode function

Add scan barcode function

## B. Add enter function

Add enter

## C. Add linefeed function

Add linefeed

## D. Open read card function

Open read card function

## E. Change swipe card output format

swipe card decimal output

Swipe card hexadecimal output

Swipe card output directly

## F. Swipe card positive sequence output

General cards positive sequence

ID card positive sequence(Chinese ID card only)

## G. Swipe card inverted sequence output

General cards inverted sequence

ID card inverted sequence (Chinese ID card only)

## H. Swipe card output length

(for Chinese ID card only)

## I. Set single mode

Single mode

## J. Set interval mode

1 second time interval

2 second time interval

3 second time interval

## K. Set scanning code light feedback

Add lighting feedback function

## L. Set baud rate

## M. Level change

3.3V

4.3V

## N. Restart the device

Device restart

# Explanation of the Output Format

Main interface -> Advanced -> Output format:

Ex: read the barcode: 12345678

1. Direct
   Output the scanned original data.
   The output is: 38 37 36 35 34 33 32 31

2. Digital Char turn Hex
   Convert string to Integer
   "12345678" is converted to 12345678 (HEX 00 BC 61 4E)

3. Digital Char turn Hex reverse
   Convert string to int, and then int high low
   "12345678" is converted to 1315027968 (HEX 4E 61 BC 00)
   "12345678" is converted to 5136828 (HEX 4E 61 BC)

4. Hex Char turn Hex
   Convert Hex string to Hex
   "12345678" is converted to 2018915346 (HEX 78 56 34 12)

5. Hex Char turn Hex Reverse
   Convert Hex string to Hex
   "12345678" is converted to 305419896 (HEX 12 34 56 78)

6. Decimal turn PIDVID format output
7. Decimal turn PIDVID format output reverse

# Wiegand output format comparison

| | | Wigan 26 |
|---|---|---|

| Card Type | Card No. | Direct | Convert to decimal output | Convert to Hex output |
|---|---|---|---|---|
| NTAG213 | 046D61EAD45B81 | 13917057(D45B81) | “13917057”<br>(3133393137303537) | “D45B81”<br>(44 34 35 42 38 31) |
| MF1S50 | A2DABD8D | 14335373(DABD8D) | "14335373" | "DABD8D" |
| FM11RF08 | BD7B88E3 | 8095971(7B88E3) | "8095971" | “7B88E3" |
| | | Wigan 34 | | |
| Card Type | Card No. | Direct | Convert to decimal output | Convert to Hex output |
| NTAG213 | 046D61EAD45B81 | 3937785601(EAD45B81) | “3937785601”<br>(33393337373835363031) | “EAD45B81”<br>(4541443435423831) |
| MF1S50 | A2DABD8D | 2732244365(A2DABD8D) | "2732244365" | "A2DABD8D" |
| FM11RF08 | BD7B88E3 | 3178989795(BD7B88E3) | ”3178989795“ | ”BD7B88E3“ |

Remark:

**Direct:** output the original data directly.

For example, if the Card No. is 01 02 03, directly output three bytes of data and display the Card No. as 66051

**Convert to decimal output:** convert Hex data to decimal and then to decimal string.

For example, if you want to convert the 0x81 at the end of the Card No. to "129", it will actually be displayed as 0x393231, and then converted to a decimal number 3748401

| |
|---|
| **Convert to Hex output:** convert Hex data to Hex string.<br><br>For example, if you want to convert the card number 0x046D to "046D", the actual display is 0x64363430 and then converted to decimal number 1681273904 |
| Once set to decimal or Hex output, the outputted Card No. is the ASCII value of the converted string |

# FAQ

## 1) in the configuration tool, it shows connect failed when click connect device.

(1) only the USB device can connect to the configuration tool, while the others need to scan the configuration code to config， which means generate the configuration QR code then use the scanner to scan.

(2) when the USB device was configured into develop mode, it may cannot connect to the tool, can scan the configuration QR code to configure the scanner to ordinary mode then connect to the tool

(3) Maybe the USB port of the computer was occupied by other programs. You could scan the configuration QR code to config.

## 2) when scanning configuration QR code, there is no response

(1) If changed password, then use the changed password to generate the configuration QR code.

If the changed password was lost, connect the config tool then click “reset password”, after this you could use the default password “1234567887654321”to configure. If cannot connected to the tool, please contact customer service.

(2) Please check whether the format of the configuration was correct, for example: if the HTTP server address added port number, if the prefix and the suffix format which was selected and filled in the tool was correct, whether the device number was “Int” data.

(3) The configuration QR code which was generated by the tool, it’s better to send a screenshot to mobile phone rather than take a photo then use the scanner to scan.

## 3) When scanning barcodes there is no response.

Whether the device was configured the scanning barcodes function, if not, you could configure it in the tool. If still cannot scan after configuration, please contact customer service.

## 4) After the device was configured, there is no output content.

The different output interface has different testing methods. For the USB device, you could see the output content in a TXT or Word file, for the serial device (RS232, TTL etc.), you will need to see the output content in

a serial debugging tool, for the Wiegand device, need to see the output content in the Wiegand controller background, and for the Ethernet and Wi-Fi device, you will need to build server first then receive data.

## 5) After scanning there is error code or messy code.

In the develop mode, the data upload by the scanner was according to the communication protocol, including command header, command word etc., you could refer to the communication protocol to proceed the data parsing.