

# **3D Face Smart Lock User 's Manual**

December 2020

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# 1 Summary

3D face recognition intelligent door lock electronic suite is a new product launched in 2020. The product has the functions of face image processing, password power on, fingerprint unlocking, etc., and can be equipped with Bluetooth / WiFi / Nb module. Compared with similar face products, 3D face intelligent lock has the following features:

- **Fast response speed**

With customized AI chip, the system has fast response and recognition speed, and the face can be brushed in seconds.

- **Strong environmental adaptability**

It can adapt to the extreme light conditions such as sunlight, dark night and so on.

- **High security**

Through AI algorithm, 3D information of human face can be obtained, which can resist attacks such as photos, videos and high imitation masks, reaching the security level of financial payment.

- **Ultra low power consumption**

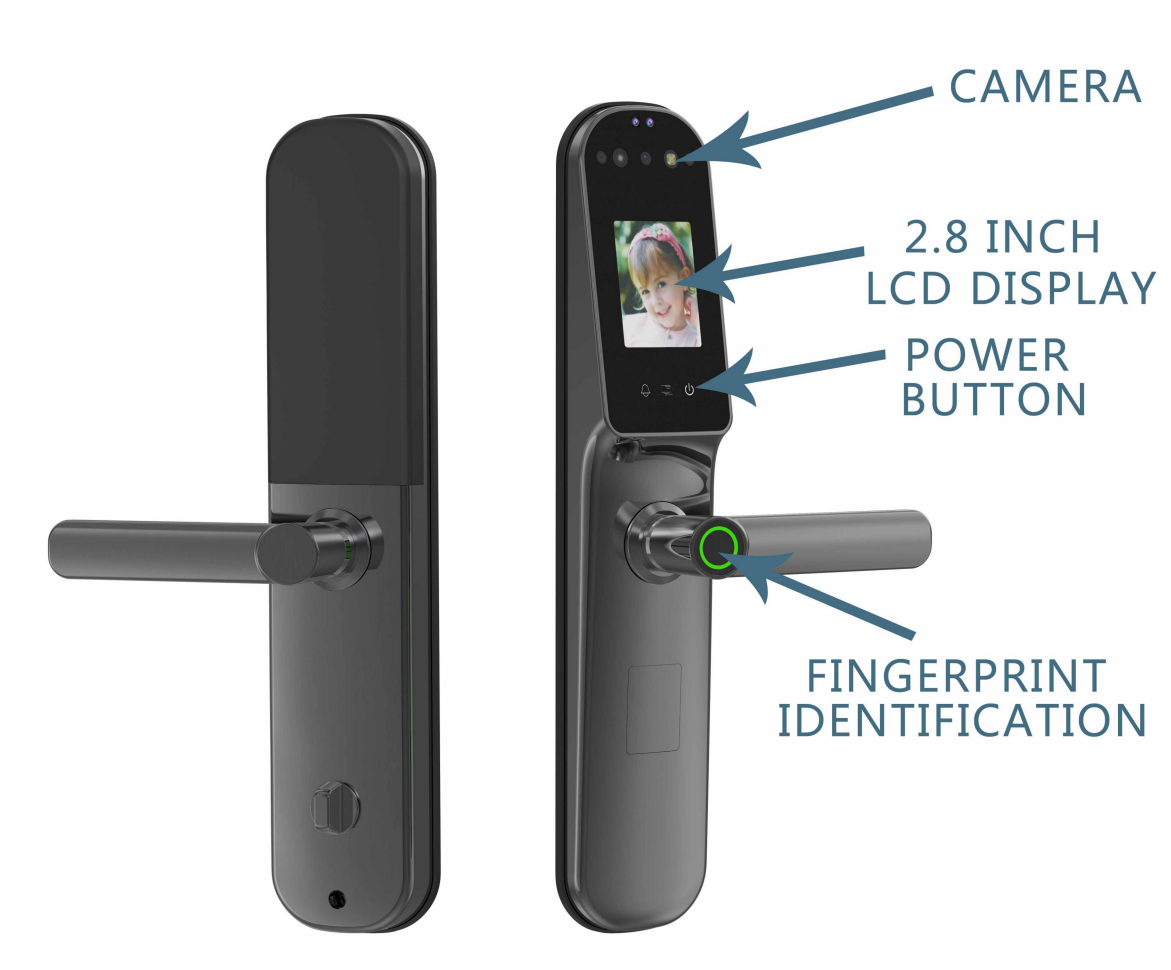
3D face intelligent door lock adopts software and hardware combined with ultra-low power consumption technology to achieve ultra long working hours under dry battery.

## 2 Technical parameter

technical parameter				
Electronic system parameters		3D face recognition		
Working power supply:	8 No.5 batteries	In vivo safety	Pass rate:	$\geq 97.80\%$
standby power:	$< 100\mu A$		False recognition rate:	@FRA 0.0001%
Battery life:	a year	Identify security	Pass rate:	$\geq 98.50\%$
低电提醒:	$< 9.6 V$		False recognition rate:	@FRA 0.0001%
emergency supply:	USB external 5V power supply	Face capacity:		100
working temperature:	$-10 \sim 60^{\circ}C$	Recognition speed:		$< 1$ second
Working humidity:	40 ~ 90%RH	Side range:		1.3M to 1.85M
Fingerprint module		Password module		
Sampling pixel:	160*160	Password length:		6-12 digit password
Fingerprint capacity:	100 pieces	code capacity:		20
False rate:	$< 0.1\%$	Password protection:		support
False recognition rate:	$< 0.001\%$	Virtual password:		support

Table 2-1 technical parameters

### 3 Product drawings

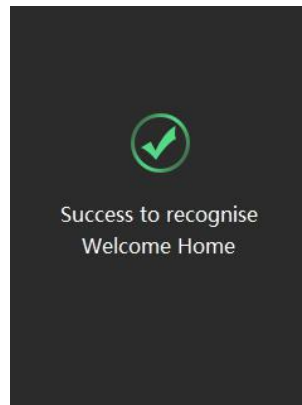


Product Figure 3-1

## 4 Introduction of product graphical interface

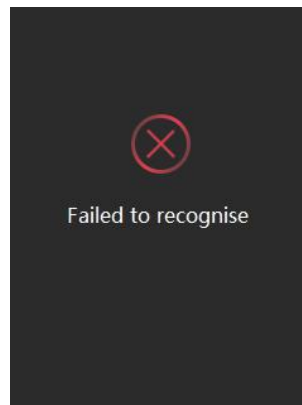
### 4.1 unlocking interface

When the face matching is correct, the fingerprint identification is successful or the password is entered correctly, the screen will display the interface.



picture 4-1

When face matching fails, the screen will display the following interface. After 1s, the system will sleep in black screen.



picture 4-2

### 4.2 face recognition interface

- 1、 There are three ways to wake up the system in sleep state
  - 1) By clicking the power button on the touch screen, the system prompts "drop" and the camera wakes up.
  - 2) System wake-up through fingerprint sensor contact
  - 3) Through human body induction, the system prompts "drop" and then the camera wakes up.
- 2、 After the system wakes up, the screen will display the images captured by the

camera in real time

- 1) If a face is detected, the face will be compared. If the comparison is successful, the unlock interface will be displayed and the lock will be unlocked.
- 2) If the comparison fails, the screen will display the recognition failure interface, and the black screen will sleep after 1s. If you need to recognize it again, you need to wake up the system again.
- 3) If the system has not been any action, and the camera does not recognize the face, the system will enter the sleep state after 6S.
- 4) After the system successfully unlocks, if the face mode unlocks, the locking time is 8s, except for the face mode, it is 4S.

## 4.3 main menu interface

1) This product unlocking function: face recognition, fingerprint, password, emergency mechanical key and other unlocking methods.

Face recognition, fingerprint, password recognition error number reaches 5 times, unlock mode will lock for 3 minutes.

2) For initial installation, the product is in experience mode by default, without fingerprint or face setting. Any fingerprint or face recognition can be unlocked, and the password is (123456) by default.

3) If no user has been entered in the system, you can directly enter the interface in Figure 4-3 without authentication by pressing the initialization factory setting key. In this interface, you can select different modules for setting.

4) The first feature entered in the system corresponds to the system administrator. If the user has been entered in the system, press the factory setting key to enter the administrator authentication interface. After administrator authentication, enter the interface as shown in Figure 4-3.

5) The administrator user means that in addition to the unlocking permission, it can also enter the setting interface to add users. Non administrator users only have the unlocking permission.

6) The alarm time of anti warping mechanism is 3 minutes, which can be eliminated by fingerprint, face and password administrator user identification.

7) Long press the factory setting key for 5S, and the system will clear all user information after formatting and prompting.

When pressing the factory setting for less than 5 seconds, the system voice prompts "please authorize" to enter the setting page after successful recognition.

8) In addition to pressing the factory setting key to enter the setting, you can also press "\* + #" on the password keyboard input page for authentication and authorization to enter the setting interface, as shown in Figure 4-13

9) During authentication, the face / password / fingerprint is valid for a single time, and it does not support retrying; once it fails, an error will be displayed on the screen and



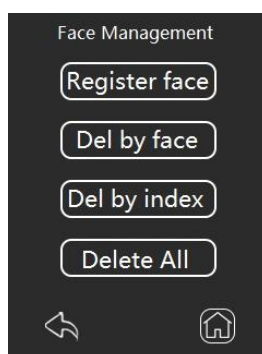
picture 4-3

a prompt will be broadcast, and then it will go to sleep.

- 10) After unlocking in any way in experience mode, the system voice prompts "Please add administrator".
- 11) If the deletion of the last administrator or the last ordinary user is successful, the system will voice prompt "Please add administrator".

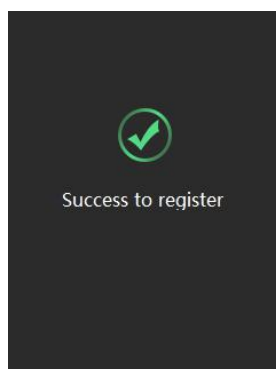
### 4.4 face management interface

The face management interface is mainly to add and delete faces of new users. Click face management to enter the face management interface.



picture 4-4

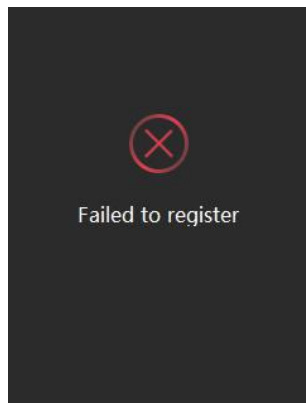
Click new face registration to enter the face registration interface. According to the voice prompt, turn your head up and down to complete face registration. If the registration is successful, you will be prompted "registration is successful". After 1s, you will return to the face management interface



picture 4-5

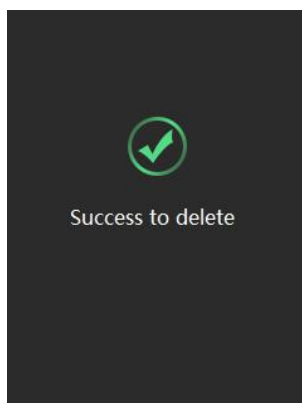


If the registration fails, it will prompt "registration failed". After 1s, it will return to the face management interface



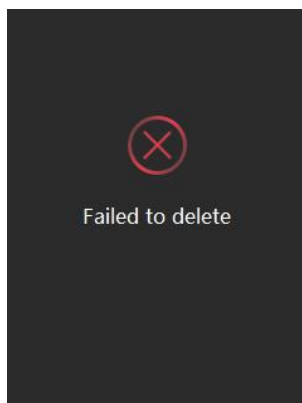
Picture 4-6

Click delete by face to enter the face recognition phase. After the face recognition is successful, delete the corresponding face, prompt "delete successfully" for 1s, and then return to the face management interface.



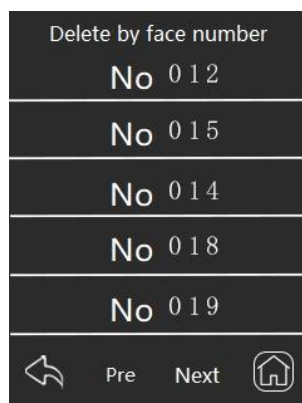
Picture 4-7

If face recognition fails, prompt "delete failed" and return to face management interface.



Picture 4-8

Click delete by number to enter the delete face by number interface. Select the face number to be deleted to delete the face. After successful deletion, you will be prompted "deletion succeeded". After 1s, you will stay in the delete face by number interface.

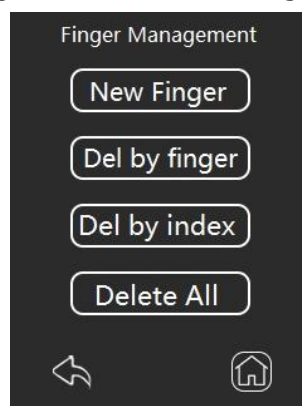


Picture 4-9

Click delete all and confirm to delete all registered faces. If the deletion is successful, you will be prompted "delete successfully". After 1s, you will return to the face management interface.

## 4.5 fingerprint management interface

The fingerprint management interface is mainly to add and delete the new user's fingerprint. Click fingerprint management to enter the fingerprint management interface.



Picture 4-10

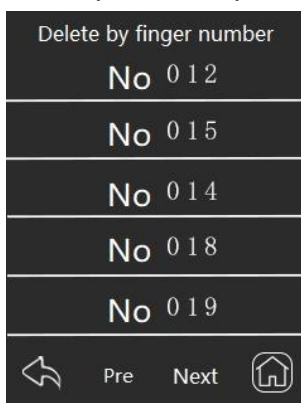
Click Add fingerprint to enter fingerprint registration interface. Complete the fingerprint registration according to the prompt. If the registration is successful, it will prompt "registration is successful". After 1s, it will return to the fingerprint management interface. If the registration fails, it will prompt "registration failed", and return to the fingerprint management interface after 1s.



Picture 4-11

Click delete by fingerprint to enter the fingerprint identification phase. After the fingerprint identification is successful, delete the corresponding fingerprint and prompt "delete successfully". 1s later, return to the fingerprint management interface. If the fingerprint identification fails, it will prompt "deletion failed" and return to the fingerprint management interface.



Click delete by number to enter the delete by number interface. Select the fingerprint number to be deleted to delete the fingerprint. After successful deletion, you will be prompted "deletion succeeded". After 1s, you will stay in the delete by number interface.

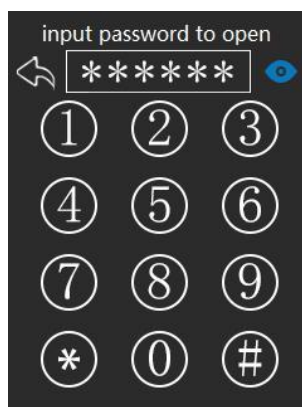


Picture 4-12

Click delete all and confirm to delete all registered fingerprints. If the deletion is successful, you will be prompted "delete successfully". After 1s, you will return to the fingerprint management interface.

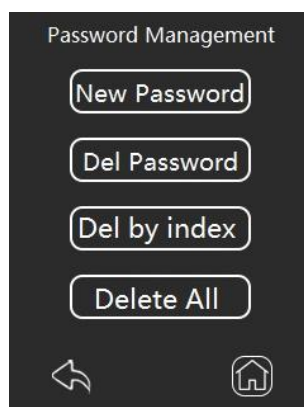
## 4.6 password management interface

Figure 4-13 shows the password input unlocking page. After the password is input, click the "#" key to confirm to unlock. When the password is input incorrectly, click the "\*" key to delete one by one. Click in the upper right corner"  "Button to switch the input password encryption display, click the upper left corner"  "Button the system goes to sleep directly. Click "\*" + #" to operate authentication and enter the setting page.



Picture 4-13

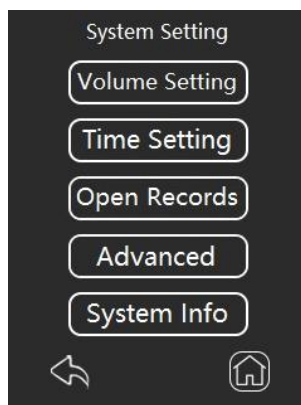
- 1) The password management interface is mainly used to add and delete passwords for new users. Click password management to enter the password management interface.
- 2) Click new password to enter the password registration interface. Complete the password registration according to the prompt. If the registration is successful, you will be prompted "registration is successful". After 1s, you will return to the password management interface. If the registration fails, you will be prompted "registration failed". After 1s, you will return to the password management interface.
- 3) Click delete password and input the password to be deleted. After the password identification is successful, delete the corresponding password and prompt "delete successfully". 1s later, return to the password management interface. If the password identification fails, prompt "delete failed" and return to the password management interface.
- 4) Click delete password by number to enter the delete password by number interface. Select the password number to be deleted to delete the password. After successful deletion, you will be prompted "deletion succeeded". After 1s, you will stay in the delete password by number interface.
- 5) Click delete all and confirm to delete all registered fingerprints. After successful deletion, you will be prompted "deletion succeeded". 1s later, you will return to the password management interface.



Picture 4-14

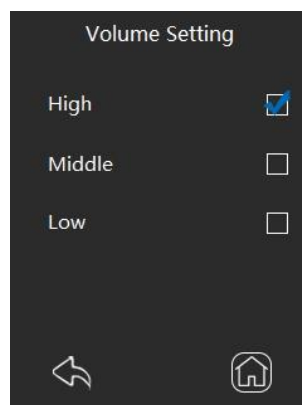
## 4.7 system setting interface

The system management functions such as volume and time can be completed in the system setting interface. There are three levels of volume setting: high, medium and low. Time setting is used to set the real-time time of the system. Click unlock record to view 200 recent unlock information. On the advanced settings page, click Restore factory settings to restore the system to the default state. You can also "turn on" or "turn on" the human body sensing function "Close".



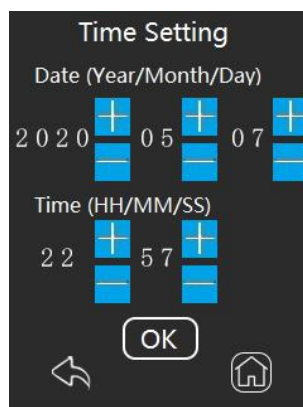
Picture 4-15

Click the check box in the system volume setting interface to debug the high, medium and low volume. After the setting is successful, the voice prompt "success" check box displays "√", as shown in the figure.



Picture 4-16

In the system setting time interface, you can set the year, month, day, hour, minute and second of the system. The modification time interface is shown in the figure.



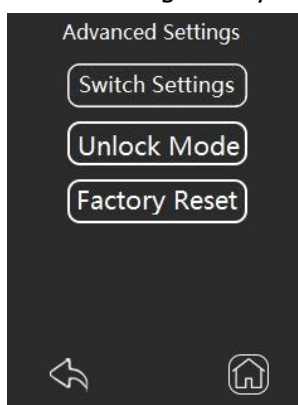
Picture 4-17

Enter the unlocking record interface to display the number, mode, date and time information of the last 5 times of unlocking. Click the previous page or the next page to switch to view the previous door opening records. 200 door opening records can be stored. After reaching 200 door opening records, they can be deleted and added one by one in a circular way. (combination unlocking: the mode is displayed as combination, and the number is displayed as the unlocking mode type number of the second input.)



Picture 4-18

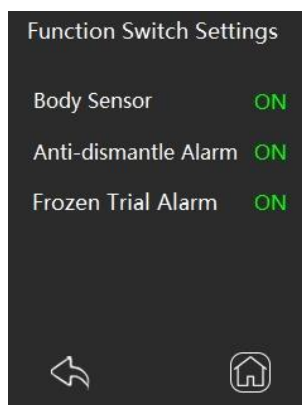
After entering the advanced settings page, the three modules of "function switch setting", "setting unlocking mode" and "restoring factory settings" will be displayed.



Picture 4-19

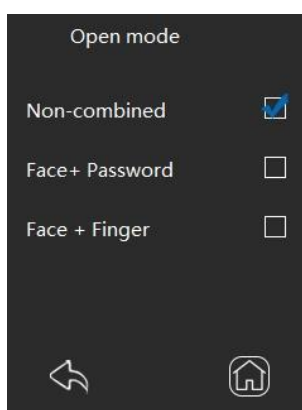
In the function switch setting page, you can "turn on" or "turn off" the human body sensing, anti disassembly alarm, trial and error freezing alarm and other function settings. After the setting is confirmed, the voice prompts "success" of the newly installed human

body sensing. The trial and error freezing alarm is the default on state, and the anti disassembly alarm is the default off state.



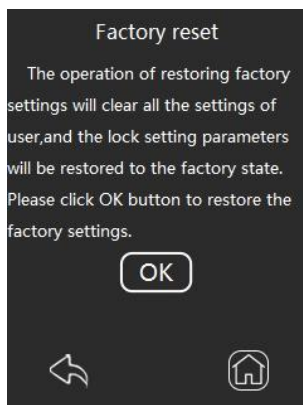
Picture 4-20

In the advanced setting interface, enter the page of setting unlocking mode, and click the "non combined unlocking", "face + fingerprint" and "face + password" check boxes to switch the unlocking mode. Click the check box. If the check box displays "√", the voice prompts "success", then the setting is successful. If the check box does not display "√", then the combined unlocking mode is missing, and the voice prompts "please register face" ""Please add fingerprint" "Please add password". If one of the combination unlocking modes has been set or deleted, the unlocking mode will return to the non combination unlocking mode by default. (setting combination unlock does not support applet dynamic password unlock.)



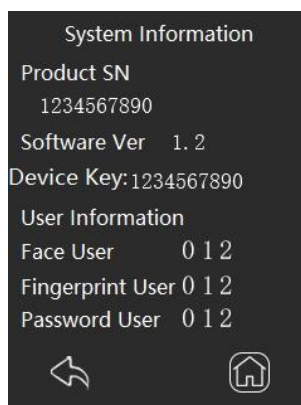
Picture 4-21

Click restore factory settings, and the system will remind you accordingly. If you click confirm, all user registration information will be cleared, and the system time will return to the default time



Picture 4-22

In the system setting interface, click to enter the system information interface to display the product serial number, version number, device key and the number of users added to the system.



Picture 4-23

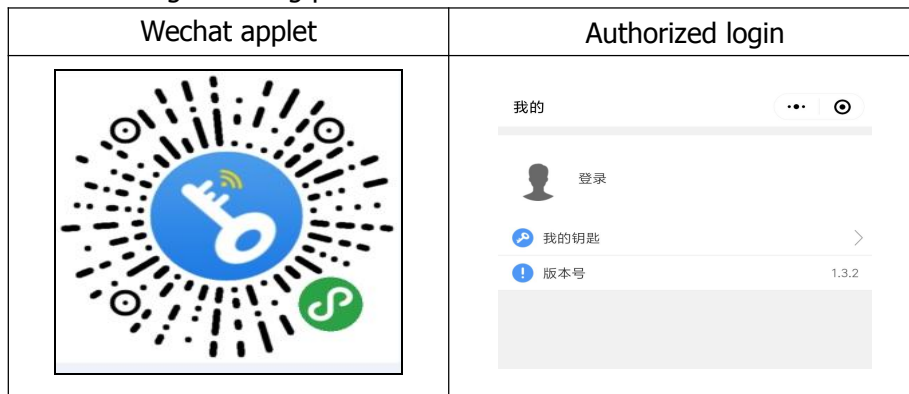


## 5 Dynamic password operation steps of small program

### 5.1 Login lock to lock the applet

Open wechat and click "scan" in the "discovery" menu to scan the QR code of the "lock to lock" applet

Or input "lock to lock to" directly to search. Enter the small program, first in the "my" page authorized login binding personal information.

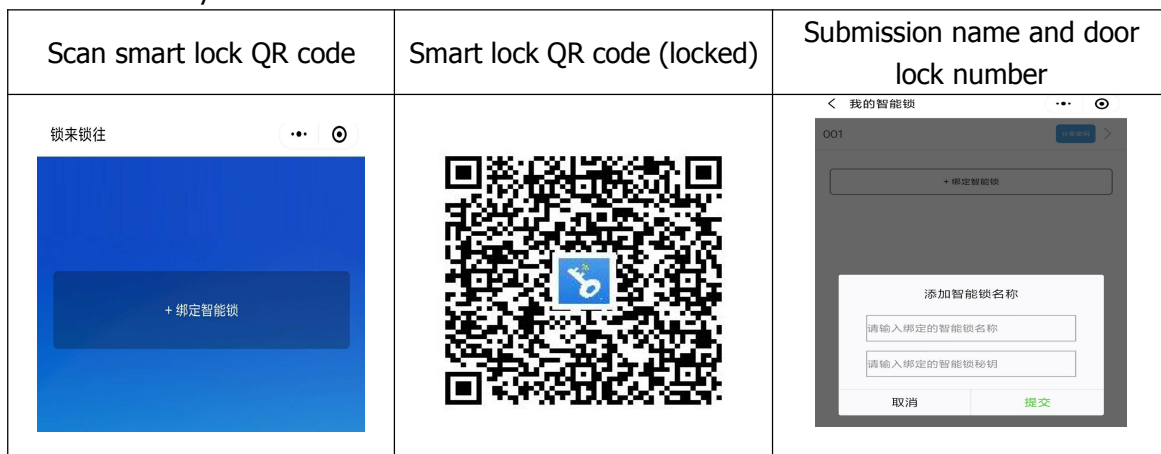


### 5.2 Lock binding device

Click "+ bind smart lock" on the key home page of the applet to scan the QR code and enter the user-defined name and lock device number to bind directly.

Note: 1. See Figure 4-23 above for the lock number information.



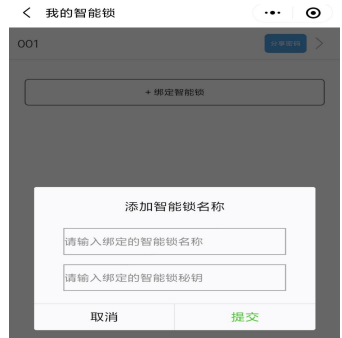
2. After the factory settings are restored, the device key will be updated. You need to rebind the key and set the current time to use it.



You can also click the "+ bind smart lock" button in the "device" page, scan the QR code, and add the user-defined name and lock body number after the pop-up window to



bind the device information.

Note: if the QR code of the added device has been bound, the system will prompt "the QR code has been bound".

Scan smart lock QR code	Smart lock QR code (locked)	Submission name and door lock number
		

### 5.3 Generate password key

- 1) After binding, the device will display its name and QR code number on the "my smart lock" (device) page. If the QR code is lost, it can be retrieved according to the number generated.
- 2) Click to enter the page to display "history", "subkey", "device name", "unbind" and "share".
- 3) Select "short time single time" or "short time multiple times" and click "generate new password" to display the randomly generated password. The "generate new password" button below will display the three minute countdown. After three minutes, a new password can be generated again.
- 4) Click "history" to view the time, type and password records generated before.
- 5) When the system is restored to the factory settings, you can click "sub key" to enter a new device key binding to use.
- 6) Click "device name" to change the device name.
- 7) Select "unbind" and click to confirm the deletion of all device information.
- 8) Click "share" to jump to the friends chat directory and select friends to send.

		
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## 5.4 Use temporary password

- 1) After the password key is generated, a 9-digit or 8-digit numeric password will be displayed randomly on the page, and it can be generated again after the 180s countdown. You can click the "share" shortcut button to directly select friends to send.
- 2) "Short time single time" mode can only unlock once in three minutes  
The "short time multiple" mode has no limit on the number of unlocking times in 10 minutes.
- 3) Before use, make sure that the time of the door lock system is the same as the current Beijing time.



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