UT-059B_UL Key Management Cabinet

Operating Manual

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Zhuhai Unitech Power Technology Co., Ltd.

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Reading Guide

Manual Target:

This manual aims at providing operating instructions for UT-059B_UL key management cabinet provided by Zhuhai Unitech Power Technology Co., Ltd., which will enable the users to basically understand product functions, performance and features, and to master the device usages and maintenance methods.

Readers:

This manual is prepared for the users of UT-059B_UL key management cabinet, main contents cover installation, maintenance and operation of the device, and main role is to provide the installation and operation personnel with installation guidelines and operating procedure descriptions.

Manual Composition:

This manual is mainly composed by the "Overview", "System Description", "Management cabinet Function Operation", "Key Management" and "Common Questions Handling".

Manual Convention:

[Note] This document is subject to change without notice due to the product version upgrades or other reasons. Unless otherwise agreed, this document only serves as a guide, and all statements, information and recommendations in this document do not constitute any express or implied warranty.

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Chapter 1 Overview

Currently, many substations and power plants introduce microcomputer safety interlock devices, and those devices have provided the safe operation of the power production with strong guarantee. However, it is short of effective and feasible methods to manage some special unlocking keys used by these devices, thereby directly affecting the safe production of power system. To this end our company has developed UT-059B_UL key management cabinet that can better resolve this problem.

UT-059B_UL key management cabinet is a microcomputer-controlled management device, which can not only manage electric unlocking key, jumping key and mechanical unlocking key, but also manage various door keys, computer keys and even mobile phones and wallets. UT-059B_UL key management cabinet uses non-contact IC card, network authorization and SMS authorization; by use of the advanced RFID detection technology, when a user takes away from or return the unlocking key to the key management cabinet, the management cabinet will exactly record the specific date to take away from or return the unlocking key to the management cabinet, records are detailed and accurate, so it can greatly reduce troubles resulted from the manual management of these locks.   A full Chinese LCD display is designed, the entire menu interface is simple and friendly, so it greatly improves automation management of the power plant.

UT-059B_UL model key management cabinet is a FCC certified product, which current model is not support the SMS function.

FCC Caution

§ 15.19 Labelling requirements.
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.

§ 15.21 Information to user.
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

§ 15.105 Information to the user.
Note: 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 theequipment 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.

Display

Swiping area

Power button, power supply, running indicator

Digital input area

Operating button

Key storage area

Cabinet door

Organic glass, removable in case of emergency
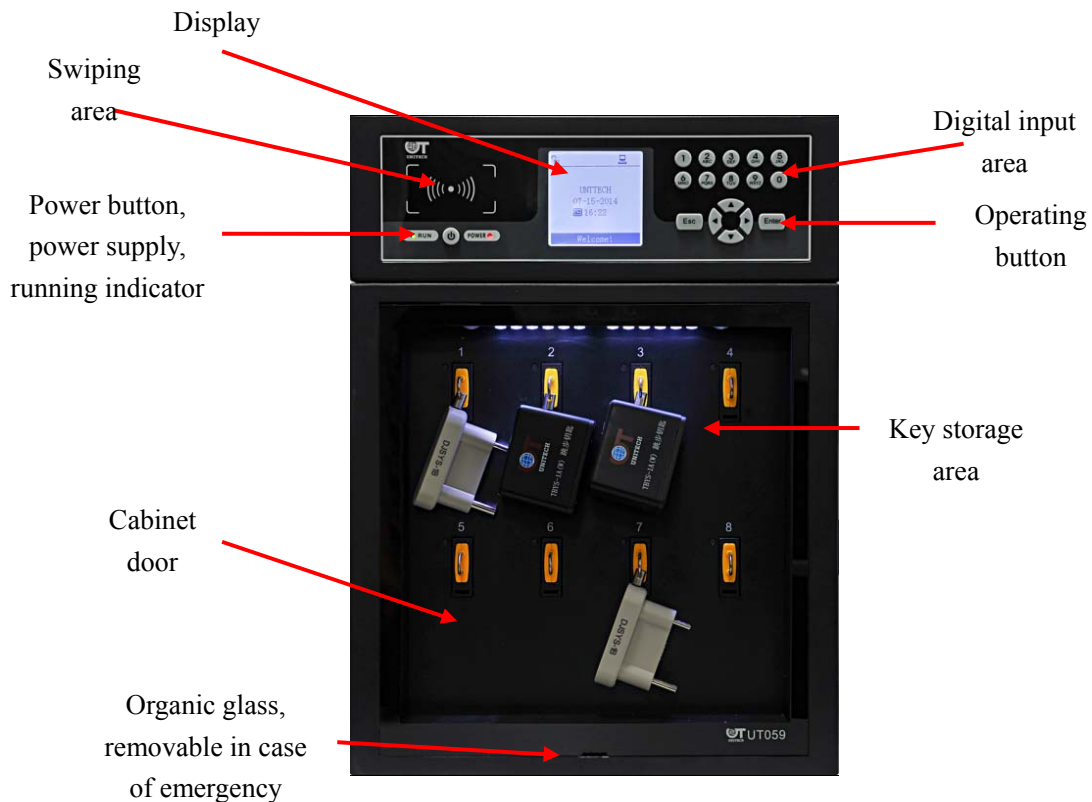
Fig. 1-1 External view of UT-059B_UL key management cabinet

1.1 Technical Features

➢ High basic frequency ARM 7 industrial grade host machine is the core of the system;

➢ 160*160 monochrome display, grayscale adjustable;

➢ RFID identification technology;

➢ IC card authorization, manage users' different permissions;

➢ WEB management, it can use a browser to monitor relevant information of the management cabinet and configure relevant parameters of the system;

➢ With perfect record function, supporting up to 6,000 messages;

➢ Support ethernet communication;

➢ UT-059B_UL supports USB interface, facilitate the operation and control of the device through a U disk, thus achieving operation data import and export;

➢ UT-059B_UL structured case design, wall mounted or desktop installation modes;

➢ Support both locking and non-locking modes;

➢ With lighting function;

➢ Provides rechargeable battery as a backup power supply, operational in case of a blackout condition.

1.2 System Technical Parameters

➢ Ambient temperature: $-20℃\sim+70℃$

➢ Relative humidity: Daily average ≤ 95%, monthly average ≤ 90%

➢ Quiescent current: UT-059B UL≤200mA

➢ Internal memory capacity: FLASH≥4MB，RAM≥1MB，DataFlash ≥2MB

➢ Dielectric strength: ≥2000V

➢ RFI strength: ≥50dB(uV/m)

➢ Anti-power terminal transmission interference strength:≥70dd(uV)

➢ Impact strength: ≥10g

➢ Mean trouble free time (MTBF): ≥50000h

➢ Data minimum storage: 10 years

➢ Maximum saved records: 6000

➢ Input voltage range: 85～265VAC，110～330VDC

Chapter 2 System Description

2.1 Dimensions
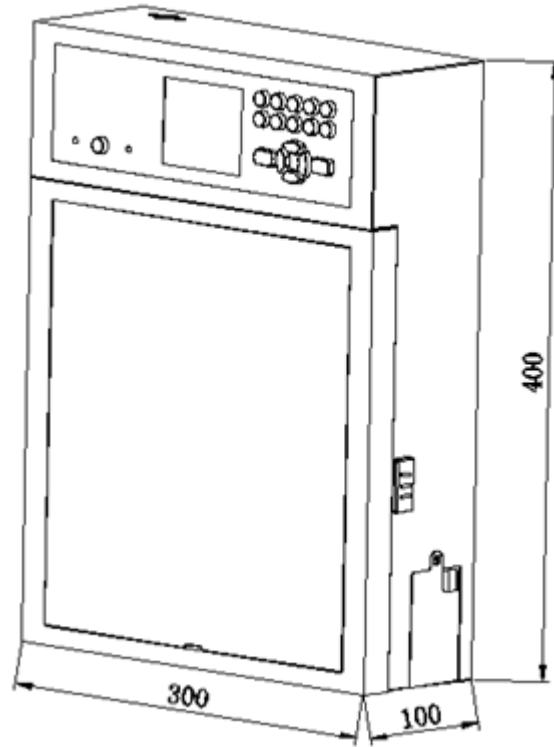
Fig. 2-1 UT-059B_UL dimensions

2.2 Installation Dimensions
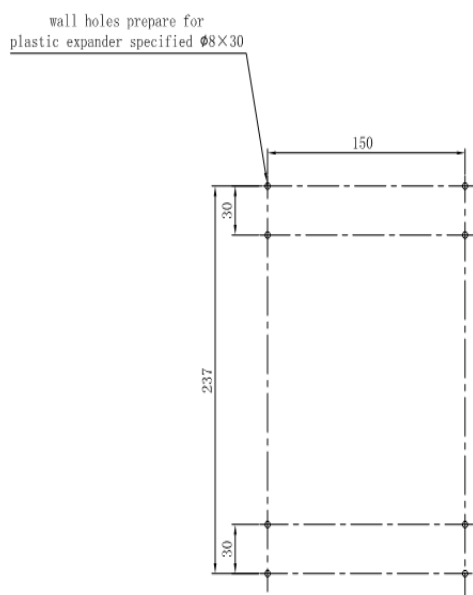
Fig. 2-2 UT-059B_UL installation and holing sizes   **Fig. 2-3 UT-059B_UL wall installation**
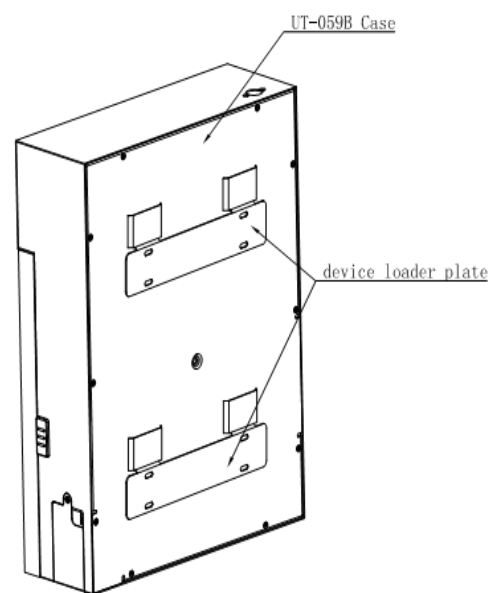
2.3 Wiring Socket Instructions

Debugging
port

USB
interface

Fig. 2-4 debugging port and USB interface

Ethernet port and power socket is located at the lower right side of the device, as shown in Fig. below:
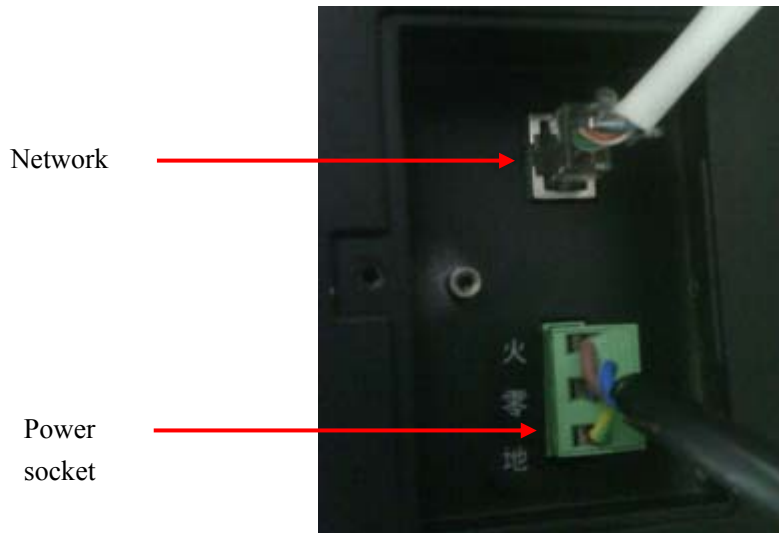
Fig. 2-5 UT-059B_UL ethernet port and power socket

2.4   Indicator Description

There are two indicators on the system panel: one power indicator and one running indicator. After the power is turned on, if the power indicator remains red, it means that it is using external AC220 to supply the power, if the power indicator becomes green, it indicates that the current power is supplied by the battery; and the running indicator is green and flashes once per second.

2.5   Backup Battery

Backup battery of the system will automatically be charged after the power is below a certain level, it is unnecessary for users to intervene, the device can automatically detect and identify the current power supply mode and make internal and external power supply switching. In the case of fully charged battery, the UT-059B_**UL** device is continuously powered by the battery for about 12 hours.   In the case of battery power supply, when the system returns to the main interface, if there is no operation over one minute, the system will automatically shut down to save electricity.   After the device is automatically shut down in the case of the battery supply, if the external AC220V supplies the power, the device will automatically turn on to start working.

Chapter 3 Functional Operation of the Management Cabinet

The following is an introduction of the operating methods of the UT-059B**_UL** key management cabinet (hereinafter referred to as the "device").

3.1 System Start

It shall turn on the system power supply, then press the power button for about two seconds to start the system, in case of an unexpected blackout, if the power is turned on, the device will automatic start, and without external power but with battery power, to press the power button about two seconds can also start the device. After the power is turned on about 2 seconds, the LCD display enters the boot interface, and screenshot is shown below:

(1) In the boot interface, if the user does not carry out any operation, the system will automatically enter the main interface after 10 seconds.

(2) In the boot interface, in the case of any key operation or swiping card, the system will immediately enter the main interface.

3.2 The Main Interface

The figure below is a typical main interface equipped with the network authorization:

```
 ☎ 🔓              🖳  📶

        UNITECH
        2014-05-23
        🔲 10:18


      Please  swipe  card
```

Of which 🔓 and 🔒 presents unlocking and locking state respectively. Presence of the icon ☎ means that the slave communication is abnormal, if it is normal, such the icon does not appear, and 🖳 means successful communication with the host device (if network authorization provided). In the main interface, it displays the current real-time date and time.

In the main interface, press the "**Digit**" key to enter the "Password Log" (see "*3.3.2 Password Log*");

Press the "**Esc**" key to exit the login status;

Press the "**Enter**" key to enter the "Main Menu" (see description of the main menu "*3.4.1 Main Menu*");

Pressing the "**Up, Down, Left, Right**"（▲, ▼, ◄ and ►） **keys** gets no response;

3.3 User Login

Before the operation, user must login (except the record browse operation without the need of authorization, see "*3.4 Menu Operation*"), the current system supports two login methods: swiping card login and password login.

Note: If there is no any key operations after the user has logged in for two minutes, the device will automatically exit from login and return to the main interface.
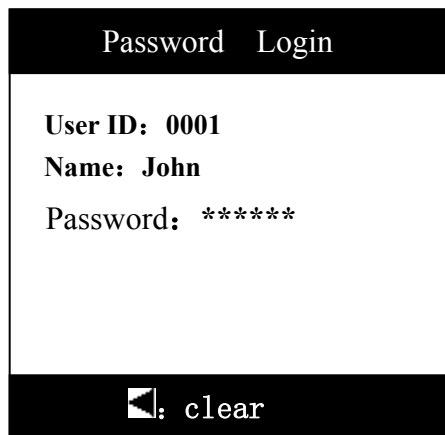
3.3.1 Swiping Login

The user must first register in the "User Management" (see "*3.4.3 User Management*"), and then swipe the card in the swiping area to log in.

3.3.2 Password Login

Password login is to select the user first, and then enter the user password, if you enter a wrong password, the device will prompt.

In the main interface, press the "**Digit**" key to enter the password login interface:

```
┌─────────────────────────────┐
│        Password   Login      │
├─────────────────────────────┤
│                              │
│   User ID：0001              │
│   Name：John                 │
│   Password：******           │
│                              │
│                              │
│                              │
├─────────────────────────────┤
│          ◄: clear            │
└─────────────────────────────┘
```

Press the "**Digit**" key to enter a password;

Press the "**Esc**" key to exit the password to return to the main screen;

Press the "**Enter**" key to judge the login based on the password;

Press the "**Left**" (◄) key to delete the password;

Press the "Up, Down" (▲, ▼) keys to switch the user;

Note: The password is six digits.

3.4 Menu Operation

The system menu is mainly composed of three parts - "**Main Menu**", "**Management Menu**" and "**Debug**". In addition to that "Record Browse" and "About" can be used without user login in the main menu, all other menus can be used only after they are logged in with appropriate operating permission (for the user level, please refer to "**_3.4.3 User Management_**"). For example, when a user tries to enter the "Management Function" menu without login, the system will pop up a prompt message box as follows:

```
┌─────────────────────────────────┐
│                                 │
│         Please log in !         │
│                                 │
│                                 │
└─────────────────────────────────┘
```

When the system is equipped with a U disk mode, and the user tries to enter the "Management Function" menu without login, the system will pop up a prompt message box as follows:

```
┌─────────────────────────────────┐
│                                 │
│         Please insert           │
│         the U-Key!              │
│                                 │
└─────────────────────────────────┘
```
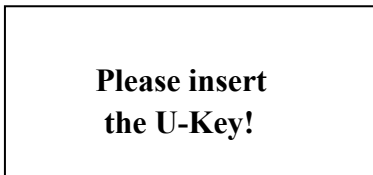
In the menu interface, the system highlights the selected menu in white, the user can use the "**Up, Down, Left, Right**" (▲, ▼, ◀ and ▶) keys to select a menu, press the "**Enter**" key to enter the menu, and press the "**Esc**" key to return to the previous menu.

In any menu, if the user does not operate the keys for two minutes, the system will automatically return to the main screen, if the user has logged in, it will automatically exit. If further operation is required, the user needs to log in again.

3.4.1 Main Menu

In the main interface, press the "**Enter**" key to enter the "**Main Menu**" as shown in the figure below, mainly including "Record Browse", "Change Password", "Management Function" and "About" menus, as shown in the figure below:

```
┌─────────────────────────────────┐
│ 🔓        Main menu         🖥   │
│─────────────────────────────────│
│   📄                            │
│   🔍     Browse                 │
│   📄                            │
│   ⚙     Function               │
│   ⌨                            │
│          Change password        │
│─────────────────────────────────│
│   ▲  ▼  ◀  ▶: switch            │
└─────────────────────────────────┘
```
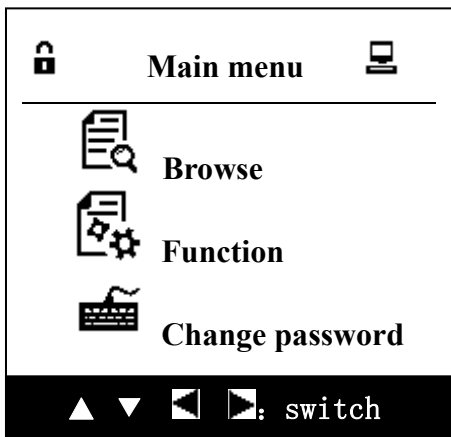
Press the arrow keys to switch the menu:

```
┌─────────────────────────────┐
│ 🔓        Main menu      💻  │
│─────────────────────────────│
│  📄                         │
│  ⚙️      Function           │
│                             │
│  ⌨️      Change password    │
│                             │
│  ⓘ      About              │
│─────────────────────────────│
│  ▲ ▼ ◀ ▶：switch           │
└─────────────────────────────┘
```

3.4.1.1 Record Browse

```
┌─────────────────────────────┐
│          1  of  58          │
│─────────────────────────────│
│ Operator：John              │
│ 2014/05/23    17:33:40      │
│ Take：Key 2#                │
│ Authorizer：Tomy            │
│                             │
│                             │
│         ◀ ▶：switch         │
└─────────────────────────────┘
```
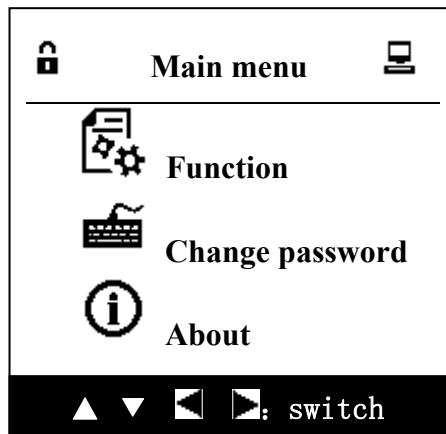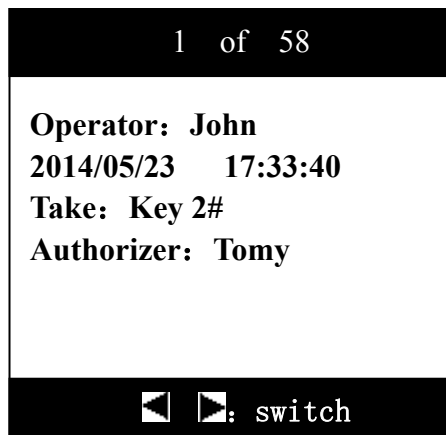
Record browsing is mainly to see the history of device to operate the keys. Recorded contents include operating time, operator, authorizer and key names. Record types include: open the door, shut the door, take the key, return the key, abnormal boot, abnormal shutdown, removal of the glass door, and installation of the glass door.

◀ key: Browse the last record;
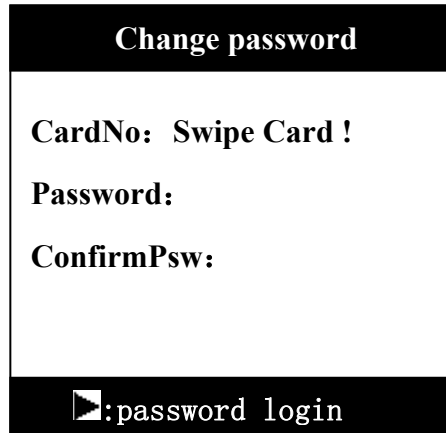
▶ key: Browse the next record;

▲, ▼ keys: Used to scroll the text that cannot be displayed on a single screen;

"**Esc**" key: Exit records browsing, return to the previous menu;

"**Enter**" key: Exit records browsing, return to the previous menu;
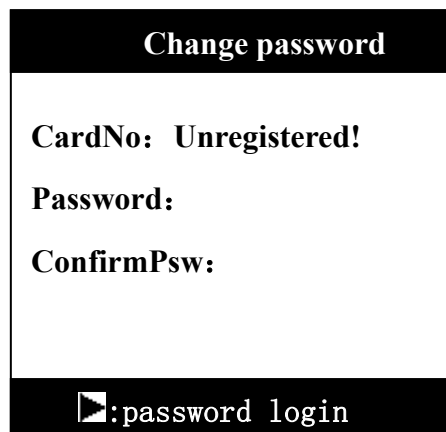
3.4.1.2 Change Password

After entering the Change Password menu, the interface is shown below:

```
┌─────────────────────────────┐
│      Change password        │
├─────────────────────────────┤
│                             │
│  CardNo：Swipe Card !       │
│  Password：                 │
│  ConfirmPsw：               │
│                             │
│                             │
├─────────────────────────────┤
│     ▶:password login        │
└─────────────────────────────┘
```

After the registered user swipes the card at the swiping area, it can change the corresponding user's password, if the card is not registered, it will pop up the following message:

```
┌─────────────────────────────┐
│      Change password        │
├─────────────────────────────┤
│                             │
│  CardNo：Unregistered!      │
│  Password：                 │
│  ConfirmPsw：               │
│                             │
│                             │
├─────────────────────────────┤
│     ▶:password login        │
└─────────────────────────────┘
```

The user can press the ▶ key to enter the password user interface to modify the password by entering the password, since this operation is the same as that in *3.4.2 Password Login,* it is no longer repeated here.

The user can press the ▶ key to enter the password user interface to modify the password by entering the password, since this operation is the same as that in *3.4.2 Password Login,* it is no longer repeated here.

3.4.1.3 About

Contents in the "About" include "Company Name", "Master and Slave Software Version", "Date" and "Serial Number", etc., as shown in the figure below:

```
┌─────────────────────────────┐
│            About            │
├─────────────────────────────┤
│  Host Var.：1.00            │
│  Data：2014-6-16           │
│  Slave Var.：1.00          │
│  Data：2014-5-23           │
│  SN：2099123999            │
│                             │
├─────────────────────────────┤
│          UNITECH            │
└─────────────────────────────┘
```
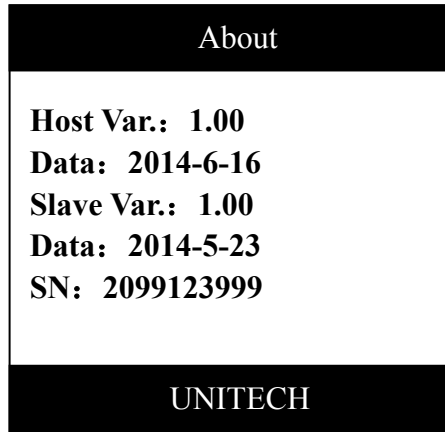
3.4.2 Management Menu

Management menu mainly consists of "User Management", "System Setting" and "Debug", of which "Debug" is a dedicated menu only for our technical support staff, the user can not enter, so it is not described here, the remaining two sub-menus will be separately described.

```
┌─────────────────────────────┐
│ 🔒      Function      🖥     │
├─────────────────────────────┤
│   👤   User management      │
│   ✖   System setting        │
│   📊   Debug                │
├─────────────────────────────┤
│   ▲  ▼  ◀  ▶:switch         │
└─────────────────────────────┘
```
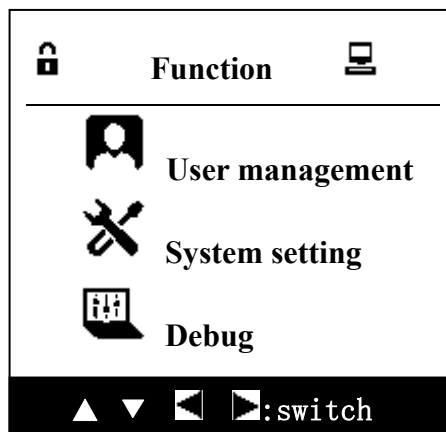
3.4.3 User Management

User Management is mainly composed of "Create Account", "Search User", "Delete User", "Account Setting" and "Browse User".

13

```
      🔓          Function              🖥️
      ━━━━━━━━━━━━━━━━━━━━━━━━━━━━
            👤⊕   Create account

            👥✓   Account setting

            👤🔍   Search user
      ━━━━━━━━━━━━━━━━━━━━━━━━━━━━
            ▲  ▼  ◀  ▶:switch
```
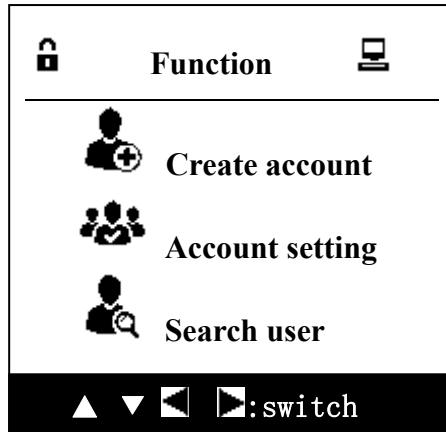
Press the arrow key to switch the menu:

```
      🔓          Function              🖥️
      ━━━━━━━━━━━━━━━━━━━━━━━━━━━━
            👤🔍   Search user

            📇🔍   Browse user

            👤⊖   Delete user
      ━━━━━━━━━━━━━━━━━━━━━━━━━━━━
            ▲  ▼  ◀  ▶:switch
```
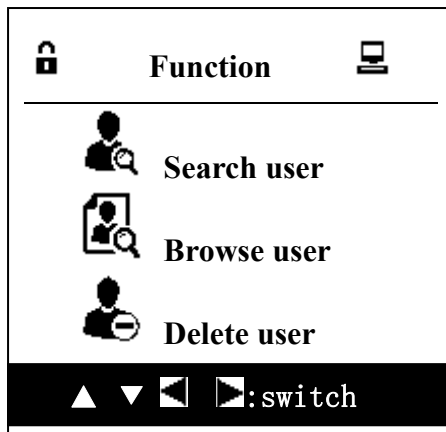
3.4.3.1 Create Account

Add user information for user registration to edit the user ID, permission and password (initial password is 123456). Interface is related to the configuration mode, and the interface is as follows:

```
      ━━━━━━━━━━━━━━━━━━━━━━━━━━━━
               Create account
      ━━━━━━━━━━━━━━━━━━━━━━━━━━━━

      ID：   1

      Authority： Manager
      CardNo.： 000000000000
      Password： 123456


      ━━━━━━━━━━━━━━━━━━━━━━━━━━━━
               ▲  ▼： Edit
```
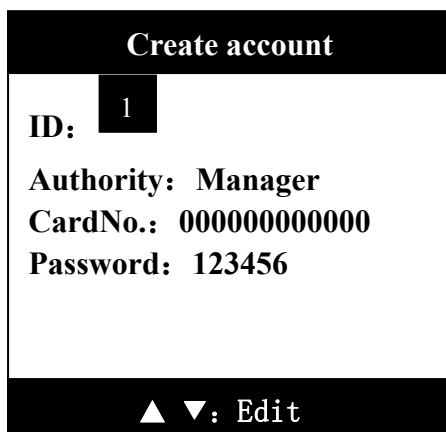
Where "ID" is automatically generated by the system, the user can also change it, but the user ID can not be repeated in the system, otherwise it will pop up a message box "User ID already exists!" when adding the user. There are three authorities: attendant, technician and administrator, where the attendant's permission is the lowest while the administrator's permission is the highest, and authorities corresponding to the user permission levels are shown in the table below:

	Attendant	Technician	Administrator
Browse	√	√	√
Operation	√	√	√
Authorization		√	√
Query User		√	√
User Management			√
User Permission Change			√
Time Setting		√	√
Station Number Setting		√	√
Network Setting		√	√
Mode Setting			√
Key Permission Setting			√

Card default is all zeros, it can not be manually edited, it has to swipe the card to automatically generate, password initialization will generate a fixed password, and the user can start operating the device only it has changed the password.

When the user has finished editing, press the "**Enter**" key to save it, if there are errors or conflicts in user's data, the system will pop up an appropriate prompt message box, and it will be OK when the user carries out changes simply following the prompts; If there is no error in the data, the system will pop up a message box below, press the "**Enter**" key to return to the user interface to continue adding users, and to press the "**Esc**" key will exit user adding and return to the user management menu.

Continue create account?

Explanations are given on the buttons below:

◀ and ▶ keys: Forward and backward to switch the editing point;

▲ key: Used for selection of the permission drop-down selection box;

▼ key: When the input point is an permission, it is used for selection of the drop-down selection box; and input of ID and password is used to clear the currently entered contents;

"**Esc**" key: Used to exit the added user and return to the previous menu;

"**Enter**" key: Used to confirm the contents and add the users;

"**Digit**" key: when the inputs are at ID or password, it is used to enter the numbers, and there is no response in other focus modes

3.4.3.2   Account Setting

When having entered the account setting menu, the screen displays as follows:

```
┌─────────────────────────────────┐
│        Account   setting        │
├─────────────────────────────────┤
│                                 │
│  Name：John                     │
│  Authority：Manager             │
│  CardNo：0080D07F7917           │
│  Password：864136               │
│                                 │
├─────────────────────────────────┤
│  ▶: switch  Enter: edit         │
└─────────────────────────────────┘
```

Users can use ◀ and ▶keys to switch to the user who needs to modify the permission, after selection, press the "**Enter**" key to enter the modification, as shown in the figure:

```
┌─────────────────────────────────┐
│        Account   setting        │
├─────────────────────────────────┤
│                                 │
│  Name：John                     │
│  Authority：                    │
│                                 │
│  CardNo：0080D07F7917           │
```

At this time, the user can use ▲ and ▼ keys to change the permission of the corresponding user, press the "**Enter**" key to save user's permissions and exit to user management, and press the "**Esc**" key to give up this operation to return to the user management.

3.4.3.3 Search User

Enter "Search User" menu and the interface will first display as follows:

```
┌─────────────────────────────┐
│       Search    user        │
├─────────────────────────────┤
│                             │
│                             │
│     Please    swipe    card │
│                             │
│                             │
├─────────────────────────────┤
│  ▶: password login          │
└─────────────────────────────┘
```
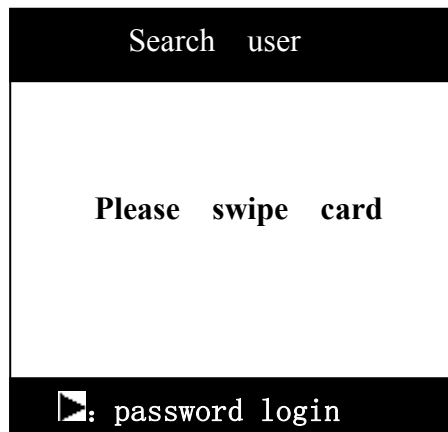
Now the user can swipe the card to query user's information, if the card is not registered, the following message will pop up:

```
┌─────────────────────────────┐
│       Search    user        │
├─────────────────────────────┤
│                             │
│     Card    has not         │
│                             │
│     been registered!        │
│                             │
│                             │
├─────────────────────────────┤
│  ▶: password login          │
└─────────────────────────────┘
```

If the user has been reg... ...tion information, the information content is exactly the same as the content when adding the user, but it can not be

edited.

When the user wants to conduct a new inquiry, it is just to swipe the card to be queried again at the swiping area.

"**Esc**" and "**Enter**" keys: quit from the Search User and return to the previous menu;

"**Digit**", ▲, ▼ and ◀ keys: do not respond;

The user can press the ▶ key to enter the password user interface to modify the password by entering the password, since this operation is the same as that in *3.4.2 Password Login,* it is no longer repeated here.

3.4.3.4 Browse User

For the user without login, all user passwords display "*", and if the user has logged in, if the user has sufficient permissions or browsed user's information is just the logged in user, the password area will display the password value of the corresponding user.
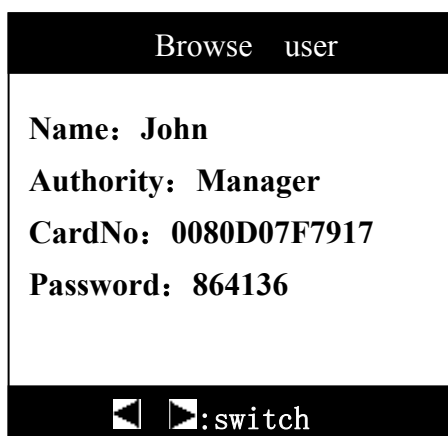
```
┌─────────────────────────────────┐
│         Browse   user           │
├─────────────────────────────────┤
│  Name：John                     │
│  Authority：Manager             │
│  CardNo：0080D07F7917           │
│  Password：864136               │
│                                 │
│                                 │
│        ◀  ▶:switch              │
└─────────────────────────────────┘
```

◀ key: Browse the last record;

▶ key: Browse the next record;

▲, ▼ keys: Used to scroll the text that cannot be displayed on a single screen;

"**Esc**" key: Exit records browsing, return to the previous menu;

"**Enter**" key: Exit records browsing, return to the previous menu;

"**Digit**" key: no response;

3.4.3.5 Delete User

If the system is not provided with the users, it will prompt the following information:

```
┌─────────────────────────────┐
│         Delete   user       │
├─────────────────────────────┤
│                             │
│        System   user        │
│       number   is   0 !     │
│                             │
│                             │
│                             │
├─────────────────────────────┤
│        Esc Enter：Ouit       │
└─────────────────────────────┘
```
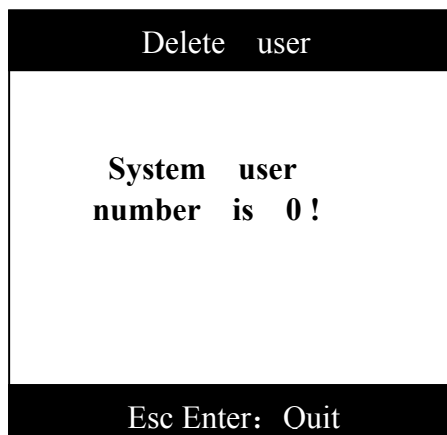
Press the "**Enter**" or "**Esc**" key to exit the "Delete User" menu and return to the "User Management".

There are two user deletion modes for selection, and the user can use ▲, ▼, ◄ and ►keys to select the entry mode, and press the "**Enter**" key to enter:

```
┌─────────────────────────────┐
│         Delete   user       │
├─────────────────────────────┤
│   🗙 Delete   user          │
│                             │
│                             │
│   🗙 Delete   all           │
│                             │
│                             │
├─────────────────────────────┤
│    ▲ ▼ ◄ ►: switch          │
└─────────────────────────────┘
```
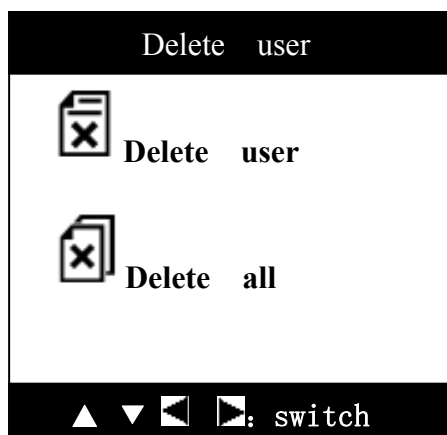
3.4.3.5.1　Delete Individual User

Delete individual user interface is as follows:

```
┌─────────────────────────────────┐
│          Delete   user          │
├─────────────────────────────────┤
│                                 │
│   Name：John                    │
│   Authority：Manager            │
│   CardNo：0080D07F7917          │
│   Password：864136              │
│                                 │
│                                 │
├─────────────────────────────────┤
│          ◄ ►：switch            │
└─────────────────────────────────┘
```

The user can use ◄ and ▶ keys to select the user to be deleted, and then press the "**Enter**" key to prompt:

```
┌─────────────────────────────────┐
│          Delete   user          │
├─────────────────────────────────┤
│                                 │
│                                 │
│        Delete   this   user？    │
│                                 │
│                                 │
├─────────────────────────────────┤
│    Esc：Quit    Enter：Sure      │
└─────────────────────────────────┘
```
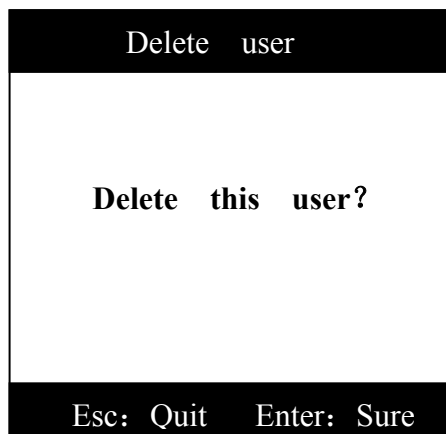
Press the "**Esc**" key to return, press the "**Enter**" key to delete the user, if the number of users after deletion is 0, it will directly exit from the delete user interface and return to the user management menu, if there are users, it will display the next user, and the user can continue to delete other users.

3.4.3.5.2　Delete All Users

When it selects "Delete All Users" in the delete mode, the interface prompts the following information:

```
┌─────────────────────────────┐
│        Delete user          │
├─────────────────────────────┤
│                             │
│                             │
│       Delete   all   user?  │
│                             │
│                             │
│                             │
├─────────────────────────────┤
│  Esc：Quit    Enter：Sure   │
└─────────────────────────────┘
```
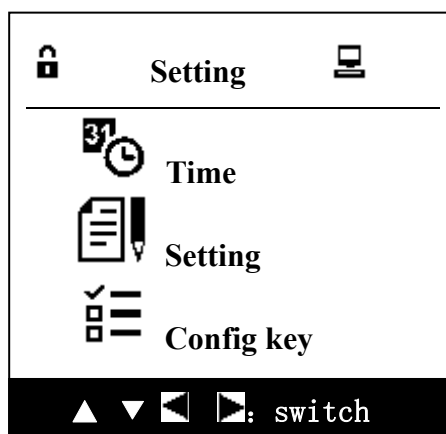
Press the "**Enter**" key to delete all the users and return to the user management menu, and then press the "**Esc**" key to exit from the delete user menu to the user management interface.

3.4.2 System Setting

System setting is mainly used to set system's time, setting mode and configuring user's unlocking key information, which is described as follows.

```
┌─────────────────────────────┐
│  🔓      Setting      🖥     │
├─────────────────────────────┤
│  📅🕐   Time                │
│                             │
│  📄✒    Setting             │
│                             │
│  ☑≡     Config key          │
├─────────────────────────────┤
│  ▲ ▼ ◀ ▶：switch            │
└─────────────────────────────┘
```

3.4.4.1 Time Setting

Users can set the time and date, but the user can not set the week, which is automatically generated by system automatic calculation based on the set date of the current user. Users can either use the "**Digit**" key to make direct input or use ▲ and ▼ keys to change operation.　If the user-entered value is not legitimate, system will automatically restore the value to the legitimate value.

```
┌─────────────────────────────────┐
│            Set    time          │
├─────────────────────────────────┤
│         ██ 15                    │
│           :28:39                 │
│                                  │
│              Fri                 │
│                                  │
│           2014-05-23             │
│                                  │
│                                  │
├─────────────────────────────────┤
│          ▲  ▼  ：Edit            │
└─────────────────────────────────┘
```
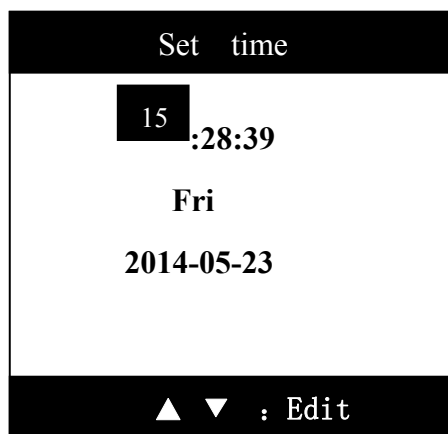
◀ and ▶ keys: Forward and backward to switch the editing point;

▲ key: Value plus 1;

▼key: Value minus 1

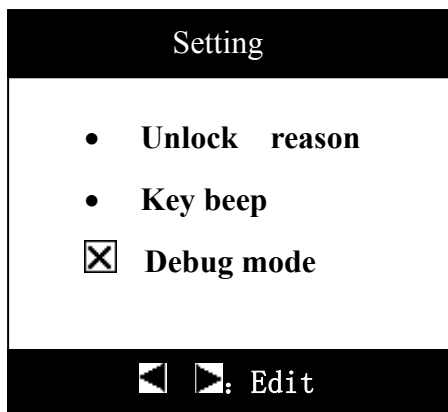 "**Esc**" key: Cancel the setting and return to the system setup menu;

"**Enter**" key: Save time setting, the system automatically returns to the system settings menu;

"**Digit**" key: Directly enter settings;

3.4.4.2 Setting Mode

This menu is used to configure the "Door Open Cause", "Button Buzzer" and "Debug Mode". "Door Open Cause" refers to that whether the user selects the "Door Open Cause" (for door open cause, please refer to "***Chapter 4 Key Management***") when the user opens the door to take the unlocking key; "Button Buzzer" refers to that whether the buzzer is turned on when the user presses the key; for the "Debug Mode", if it chooses this feature, the system will output debug information via the serial debug port, which is mainly used for problem analysis and positioning in case of abnormality. ☒ means such function is not provided, ☑ means

such function is provided, currently editing options are highlighted in white.

```
┌──────────────────────────┐
│        Setting           │
├──────────────────────────┤
│                          │
│    •  Unlock   reason     │
│                          │
│    •  Key beep            │
│                          │
│   ☒  Debug mode          │
│                          │
│                          │
│        ◄  ►: Edit        │
└──────────────────────────┘
```

◄ and ►keys: Switch the current configuration state of the options;

▲ and ▼ keys: Forward and backward to switch the editing point;

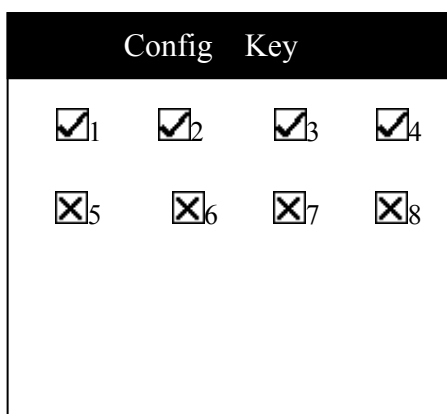"**Esc**" key: Cancel the setting and return to the previous menu;

"**Enter**" key: Save the setting and return to the previous menu;

"**Digit**" key: no response;

3.4.4.3 Configure Key

Such menu displays after the key management cabinet selects the locking mode (in Debug - > Operation mode), the menu is used to configure device's independent locking function, and the user can only operate the key with unlocking permission. Specific configuration is as follows:

After the user enters the key permission configuration menu, it can use ◄ and ►keys to select the user who wants to configure the key permission (consistent with the browser user interface display), once it is selected, press "**Enter**" key to enter the interface below:

```
┌──────────────────────────┐
│       Config   Key       │
├──────────────────────────┤
│                          │
│   ☑1    ☑2    ☑3    ☑4   │
│                          │
│   ☒5    ☒6    ☒7    ☒8   │
│                          │
│                          │
│                          │
│                          │
└──────────────────────────┘
```

```
                    ▲ ▼：Edit
```

Note: Key configuration option displays only when locking mode is configured.

◀ and ▶ keys: Forward and backward to switch the editing point;

▲ and ▼ keys: Switch the current configuration state of the options;

"**Enter**" key: Change the key permission;

"**Esc**" key: Prompt whether to save the changed key permission, if it is confirmed to save the change, it will return to the previous menu, and if it is confirmed not to save the change, it will return to the previous menu;

3.4.4 System Automatically Shuts Down in the Battery Mode

In the case of battery supply, if the user doesn't operate the key over one minutes after the system has returned to the main interface, the system will automatically shut down after tweeting prompt, so as to save electricity, moreover, it will also automatically shut down in case of low battery voltage, as shown in the figure below:
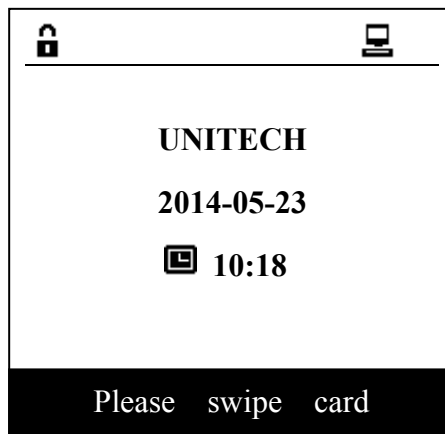
```
  🔓        Main menu        🖥


          Shutting    down...



          Please   swipe   card
```
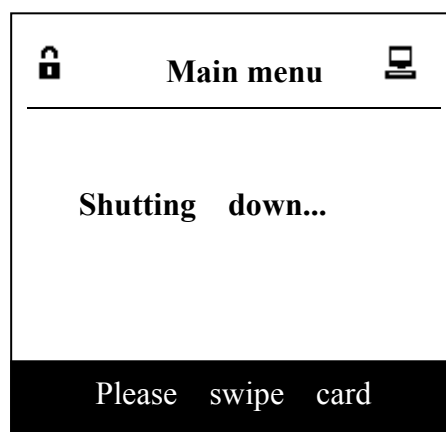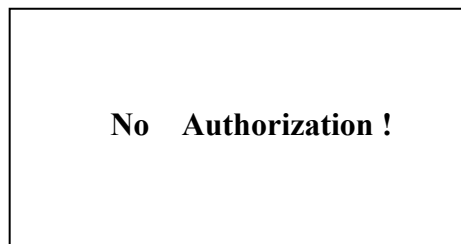
Chapter 4   Key Management

4.1 Single Authorized Operation Mode

 (For the number of the swiping cards, it may be unnecessary for the user to change after it is configured by the technicians of our company.)

If the number of swiping the cards of the system is 1, as shown in the figure below:

```
🔓                                    🖥

                UNITECH

                2014-05-23

             ▣ 10:18

─────────────────────────────────────
          Please    swipe    card
```

At this moment, the system can only accept one user login, after the user has logged in (*for login, see* "*3.3 User Login*"), it the user doesn't have operation permission, the interface prompts as follows:

```
                No    Authorization !
```

Press the "**Enter**" or "**Esc**" key to return to the main interface of the system, now the user has logged in and is able to start menu operation, for menu operation, refer to "***Chapter 3 Functional Operation of the Management Cabinet***"; to press the Esc Key to exit login.

### 4.1.2 Selection of the Operation Reasons and Key

The device has two modes for key management: **Locking Mode and Non-locking Mode.** In the locking mode (requires hardware support), each key can independently lock, the user can only remove the selected unlocked key, and other keys are in the mandatory locking

state, the user can not remove them; in the non-locking mode, once the door is open, the user is not limited to take any keys.

4.1.2.1 Locking Mode

In the locking mode, the user must first select the key to be operated, and then select the operation reasons, the system will unlock the corresponding key, and the user either take away the key or return the key.

4.1.2.1.1   Select the Key

In the key selection interface, the icon " ![icon] " indicates that the key is in the cabinet of the management cabinet, while " ![box] " indicates that the key has been taken away and it is not in the cabinet. Subscripts 1, 2 and 3 present key positions. Reverse color icon presents the selected state. The user can use ▲, ▼, ◀ and ▶ keys to select the key to be operated, press the "**Enter**" key for confirmation to enter the next step (the user can only carry out the next operation of the key with permission, in case of no permission, it will pop up a prompt box "No permission"). Press the "**Esc**" key to return to the main interface.
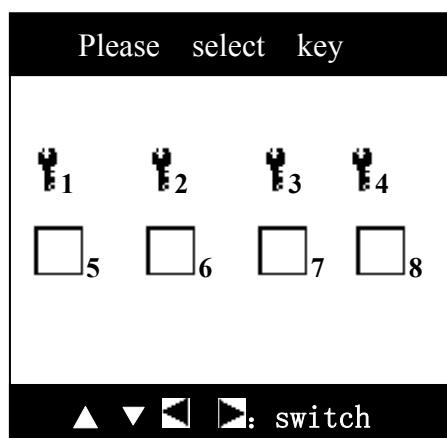
4.1.2.1.2   Select the Operation Reasons

If your system is not equipped with "Select Reason" function, it can skip this section to directly enter the "*4.1.2.1.3 Enter Operation*", for how to configure the "Select Reason" function, refer to "*3.4.4.6 Setup Mode*".

```
┌─────────────────────────────────┐
│      Select   unlock   reason   │
├─────────────────────────────────┤
│  01：Lock fault                 │
│  02：Maintenance                │
│  03：Energency unlock           │
│  04：Smart key fault            │
│  05： SIS fault                 │
│  06：Retury key                 │
│                                 │
├─────────────────────────────────┤
│    ▲ ▼ ◄ ►：switch              │
└─────────────────────────────────┘
```
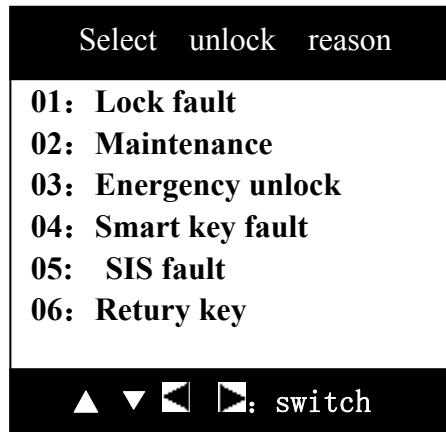
In case of default, the system has seven selectable operation reasons:

1：Lock fault

2：Maintenance

3：Energency unlock

4：Smart key fault

5：SIS fault

6：Retury key

7：Other reasons

The user can use ▲, ▼, ◄ and ► keys to select the operation reasons, the selected is highlighted in reverse color.　Press the "**Enter**" key to start operation after selection is made.

4.1.2.1.3　Enter Operation

After entering the operating, the system will automatically unlock the cabinet door locking mechanism, then the user can open the door to start operating, for locking mode, the system will unlock the key mechanism corresponding to the card position selected by the user, the user can either remove or return the key, but other keys in their places are still in the locking mode, the user can not operate them; for non-locking mode, which key will be removed by the user is not limited by the constraint locking of the system.

After the operation, when placing the key back, if it displays a prompt box on the interface with buzzing, e.g. the management cabinet displays a prompt box below:

```
Have    no
this    key!
```

Prompt interface of the management cabinet is as follows:

```
Position 3
back    to 2!
```

According to prompt, the user should insert the wrongly inserted key back into the correct position.

4.1.2.2 Non-locking Mode

In the non-locking mode, the user must first select the operation reason (for how to select the operation reasons, please refer to "*4.1.2.1.2 Select the Operation Reasons*"), then the device will automatically unlock the door, and the user can take the key now. Users do not have to select a key in non-locking mode.

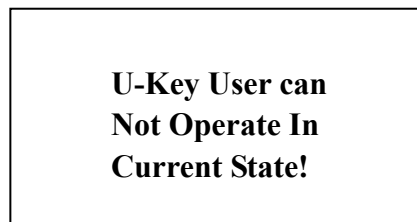## 4.1.3 U Disk Authorization

。
If the system is not equipped with U-Key mode, skip this section, and go directly to "*4.1.2 Select the Operation Reasons and Key*".
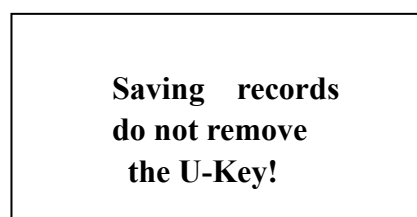
When the system is equipped with the U-Key mode, as shown in the figure below:

```
 🔓
─────────────────────────────

         UNITECH

        2014-05-23

       🖳  10:18



     Please   insert   U-Key!
```
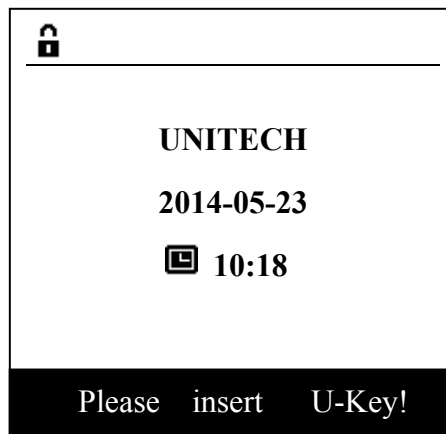
Before U disk is inserted to open the door, the system will verify the inserted U disk, if the inserted U disk is not registered with the support PC or doesn't have the operating permission of the management cabinet, it will prompt as follows. Press the "**Enter**" or "**Esc**" key to return to the main interface:

```
        The U-Key Has
          No Auth!
```

```
        U-Key User can
        Not Operate In
        Current State!
```

After successful verification, refer to "***4.1.2 Select the Operational Reasons and Key***", after the operation is completed, closing the door will save the operation records in the U disk that shall be removed after saving, at this moment, the user exits the locking mode of the management cabinet, and the user may insert the U disk into the host to upload the record to the host computer and display. Prompt is as follows:

```
       Saving    records
       do not remove
         the U-Key!
```

```
┌─────────────────────────────────┐
│                                 │
│          Records    saved!      │
│                                 │
│                                 │
└─────────────────────────────────┘
```

4.1.4 Network Authorization

If the system is not equipped with network authorization, skip this section, and go directly to *"4.1.2 Select the Operational Reasons and Key"*.
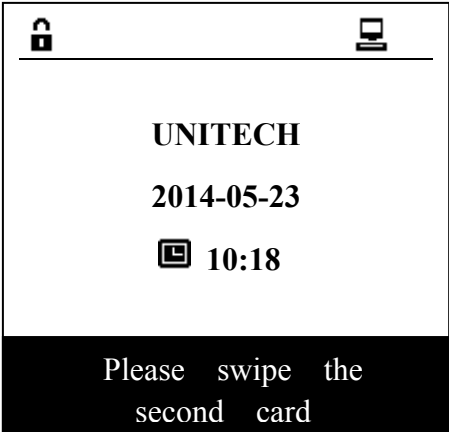
When the system is equipped with network authorization, after the user has logged in the website, it can directly unlock the management cabinet's door as well as the key.

4.2 Double Authorization Operation Mode

(For the number of the swiping cards, it may be unnecessary for the user to change after it is configured by the technicians of our company.)

4.2.1 Non-locking Mode

In the non-locking mode, when the swiping number of the system is 2, it can start operation only after the two users have logged in, but user's login mode is not limited, both password and card swiping login can do, once one user has logged in, it will display "For operation, please swipe the second card', as shown in the figure below:

```
┌─────────────────────────────────┐
│  🔓                          🖥   │
│ ─────────────────────────────── │
│                                 │
│             UNITECH             │
│                                 │
│           2014-05-23            │
│                                 │
│           🖳 10:18              │
│                                 │
│ ─────────────────────────────── │
│          Please   swipe   the   │
│            second   card        │
└─────────────────────────────────┘
```

Note: The login user must have an operating permission while the other should have an authorized permission.

a) If the user has no operating permission, the interface prompts as follows:

<div style="border:1px solid black; text-align:center; padding:40px;">

No Authorization !

</div>

Press the "**Enter**" or "**Esc**" key to return to the main interface of the system, the user has logged in and can start menu operation, for menu operation, refer to the "***3.4 Menu Operation***".

b) When one user has operating permission, but the other has no authorized permission, the system prompts as follows:
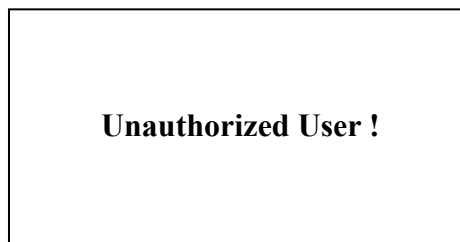
<div style="border:1px solid black; text-align:center; padding:40px;">
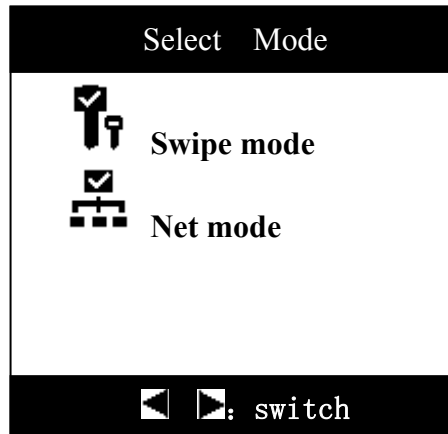
Unauthorized User !

</div>

Press the "**Enter**" or "**Esc**" key to return to the main interface of the system, the user has logged in and can start menu operation, for menu operation, refer to the "***Chapter 3 Functional Operation of the Management Cabinet***

c) When one user has operating permission, but the other has authorized permission, then it will be deemed that this operation is authorized, if door-open reason is provided, it will enter the "select the operating reasons and the key" process that is the same as that equipped with card number 1, for specific details, refer to "***4.1.2 Select the Operation Reasons and Key***", so it is not reiterated here.

4.2.2 Locking Mode

In the locking mode, when the card swiping number of the system is 2, it requires
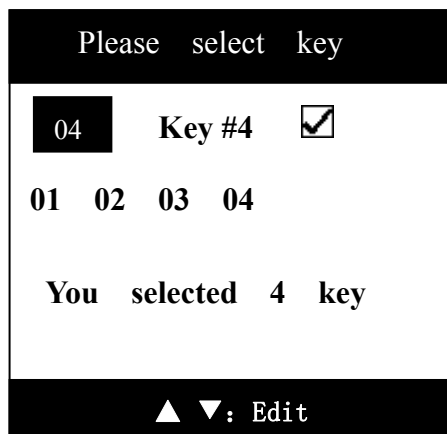
the user to select the authorization mode (authorization modes depend on the configuration in the operation mode), such as for selecting the network authorization, it should swipe the first card to open the door, and then enter the interface for selecting authorization mode:

```
┌─────────────────────────────┐
│       Select   Mode         │
├─────────────────────────────┤
│   ☑                         │
│   ╽╻   Swipe mode           │
│                             │
│   ☑                         │
│  ▪▪▪   Net mode             │
│                             │
│                             │
├─────────────────────────────┤
│      ◀ ▶：switch            │
└─────────────────────────────┘
```

Authorization modes have two kinds: card swiping authorization and network authorization, of which card swiping authorization is a basic authorization, other authorization will become valid only appropriate authorization is selected. The table below shows the authorization mode corresponding to the relevant option configured in the UT-059B operation mode:

	Card swiping authorization	Network authorization
Swiping card number	√	
Network mode	√	√

After the user has selected the authorization mode, it displays key selection interface:

```
┌─────────────────────────────┐
│      Please   select   key  │
├─────────────────────────────┤
│  ┌────┐                     │
│  │ 04 │   Key #4    ☑       │
│  └────┘                     │
│  01   02   03   04          │
│                             │
│   You   selected  4   key   │
│                             │
├─────────────────────────────┤
│        ▲ ▼：Edit            │
└─────────────────────────────┘
```

◀ and ▶ keys: Forward and backward to switch the editing point;

▲ and▼ keys: Function keys, represents whether it is selected, and an appropriate key is selected;

"**Enter**" key: Prompt whether it needs to save the key number that needs to apply for unlocking;

"**Digit**" key: Response, when the entering is beyond the limit, it displays user's first key number with the unlocking permission;

"**Esc**" key: Prompt whether to exit from this interface, it is verified to return to the main interface, if not, it will not exit.

a)Card Swiping authorization

In the card swiping authorization mode, after the key to be applied for unlocking is selected, it enters the main interface to wait for other users to have card swiping authorization, and similar to unlocking in the non-locking mode, it may refer to "***4.2.1 Non-locking Mode***", so it is not reiterated here.

b) Network authorization

In the network authorization mode, if the key to be applied for unlocking is selected, and hen press the "Ok" key, it will display "Network application for unlocking key information has been sent, please wait ...", if the network communication failed, it will prompt "Network not connected, please check ... ".

It shall click the corresponding key card position to unlock on the key management system interface.
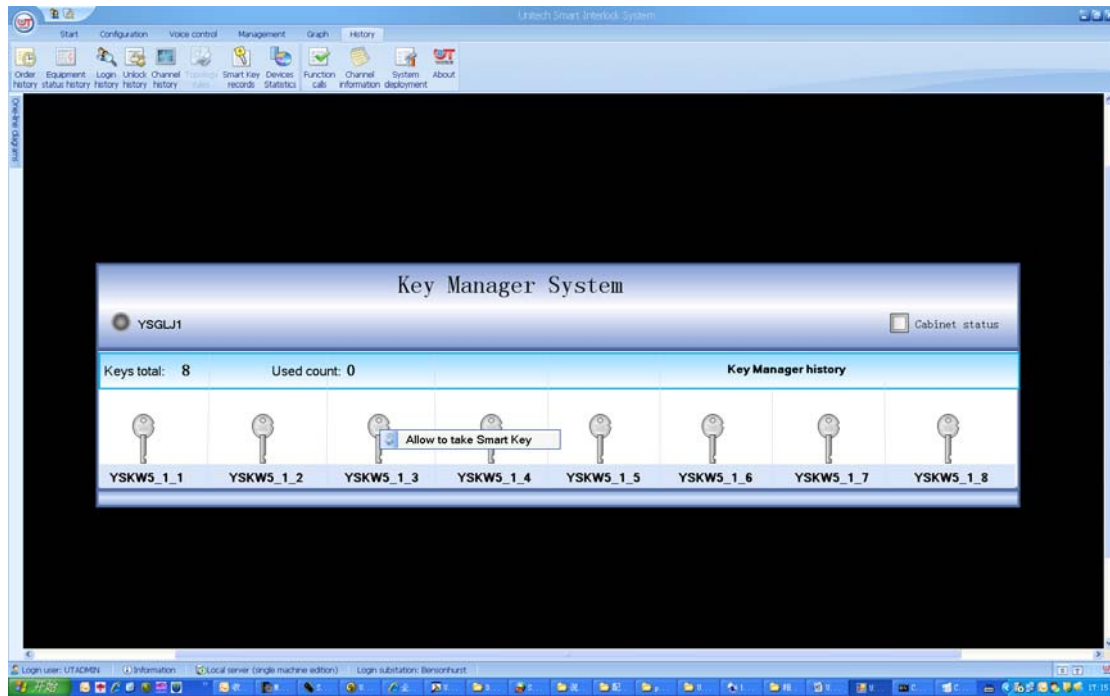
Note: If the principal computer successfully communicates with the management cabinet, the small dot on the upper left corner shown in the figure becomes red, otherwise it is gray.

4.3 Multiplayer Authorization Operation Mode

For a system equipped with a swiping card number of 3, in addition it can be operated only after three users have logged in, other conditions and configurations are the same as those of the swiping card number of 2, so it is not reiterated here.

4.5 Operation in Case of Emergency

In case of emergency, door shall be removable, and the specific methods are as follows:

a) Insert the tip of a sharp tool into the bottom gap of the management cabinet glass window to pry it open with tilt force.

b) Remove the glass window and take the desired key.

c) After completion of using the key, re-swipe the card to open the door, press the pin at the bottom of the inner side of the cabinet door to install the door slowly with force.

Chapter 5 Remedy of the Common Problems

No.	Symptom	Cause	Remedy
1	No start when pressing the power button in the case of an external power failure	Backup rechargeable battery is exhausted, no electricity	Recharge the battery after the external power is restored
2			
3			
4			