

User's Manual for Fingerprint Door Control Software

Foreword

The naissance of F7 indicated that fingerprint reader enters into professional door control domain. That's why we developed this software to make the management of door control convenience and easy. The current software version is Version 1.0 and its main functions are as follows:

1. Multi-reader networking, real-time monitoring

No matter Ethernet connection or 485 connection, fingerprint reader can be added into management software. After all fingerprint readers are added, click "Start Monitoring" and the system will start rotative monitoring from the first unit to the last unit.

2. Real-time record download

Fingerprint records on each fingerprint reader can be downloaded in real time. After download, these records will be stored in database automatically. If there is attendance software, you can set database directory of attendance software as directory of the database to store these records. Then you can check attendance records at any time.

3. Search records and output records in various formats

When there are many fingerprint records, you can search records. During search, various condition search functions are defined, such as ID of fingerprint reader, time range, department, etc. Also records can be outputted in various formats.

4. Upload door control setting

This function is to upload basic door control setting and user door control setting.

5. Department management

After department is created, in User Management you can assign employees to corresponding department.

6. User management

This function mainly includes downloading user and fingerprint, editing user's information and privilege, creating password for user, using "U are U" to add new user, uploading user and fingerprint.

7. Remote open door

In program, you can click "Open Door" button to unlock selected door remotely.

8. Synchronizing time

Synchronize time of fingerprint readers.

9. Upgrading firmware

Upgrade firmware of fingerprint reader.

10. Initialize fingerprint reader

In device management, you can initialize fingerprint reader.

Operation procedure contain several steps as follows:

1. Hardware connection

This is the first step. Connect all fingerprint readers and PC together. Use RS232 cable to connect when distance doesn't exceed 15 meters. Under the condition of distance over 15 meters, it is recommended to use Ethernet connection. 485 cable can be used for connection when distance exceeds 80 meters and can connect for 1000 meters maximally.

2. User management

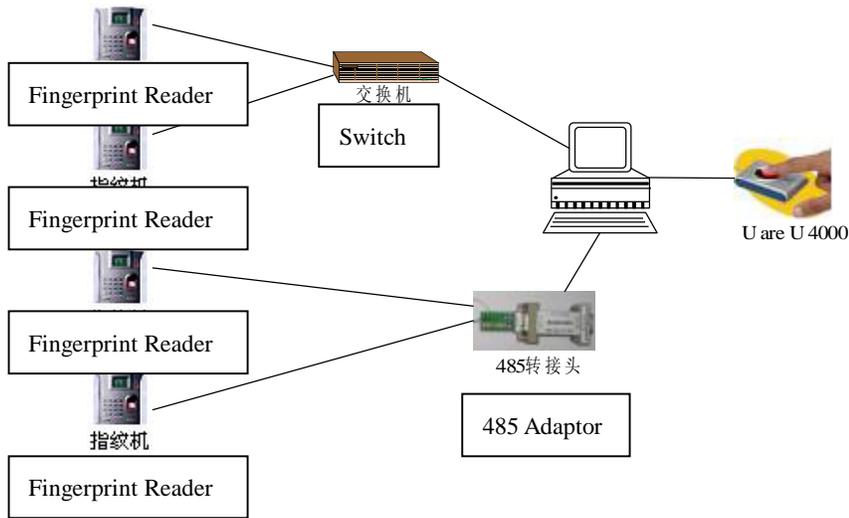
This step is mainly to register each fingerprint reader or upload users. When there are many fingerprint records, it is recommended to use "U are U" to register users first. Then upload users to each fingerprint reader respectively. In user management, you can edit employee's information, create password for employee and set corresponding privilege.

3. Door control management

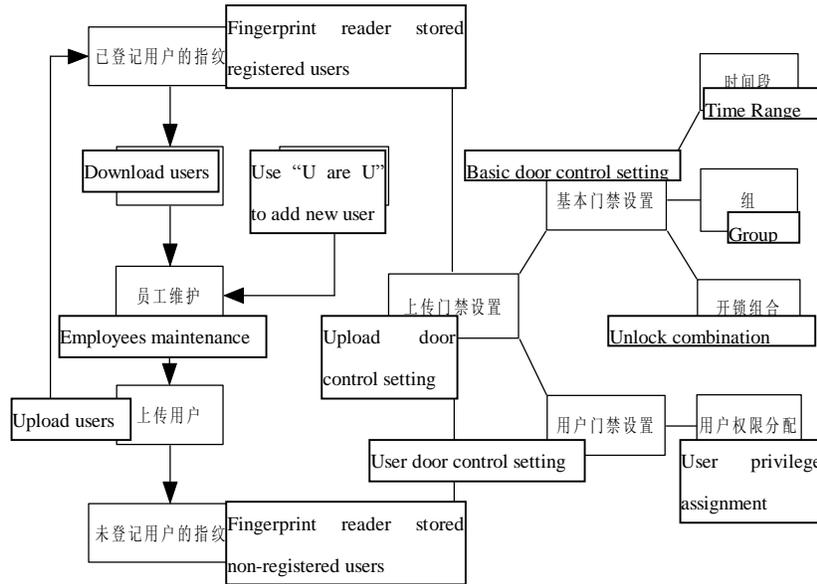
For door control, we define that all users are initialized as invalid user. User can become valid user in effective time range only after user is assigned privilege. So we need to upload door control setting after we finish uploading users

This software is developed by Software Research & Development Department. Because this is the first version and time is limited, so there are many deficiencies in this software. We warmly welcome users to give valuable suggestions and advices. Thank user very much for your support and we will improve our software according to your suggestions and advices.

Hardware Connection Diagram:



Software Flowchart:



1 Installation of Software

Click installation package of door control management software, dialog of installation directory will pop-up. You can change installation directory according to own habit, as shown in figure below:

After installation directory is selected, click “Install” to finish installation of the software.

2 Device Management

2.1 Add fingerprint reader

After the software is installed successfully, next step is to add device. First click “Add”. Then select “Communication Mode”, including two modes as follows:

2.1.1 Serial Port/RS485

Communication Mode	Change to Serial Port/RS485
Number and Name of Fingerprint Reader	Enter number and name of fingerprint reader according own requirement. For example, number of fingerprint reader is set to 1, and its name is set to Reader 1.
Communication Password	“Communication Password” is not required to set under default condition. If communication password is set in fingerprint reader, then it is required to enter communication password correctly.
Port Number	Select communication port number that connects PC and fingerprint reader. Default value is COM1.
Baud Rate	Select 9600 (recommended)

Note: Above settings are used for RS485 connection. If RS232 connection is used, then Baud Rate should be changed to 115200, which will increase communication speed greatly.

2.1.2 Ethernet

Communication Mode	Change to Ethernet
Name	Enter name according own requirement. For example, name is set to Reader 1.
Communication Password	“Communication Password” is not required to set under default condition. If communication password is set in fingerprint reader, then it is required to enter communication password correctly.
IP Address	Default value is 192.168.1.201. IP address can be changed according to network segment of own local area network, but IP address cannot be conflicted with other IP address of any terminal in the local area network. Please notice that IP address of fingerprint reader should remain the same as IP address that is edited.
Port	Default value is 4370 (no need to change)

Two connection modes are described above. You can select different modes to connect devices according own requirement. After setting is finished, click “Test Connection” button on the bottom to carry out connection testing. After “Connection Success” appears, click “Save” button to save setting of this fingerprint reader. If “Connection Failure”, please check setting of fingerprint reader and communication setting. You can use the same method to add next

fingerprint reader.

After all fingerprint readers are added, icons of fingerprint readers that are added will display in “List” on the left of “Device Manager”. If you want to edit information of fingerprint reader, you can click “Edit” button below to edit. If you want to delete one fingerprint reader, select the fingerprint reader and click “Delete” button below.

2.2 Read setting

If you want to check basic information of one fingerprint reader, click “Read Setting” to get basic information of that fingerprint reader.

2.3 Setting information

After click “Read Setting” to get basic information of device, you can edit parameters of “Date Format”, “Idle Setting”, “Voice Function”, “Lock Control Delay”, “Matching Threshold Value”, “Wiegand Format”. After you finish editing, click “Setting Information” to upload modified parameters to device.

2.4 Initialize device

Click “Initialize Device” to initialize device.

3 System Setting

“System Setting” of door control software mainly includes following several parts. First open “System Setting”, as shown in figure below:

3.1 Run automatic monitoring when program start-up

If this option is selected, program start-up will enable automatic rotative monitoring for all devices. If this option is not selected, program start-up will not enable rotative monitoring.

3.2 Run monitoring in specified time range

Here, we can define one time range to run monitoring. If run uninterrupted rotative monitoring, it will bring huge burthen to whole monitoring network. You can define one time range to run monitoring, which will reduce burthen of monitoring network. Please pay attention to time format, such as 06:00-22:00.

3.3 Synchronize time of fingerprint readers

You can define a time to synchronize time of all fingerprint readers that have been added into device. Please pay attention to time format, such as 10:00.

3.4 Default device rotation periodicity and number for continuous failure retry

During device continue rotative monitoring, some fingerprint readers may disconnect temporarily due to various reasons. Here, you can define device rotation periodicity in second (it is recommended to set to 120) and number for continuous failure retry (it is recommended to set to 3) that is convenience to reconnect automatically under the condition of fingerprint reader recovers normal connection.

3.5 Remain device record number

Device record number means user attendance records that are downloaded in every device. You can enter a record number. If actual record number exceeds the pre-set value, the software will clear all fingerprint records stored in fingerprint reader. For example, record number to store is set to 1200, when record number downloaded is 1201, all fingerprint records in fingerprint reader will be deleted and record number downloaded resets to 0.

3.6 Function configuration

The software can allow attendance record function and door control function to be used together. When "Door Control" is not used, then you don't need to select "Door Control". The software can be used as attendance record. After the program runs, door control function will be disabled automatically.

3.7 Run the program when windows start-up

If this option is selected, then the program will run automatically every time after PC start-up. If this option is not selected, then this program will not run automatically every time after PC start-up.

3.8 Company came

Enter company name here.

3.9 Set database connection

After click “Set Database Connection”, window of selecting database directory will pop up, as shown in figure below:

Click “Browse” button on the right to specify database directory used.

4 Department Management

Click “Department Management” from pull-down menu of “Basic Setting”, and main window of department management will pop up, as shown in figure below:

Click corresponding icon to add and delete department.

5 User Management

User management provides maintenance work for employees. Click “User Management” from pull-down menu of “Basic Setting”, and main window of department management will pop up as follows:

Left side is user list and right side is user maintenance setting area. If one employee is redeployed from headquarter to other department, click corresponding department from pull-down buttons of “Department”, dialog will appear and ask whether the employee is redeployed to this department. Here, You can set user’s privilege. If you want to change one use other identity, for example administrator, first select this user in list on the left and then select “Administrator” from pull-down options of “Privilege” on the right. If you want to add password to one user, first select this user in list on the left and then click “Set Password” to add password. After this user is uploaded to fingerprint reader, one user number will be added in password registration. Therefore, this user can not only use fingerprint, but also use password when identifying.

5.1 “U are U” collect fingerprint

U are U collector can be used to register new user. Click “+” on shortcut of employee maintenance to add new user. Then click “Register” button to register

fingerprint and identify fingerprint after registration. If pass identification, this user will be saved in local database automatically and uploaded to fingerprint reader by using “PC to Fingerprint Reader”. Registration window is shown in figure as follows:

If you want delete user, just click “—” and user will be deleted.

5.2 PC to fingerprint reader

This function is to upload users stored in database to fingerprint reader. Click “PC to Fingerprint Reader” and fingerprint upload window will pop up as follows:

Select employee and fingerprint reader to upload according to practical requirement, and then click “Upload” to upload user to specified fingerprint reader.

If you want to delete some users in one fingerprint reader, first select users and corresponding fingerprint reader, and then click “Delete” button.

ViewLog is error log that contains errors occur during operation.

5.3 Fingerprint reader to PC

This function is to download fingerprints stored in fingerprint reader to local database. Click “Fingerprint Reader to PC” and fingerprint download window will pop up as follows:

First select fingerprint reader number to download from fingerprint reader list on the left. Then click “Download User in Fingerprint Reader” and all users in this fingerprint reader will display. After select users needed to download, click “Download” button to download fingerprints in fingerprint reader to local database.

If you want to delete some users in fingerprint reader, first select users, and then click “Delete” button.

ViewLog is error log that contains errors occur during operation.

Note: During user management, when upload or download fingerprints and users, monitoring must be stopped first. If you carry out “Upload” first, then you must enter user management when carry out “Download”.

6 Door Control Setting

Door control setting is to set unlock time and privilege for registered users. Settings of each user consist of three time range settings and one group setting. Relationship between time range and time range is “Or”. Group also consists of three time range settings and by the same token, relationship between these three time ranges is “Or”. But relationship of settings of user time range in one group is “And”.

Simply put, if you want to keep registered user in unlock status. First group that this user is in should be defined in unlock combination (one group can be defined in one combination together with other group, but these groups are required to unlock door together). Second, current unlock time is in setting time area of any time range selected in user door control setting, and also be in any time range of its group.

Under system default, new registered user is in Group 1 and group combination is Group 1. So new registered user is in unlock status under default. If group that user is in is not defined in group combination setting, then the user can only record attendance and cannot unlock door.

6.1 Time range

Time range is the smallest time range unit in door control setting. In whole system, you can define up to 50 time ranges. Each time range defines 7 time intervals, i.e. one week. Each time interval is valid time range in 24 hours everyday. Each user can set up to three time ranges and relationship between these three time ranges is “Or”, which means the user is valid as long as identification time satisfied one of these three time ranges. Each time range format of time range is HH:MM-HH:MM, i.e. in term of 24 hours format and

precision to second.

End time less than start time (23:57-23:56) means all day forbidden. End time larger than start time (00:00-23:59) means valid in the time interval.

Valid time range for user unlock: all day open (00:00-23:59) or time range with end time larger than start time.

Click “Time Range” from pull-down menu of “Door Control Setting”, window of adding “Time Range” will pop up. Click “Add” button and system will pop up a timetable from Sunday to Saturday. Here, you can define any time range you may use. Then click “Confirm” to save the time range automatically. If you want to use several time ranges, continue to click “Add”. In addition, time range can be edited and deleted.

6.2 Group

Group function can divide users into groups and combine different groups to different unlock combinations, which make group management of door control more convenience. So user can define many unlock combinations. System defines 5 groups: Group 1, Group 2, Group 3, Group 4, Group 5. Under system default, new registered user is in Group 1 and can be re-assigned to other group.

Under system default, new registered user uses time range of Group 1. After the user is re-assigned to other group, the user uses default time range of the corresponding group. So please make sure to define default time ranges for each group.

When “Group” is used, you can edit “Group” in “Group Setting” according to group requirements.

6.3 Unlock cCombination

Definition of unlock combination function

Unlock combination is the direct expression for controlling unlock. For

example, if you want that all registered users cannot unlock door, then set Unlock Combination 1 to null.

Definition of unlock combination defines different combinations that can unlock door, and each combination consists of different groups. Unlock combination directly uses group number and does not consider order for identifying user between each group. For example, “123” means door will only be unlocked when at least one user in each group of Group 1, Group 2 and Group 3 passes identification together with other two users. “4” means door will be unlocked when one user in Group 4 passes identification together with other two users. System can define up to 10 unlock combinations at the same time and door will be unlocked as long as one of these 10 unlock combinations passes identification.

6.4 Door control privilege

Door control privilege is used to assign user door control privilege. From point of view of door control, we should suppose that at the beginning all users are forbidden users and cannot unlock door. After we register or upload users, next we need to upload basic door control and user door control to set all users to forbidden user. Only after user is assigned corresponding door control privilege, the user can unlock door with corresponding valid door control privilege. This is user door control privilege. Click shortcut button of door control privilege on main program window or click “Door Control Privilege” from pull-down menu of “Door Control Setting”. Then main window of “Door Control Privilege Setting” will pop up. Click “Edit Privilege” to enter user privilege assignment table, as shown in example below:

If you want to assign allowable pass privilege of No.1 machine in default time range to No.1 to No.10 users, first use “>” to add users to list on the right and then also use “>” to add device to list on the right. Next click “Allow Pass”.

After privilege is assigned, then the system will generate a privilege table

automatically. You can click “Exit” to see the table, as shown in figure below:

Similarly, if User 1 to User 10 are not allowed to unlock door, you can use the same method to add user and device to list on the right respectively. Then click “Forbid Pass”

After finish assigning user’s privilege, next step is to upload “Basic Door Control Setting” and “User Door Control Setting” to fingerprint readers. First return to main program window, then you will see “Upload Setting”. If you want to upload privilege to Device N, use mouse to select Device N. If you want to upload privilege to some fingerprint readers, you can press and hold “Ctrl” key to select multi-device. Then click “Upload Setting” and the system will pop up dialog of upload setting. You can select according own requirements and then click “Confirm” to upload door control setting.

Note: When you assign privilege to user, because group time range that all users use is default Group 1, so two situations may happen when you assign user’s privilege:

1. Users use group time range. Select user from user list on the left (press and hold “Ctrl” key to select multi-user). Then click “Re-assign Group” in user privilege assignment and select group that user needs to join. Add the user to corresponding group and assign privilege to the user.
2. Users directly use time range instead of using group time range. Add user to privilege assignment table on the right. Select time range that can be used from 3 time range options on the right corner of user privilege assignment table. Then click “Allow Pass” or “Forbid Pass” to assign privilege to user.

7 Search

Record search means to search records for employee come-in and go-out. Click “Record Search” from pull-down menu of “Search”, and main window of “Record Search” will pop up, as shown in figure below

7.1 Search

In “Start/End Date”, you can select time range to search. Click “Search”, list below will display all users’ come-in and go-out records within the time range. Each line in the table has pull-down search condition. If you want to do classified search, you can drag line head to table head of search table.

7.2 Output

Click “Output” to output fingerprint records in various formats, such as Excel format, etc.

8 System Management

8.1 Administrator management

Click “Administrator Management” from pull-down menu of “System Management” and main window of administrator maintenance will pop up, as shown in figure below:

Click “Administrator” and two options – “Add Administrator” and “Delete Administrator” will pop up. Click “Add Administrator” to add new administrator and user list box will pop up. Select the user needed to add administrator and then click “Confirm”. List of assigning privilege will pop up, as shown in figure below:

Click on checkbox of privilege that is assigned to this administrator and click “OK” to exit.

To delete administrator, first click “Administrator” and then click “Delete Administrator”.

After administrator is added, you can edit password for the administrator and operation privileges.

8.2 System operation log

System operation log is to record history operation records of the software and all operations are recorded in list format. Click “Delete” to delete operation log records before specified time range, as shown in figure below:

8.3 Backup database

Click “Backup Database” from pull-down menu of “System Management”, and dialog of database backup will pop up. You can name database according to own habit and save it in secure directory, as shown in figure below.

8.4 **Recover backup**

Click “Recover Backup” from pull-down menu of “System Management” to recover database that has been backup.

8.5 **Database compression and repair**

Click “Database Compression and Repair” from pull-down menu of “System Management” to compress and repair database.

8.6 **Clear overdue data**

Click this function to delete overdue data that has no practical use.

8.7 **Initialize System**

Click “Initialize System” from pull-down menu of “System Management”, and warning dialog will pop up, as shown in figure below. Execute this function will initialize whole door control software system. After initialization, all registered data will be deleted.

8.8 **Set database password**

Click this function to add password for database.

9 About Shortcut Operation of Door Control Software

9.1 Shortcut button

In order to make user’s operation more convenience, door control software

defines some shortcut function buttons on main program window. You only need to click button, the software will realize corresponding function. These shortcut buttons mainly contain several parts as follows:

9.1.1 Remote open door

Select icon of one fingerprint reader. Click “Open Door”, then the door will open remotely.

9.1.2 Upload setting

After door control is edited, “Upload Prompt ” will pop up on the left corner of main program window. Use mouse to select device to upload and then click “Upload Setting”. Dialog will pop up, as shown in figure below:

Edit basic door control setting and select “Basic Door Control Setting”. Edit user door control setting and select “User Door Control Setting”. Then click “OK” to upload setting.

9.1.3 Start monitoring

“Start Monitoring” button is on-off button of device rotative monitoring. After click “Start Monitoring”, this button will change to “Stop”.

9.2 Right-key shortcut function

As shown in figure below:

9.2.1 Forbid

During rotative monitoring, if you want to stop monitoring one fingerprint reader, then you can right click on the icon of this fingerprint reader and select “Forbid” from pop-up menu to stop.

9.2.2 Download record

Under the condition of no rotative monitoring, if you want to download records stored in one fingerprint reader, then you can right click the icon of this fingerprint reader and select “Download Record” from pop-up menu.

9.2.3 Clear record

If you want to clear fingerprint records in one fingerprint reader, then you can right click the icon of this fingerprint reader and select “Clear Record” from pop-up menu.

9.2.4 Upgrade firmware

If firmware version of one fingerprint reader is old, you can right click on the icon of this fingerprint reader and select “Upgrade Firmware” from pop-up menu to upgrade firmware of this fingerprint reader. After upgrade, you need to restart this fingerprint reader manually.

9.2.5 Synchronize time

If time in one fingerprint reader is not the same as actual time, you can right click on the icon of this fingerprint reader and select “Synchronize Time” from pop-up menu.