

UBio-X Iris User Guide

Version Eng-1.04



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genie

<Revision History>

| Version | Date | Description | Firmware Version |
|---------|------------|---|--------------------|
| 1.00 | 2020-06-17 | Initial Release | 0.0.1-61.00.000.01 |
| 1.01 | 2020-08-10 | 3.6.1 Add a description(※) for authentication in system(p.43) | 0.0.1-61.00.000.03 |
| 1.02 | 2020-01-21 | 3.6.3 Add mask detection level in iris recognition 3.7.6 Add ETC(thermal imaging) Menu | 0.0.1-61.00.000.13 |
| 1.03 | 2021-02-01 | 3.6.1 Change user ID length(2~9 → 2~8) in system(p.43) | 0.0.1-61.00.000.14 |
| 1.04 | 2021-03-17 | 3.3.1.5 Add duress password authentication description | 0.0.1-61.00.000.15 |

<Glossary>

- **Admin, Administrator**
 - A user who can enter into the terminal menu mode, he/she can register/modify/delete terminal users and change the operating environment by changing settings.
 - If there is no administrator for a terminal, anyone can change the settings. In this regard, it is recommended to register at least one administrator.
 - Caution is required with registration and operation because an administrator has the right to change critical environmental settings of the terminal.

 - **1 to 1 Verification**
 - It is the method to authenticate the fingerprint (or iris) after entering the user's ID or card
 - It is called as 1 to 1 Verification since only the fingerprint (or iris) registered in the user's ID or card is used for comparison.

 - **1 to N Identification**
 - It is the method to find the user only with the fingerprint (or iris).
 - It is called as 1 to N identification since it finds the same fingerprint (or iris) as the input fingerprint (or iris) among registered fingerprints (or irises) without entering a user ID or card.

 - **Authentication level**
 - Depending on the fingerprint match rate, it is displayed from 1 to 9. Authentication is successful only if the matching rate is higher than the set level.
 - The higher the authentication level is, the higher the security is. However, it requires a relatively high match rate, so the authentication is vulnerable to failure.
 - 1:1 Level: Authentication level used for 1:1 verification
 - 1:N Level: Authentication level used for 1:N identification

 - **Authentication Method**
 - It represents the various types of authentication, including the iris authentication, FP authentication, RF (Card) authentication, password authentication or a combination of these methods.
Example) Iris or FP: It authenticates with the iris or fingerprint.

 - **LFD (Live Finger Detection)**
 - This function allows the input of only real fingerprints and blocks the input of imitation fingerprints produced using rubber, paper, film, and silicone.
-

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1. Before use






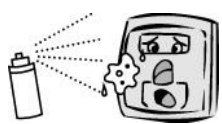

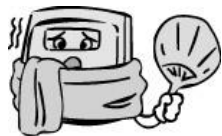
1.1. Safety Precautions

● Warning

| | | | |
|--|---|---|---|
| <p>Handling with wet hands or allowing liquid to flow into it is prohibited. -> It may cause an electric shock or damage.</p> |  | <p>Do not place a fire source near the terminal. -> It may cause a fire.</p> |  |
| <p>Do not disassemble, repair, or modify the terminal at discretion. -> It may cause an electric shock, fire or damage.</p> |  | <p>Keep out of reach of children. -> It may cause an accident or damage.</p> |  |

- If the above warning is ignored, it may result in death or serious injury.

● Cautions

| | | | |
|---|---|--|---|
| <p>Keep away from direct sunlight -> It may cause deformation or color change.</p> |  | <p>Avoid high humidity or dust -> The terminal may be damaged.</p> |  |
| <p>Avoid using water, benzene, thinner, or alcohol for cleaning -> It may cause an electric shock or fire.</p> |  | <p>Do not place a magnet close to the terminal. -> The terminal may break down or malfunction.</p> |  |
| <p>Do not contaminate the fingerprint input area. -> Fingerprints may not be well recognized.</p> |  | <p>Avoid using insecticide or flammable spray near the terminal. -> It may result in deformation or color change.</p> |  |
| <p>Avoid impacts or using sharp objects on the terminal. -> The terminal may be damaged and broken.</p> |  | <p>Avoid severe temperature changes -> The terminal may be broken.</p> |  |

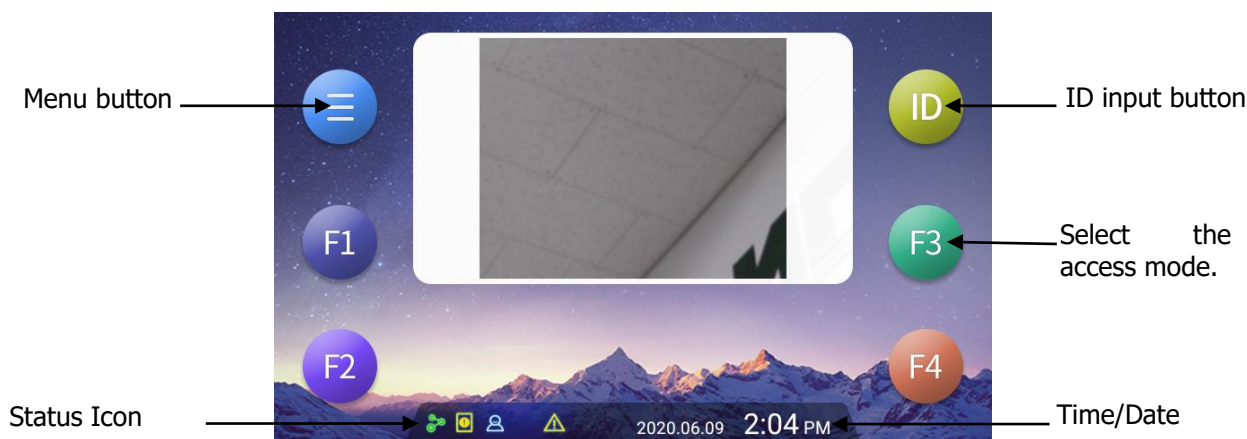
- If the above cautions are ignored, it may result in property loss or human injury.

※ Under no circumstances will UNIONCOMMUNITY be responsible for accidents or damages caused by inappropriate use of the product without referring to the user manual.

1.2. Specific names of the terminal
















1.3. Windows after operation

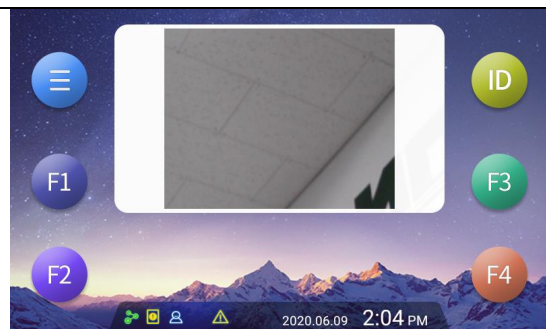


<Fig. 1>

1.3.1. Icons

| | |
|---------------------------------|---|
| <p>① Wi-Fi Status</p> | <p>None : There is no connected Wi-Fi dongle.</p> <p> : Wi-Fi connection is not activated</p> <p> : Wi-Fi connection is activated</p> |
| <p>② Distance detection</p> | <p>None : When there is nothing in the proximity distance (90cm)</p> <p> : When there is a person within the proximity distance (90cm)</p> |
| <p>③ Illumination detection</p> | <p>None : Detect the high illumination status. (Light)</p> <p> : Detect the low illumination status. (Dark)</p> |
| <p>④ Fire Alarm</p> | <p> : Fire Alarm is activated. (on connecting to the fire detection sensor)</p> |
| <p>⑤ Tamper Switch</p> | <p>None : Normal status</p> <p> : Tamper switch is activated. (Terminal is disassembled.)</p> |
| <p>⑥ Door Status</p> | <p> : Door status is not sensed.</p> <p> : Door is closed.</p> <p> : Door is opened.</p> <p> : Door is opened abnormally.</p> |
| <p>⑦ Network status</p> | <p> : LAN cable is not connected.</p> <p> : Disconnected to the server even if LAN cable is connected.</p> <p> : Connected to the server. (Online)</p> |

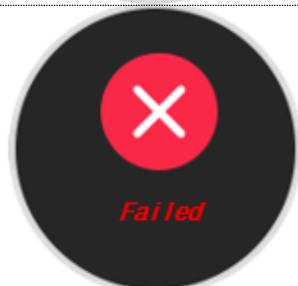
1.3.2. Message



- Basic Window



- When the authentication succeeds



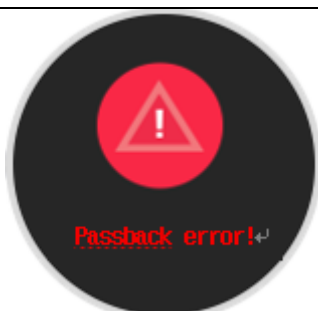
- When the authentication is failed



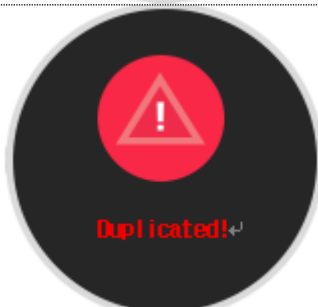
- When an unregistered user ID is entered



- When an unregistered card is entered



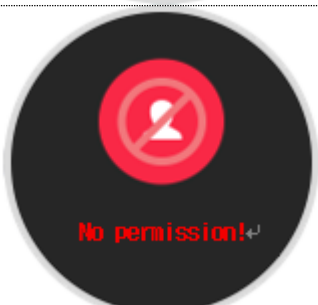
- Passback error when using anti-passback function



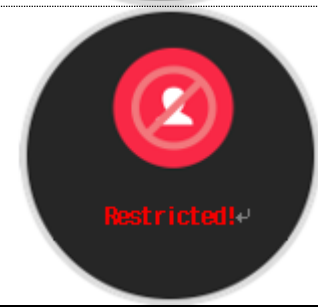
- When using for meal management
- When a user tried the authentication more than twice in one meal time



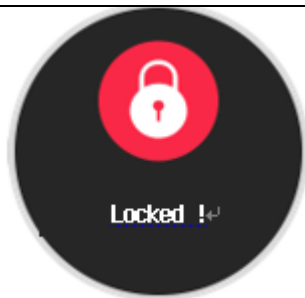
- When the server does not respond during the authentication attempt to the server
- When the network is disconnected during the authentication attempt to the server



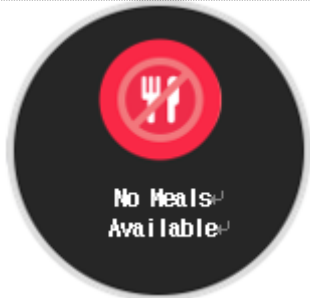
- Registration without authentication right or authentication attempt when the entrance is not permitted



When the user is designated in the blacklist



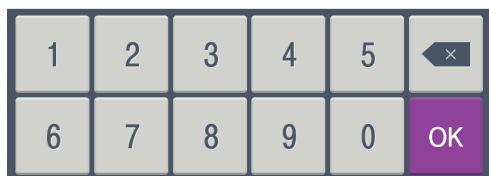
- When the terminal is set as locked



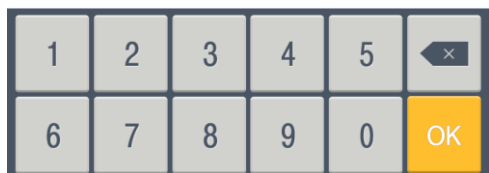
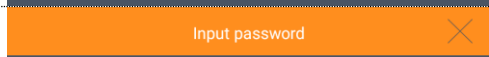
When it is not the meal time in meal management



Input User ID



- The waiting status for the input of user ID

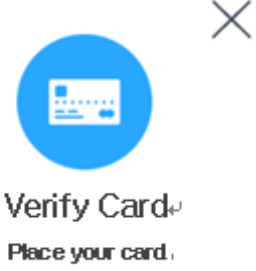
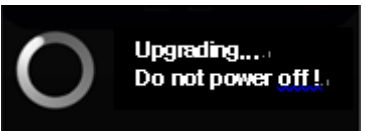


- The waiting status for the input of password



Place finger on sensor.

- The waiting status for the input of fingerprint

| | |
|---|--|
|  | <p>- The waiting status for the input of card</p> |
|  | <p>- When the terminal program is being upgraded (In this status, you should not turn off the terminal.)</p> |

1.4. Voice sounds in operation

| Operation type | Voice sound |
|----------------------|---------------------|
| Success to authorize | You are authorized. |
| Fail to authorize | Please try again. |

1.5. Beep sound in operation

| | | |
|---------|------------------------------------|--|
| Pick | Notice for the card or fingerprint | When the card is read When the fingerprint is entered in the fingerprint window |
| Pi-pick | Notice for fail | When the authentication is failed (at Voice off) |
| Peek | Notice for Success | When the authentication is successful (at Voice off) |

1.6. How to register and authenticate the iris properly

- How to register the iris
 - Maintain the distance between the face and terminal about 45 cm.
(Locate the eyes in the guide line of the LCD window.)
 - Open your face big according to the guidance and register it by staring at the front.)
However, please keep the motion still during the registration shooting.
 - Register the iris after sweeping up the hair so that it does not cover the eyes.
 - Glasses wearers should register as much as possible without wearing glasses.

- How to authenticate with iris
 - Stare at the message window in the center of the LCD screen.

- Notes
 - It is recommended to register and authorize at the location where the terminal is installed.
 - If you close your eyes or turn your eyes to the side, the iris recognition rate may decrease. It is recommended to locate the face at the front as far as possible
 - The color lenses or sun glasses can decrease the recognition rate of iris.
- Cautions in the installation
 - Be sure to install the terminal indoor.
 - Do not install under the light bulb.
 - Not recommended in the circumstance of backlight or direct light.

1.7. Proper fingerprint registration and input methods

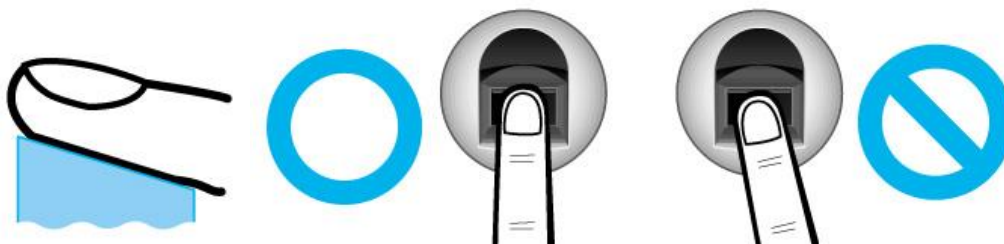
- Correct fingerprint registration methods

Place your index finger on the window just as you do with a finger stamp.

Do not use the tip of the finger.

Make sure the center of your finger touches the window.

(Please be cautious that you may result in low temperature burns when inserting finger.)



- Use your index finger if possible, which is the easiest for orientation and guarantees a stable input method. Using the thumb or baby finger can be awkward and may result in a bad image.
 - Check if your fingerprint is unclear or damaged.
It is tricky to recognize fingerprints on dry, wet, unclear, or injured fingers. Use another finger in this case.
-



- Be aware of certain fingerprint conditions

Depending on the user's fingerprint condition, some fingerprints may not be used or may cause an inconvenience.

- If the fingerprint is damaged or very unclear, it cannot be recognized. Please use a password instead in this case.
 - **When a finger is dry, breathe on the finger for smooth operation.**
 - For kids, it may be tricky or impossible to use the terminal since their fingerprints are too small or very unclear. It is recommended to register their fingerprints every six months.
 - For the elderly, it may not be possible to register their fingerprints if there are too many fine lines on the fingerprints.
 - It is recommended that you register more than 2 fingerprints.
-

2. Product introduction

2.1. Product characteristics

- Multi-Modal product which the user can use both iris and fingerprint authentication functions together.
- FHD (5M) Display resolution is applied.
- The illumination sensor and dual camera (Color & IR) are applied to enable the iris recognition even in the dark place.
- RF(125kHz) and Smart Card(13.56MHz) can be used at the same time.
- Easy authentication with the iris or fingerprint
 - Can prevent the hazard factors such as forgetting password, losing the card or key, or stealing with the biometrics such as iris and fingerprint recognition and increasing the security by using the person’s own bionic information.
- The access control system using the LAN
 - Easy expansion directly applying to the existing network since it communicates with using TCP/IP protocol between the fingerprint recognition terminal and authentication server. High speed with 10/100 Mbps Auto Detect can make it easy to manage and monitor via network.

● Various registration and authentication methods

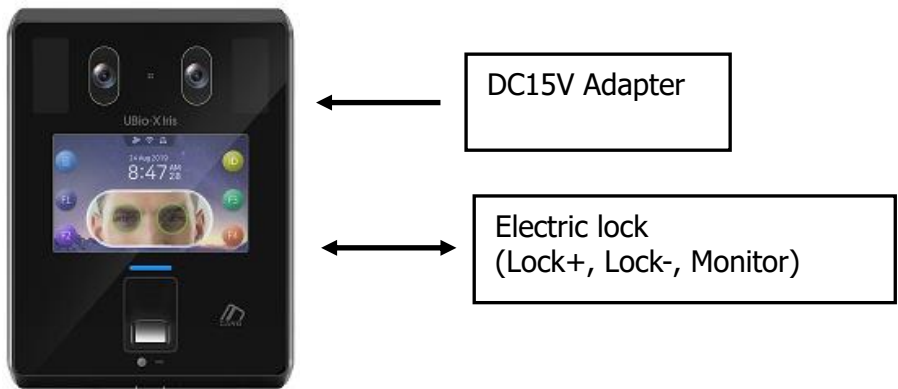
| | |
|---------------------|---|
| Iris | Iris registration Iris authentication |
| Fingerprint | Fingerprint registration Fingerprint authentication |
| Card | Card registration Card authentication |
| Password | Password registration Password authentication |
| Card or Fingerprint | Card, fingerprint registration Card or fingerprint authentication Fingerprint authentication after ID input |
| Card & Fingerprint | Card, fingerprint registration Fingerprint authentication after card authentication ID input > Card authentication > Fingerprint authentication |
| Card or Password | Card, or password authentication Card authentication Password authentication after ID input |

| | |
|-------------------------------|--|
| Card & Password | Card, password registration Password authentication after card authentication ID input > Card authentication > Password authentication |
| Fingerprint or Password | Fingerprint, password registration Fingerprint authentication Fingerprint authentication after ID input, if failed, Password authentication is possible. |
| Fingerprint & Password | Fingerprint, password registration Password authentication after fingerprint authentication ID input > Fingerprint authentication > Password authentication |
| Card or Iris | Card, iris registration Card or iris authentication Iris authentication after ID input |
| Card & Iris | Card, iris registration Iris authentication after card authentication ID input > Card authentication > Iris authentication |
| Iris or Password | Iris, password registration Iris authentication ID input> Iris authentication > if failed, Password authentication |
| Iris & Password | Iris, password registration Password authentication after iris authentication ID input > Iris authentication > Password authentication |
| Fingerprint or Iris | Fingerprint, iris registration Fingerprint or iris authentication ID input > Fingerprint authentication > if failed, Iris authentication |
| Fingerprint & Iris | Fingerprint, iris registration Iris authentication after fingerprint authentication ID input > Fingerprint authentication > Iris authentication |
| Card or Fingerprint or Iris | Card, fingerprint, iris registration Card or fingerprint or iris authentication ID input > Fingerprint authentication > if failed, Iris authentication |
| Card & Fingerprint & Password | Card, fingerprint, and password registration Fingerprint and password authentication after card authentication ID input > Card authentication > Fingerprint or Password authentication |
| Card & Iris & Password | Card, iris, and password registration Iris and password authentication after card authentication ID input > Card authentication > Iris and Password authentication |

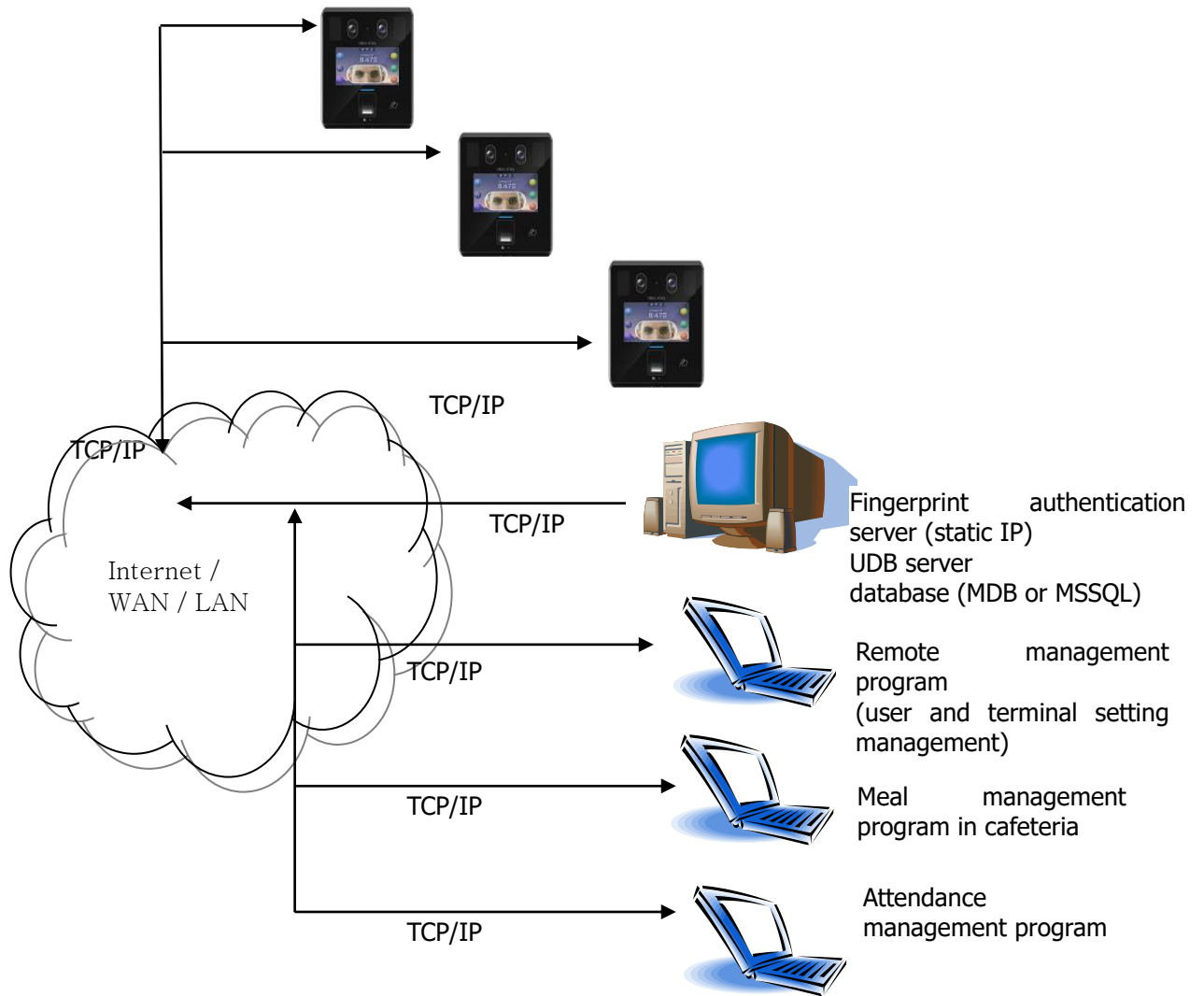
| | |
|-------------------------------------|---|
| Card & Fingerprint & Iris | Card, fingerprint, iris registration Fingerprint and iris authentication after card authentication ID input > Card authentication > Fingerprint and Iris authentication |
| Fingerprint & Iris & Password | Fingerprint, iris, password registration Iris and password authentication after fingerprint authentication ID input > Fingerprint authentication > Iris and Password authentication |

2.2. Product components

2.2.1. Standalone use (Access)



2.2.2. Connected with Server (Access, Time & Attendance, Meal management)



2.3. Product specification

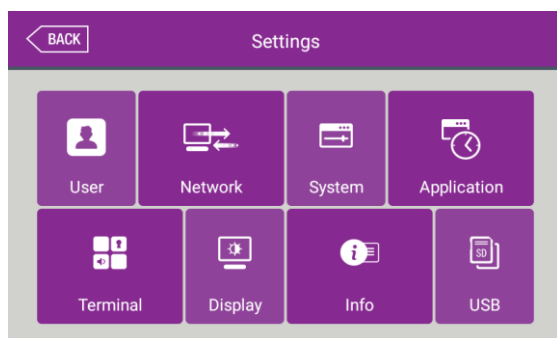
| Types | SPEC | REMARK |
|--------------------------|--|---|
| CPU | 1GHz Quad Core CPU | |
| LCD | 5.0 inch Touch LCD(480*800) | |
| MEMORY | 16G Bytes Flash | |
| | 2GBytes RAM | |
| External SD Card Support | Backup data / FW upgrade | |
| Camera | Dual Camera (Color & IR) | |
| Capacity | 200,000 User / 200,000 Card 200,000 Finger (1:N→1:50,000) 400,000 Iris (1:N→1:40,000) 10,000,000 Log / 20,000 Image Log | |
| Fingerprint sensor | Optical | |
| Scan Area / Resolution | 20 * 20mm / 500 DPI | |
| Temperature / Humidity | -20 ~ 60°C / Lower than 90% RH | |
| AC / DC Adapter | INPUT : Universal AC100 ~ 250V | |
| | OUTPUT : DC 12V (Option : DC 24V) | |
| | UL, CSA, CE Approved | |
| Lock Control | EM, Strike, Motor Lock, Auto Door | |
| I/O | 4 In (1 Exit, 3 Monitor) 2 Out (a combined use of Lock Control) | |
| Communication Port | TCP/IP (10/100Mbps) | Authentication server communication |
| | RS-232 | Meal ticket printer |
| | RS-485 | Controller communication |
| | Wiegand In/Out | Card reader or Controller communication |
| Card Reader | 125KHz RF / 13.56MHz Smart simultaneous use (1 Sam socket) HID 125K Prox card (Option) HID iClass Card (Option) | Optional |
| Dimension(W*H*D) | 160.6mm * 214.1mm * 45.7mm | |

3. Environment setting

3.1. Checks before setting the environment

3.1.1. Entering the menu

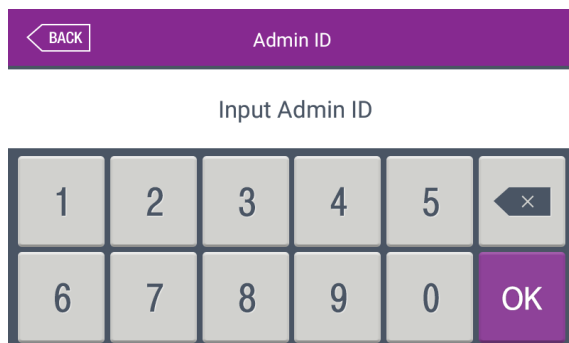
If you click [☰] icon at the basic window, you can see the main menu window as follows.



You can enter the subdivision menu by clicking each button.

3.1.2. Administrator authentication

If the administrator is registered, the following administrator authentication window appears at first.



► Administrator authentication
If you enter the admin ID, the administrator authentication is tried along with the authentication method of the admin such as the card, fingerprint, iris, or password.

The admin authentication only appears when there is a registered administrator. The authentication is tried only once when entering the menu mode and you can access to all the menu until you go out from the main menu.



3.1.3. How to enter the menu without administrator authentication

It is how to enter the menu when the fingerprint or iris authentication is impossible since the administrator card registered in the terminal was lost or there is no administrator.

- ① Open the cover by removing the bracket at the backside of the terminal.
- ② With the opened cover, connect the 5 pin connector number 2 with 4, and 3 with 5 at the bottom of the backside of the terminal.



<Fig. 3-3>

- ③ Select the icon  at the basic window to enter the administrator authentication window in <Fig. 3.1.2>, and fill the admin ID as '0000' (User ID length) and click  button, then you can enter the menu window.

► Be sure to remove the connection pin of the connector after modifying the setting value.

3.1.4. How to save the set values

If you click the **[Complete]** button at each menu to save the changed value after the change of settings, the set value of the window is saved and the following message box appears.



- ▶ If there is no changed value, the window is moved to the previous menu.
- ▶ If there is no signal for 30 seconds while changing the set value in the menu, the window is moved to the previous menu.

3.2. Menu composition

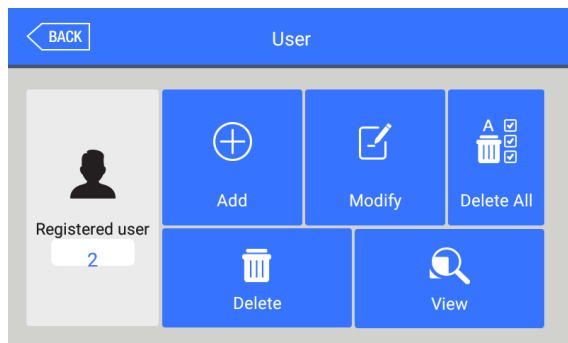
| | | |
|------------|--|---|
| 1.User | 1. Add 2. Modify 3. Delete 4. Delete All 5. View | |
| 2. Network | IP address | Static IP / DHCP ▶ IP address ▶ Subnet Mask ▶ Gateway |
| | DNS | ▶ DNS server 1 ▶ DNS server 2 |
| | Server IP | ▶ Server IP ▶ Port |
| | Terminal ID | ▶ Terminal ID |
| 3. System | 1. System | ▶ User ID Length [2~9] ▶ Authentication: Terminal Only ▶ Mandatory Registration <input type="checkbox"/> Iris <input type="checkbox"/> Fingerprint <input type="checkbox"/> Card <input type="checkbox"/> Password <input type="checkbox"/> Name Number of fingers [1~10] |
| | 2. Finger | ▶ 1:N Level [3~9] ▶ 1:1 Level [1~9] ▶ Fake Finger Detection ▶ FP template format <input type="checkbox"/> Check similar FP <input type="checkbox"/> Multi FP <input type="checkbox"/> Enable 1:N |
| | 3. Iris | ▶ Matching Level [1~5] ▶ Detection Level [0~50] |
| | 4. Auth | ▶ Auth type <input type="checkbox"/> Iris 1:1 Only |
| | 5. Date/Time | ▶ Time synchronization ▶ Display Format ▶ Set Date ▶ Set Time |

| | | |
|----------------|-----------------|--|
| | 6. Database | <ul style="list-style-type: none"> 1. Delete all users 2. Delete setting 3. Delete Log 4. Delete Image log 5. Factory init |
| 4. Application | 1. Application | <ul style="list-style-type: none"> ▶ Access / TnA / Meal 1. When setting 'Access' or 'TnA' <ul style="list-style-type: none"> ▶ Schedule <ul style="list-style-type: none"> F1 (Attend) F2 (Leave) F3 (Out) F4 (In) Access ▶ Blocking Time (0~86400) 2. When setting 'Meal' <ul style="list-style-type: none"> ▶ Schedule <ul style="list-style-type: none"> Breakfast Lunch Dinner Supper Snack <input type="checkbox"/> Allow duplicate |
| | 2. Function key | <ul style="list-style-type: none"> <input type="checkbox"/> Enable F1 <input type="checkbox"/> Enable F2 <input type="checkbox"/> Enable F3 <input type="checkbox"/> Enable F4 <input type="checkbox"/> ID input |
| 5. Terminal | 1. Sound | <ul style="list-style-type: none"> ▶ Voice Volume ▶ Beep Volume ▶ Sound Option |
| | 2. Option | <ul style="list-style-type: none"> ▶ Read Card number ▶ Card format <input type="checkbox"/> Lock terminal ▶ Card reader |
| | 3. Input | <ul style="list-style-type: none"> ▶ M0 ▶ M1 ▶ M2 ▶ IO ▶ Warn door open (sec) <input type="checkbox"/> Tamper alarm |
| | 4. Lock | <ul style="list-style-type: none"> ▶ Lock 1 Option ▶ Lock 2 Option ▶ Lock 1 duration (ms) ▶ Lock 2 duration (ms) |

| | | |
|------------|-------------------------|--|
| | 5. External Device | <ul style="list-style-type: none"> ▶RS232 ▶RS485 ▶Wiegand Site Code Wiegand Output Wiegand Input |
| 6. Display | 1. Theme | ▶Background |
| | 2. Camera | <ul style="list-style-type: none"> ▶Display Option ▶Save Option <ul style="list-style-type: none"> <input type="checkbox"/> Save success log <input type="checkbox"/> Save failed log |
| | 3. Language | ▶Language |
| | 4. Option | <ul style="list-style-type: none"> ▶Screen saver ▶Display Option |
| | 5. Message display time | ▶Message Display Time (ms) |
| 7. Info | 1. System | <ul style="list-style-type: none"> ▶System Info ▶Disk ▶Ram |
| | 2. Terminal | <ul style="list-style-type: none"> ▶Terminal Info Terminal ID Application Language |
| | 3. Network | <ul style="list-style-type: none"> ▶Network Info MAC <Ethernet> IP |
| | 4. User | ▶User |
| | 5. Log | ▶Log |
| | 6. About | ▶About |
| 8. USB | 1. Export | <ul style="list-style-type: none"> 1. User Data 2. Event Log 3. Export All 4. Picture 5. System Option |
| | 2. Import | <ul style="list-style-type: none"> 1. User Data 2. System Option |
| | 3. Others | <ul style="list-style-type: none"> 1. F/W Upgrade 2. Theme |

3.3. User Management

When you select the **[User]** at the main menu, the following window appears.

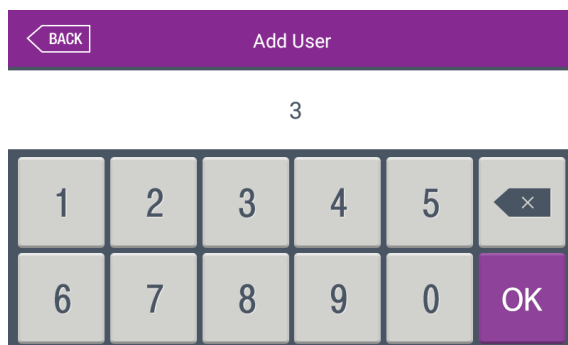


The number of all the users is shown at the top of screen including administrator.

Click **[Add]** button to add the new user, **[Modify]** button to modify the user, **[Delete]** button to delete the specific user, **[Delete All]** button to delete all the users, and **[View]** button to inquire the registered user list.

3.3.1. Add

If you select **[User]** -> **[Add]** in the main menu, the following screen appears.

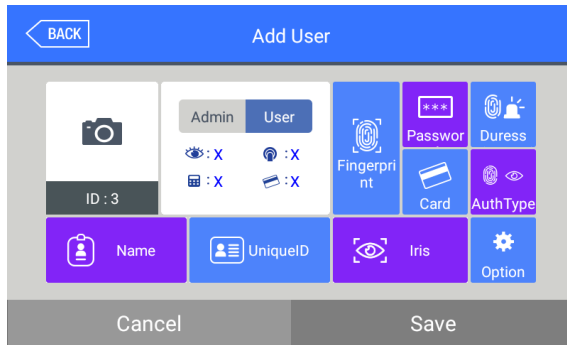


Input the user ID to register and click **[OK]** button.

In this case, the ID which can be registered is shown on the screen automatically, so you can register conveniently. If you want to change ID, delete the previous value by clicking **[x]** button and input the new value.

Click **[BACK]** button to cancel and go back.

If you enter ID which is already registered, the failure message appears, and if the ID is not registered, the following screen appears.



The icons in the left side mean as follows:

- : The number of registered irises
- : The number of registered fingerprints (X,1~10)
- : Existence of password registration (X: none, O: registered)
- : The number of registered cards (X,1~10)

ID : 7 : The user ID to register

: User

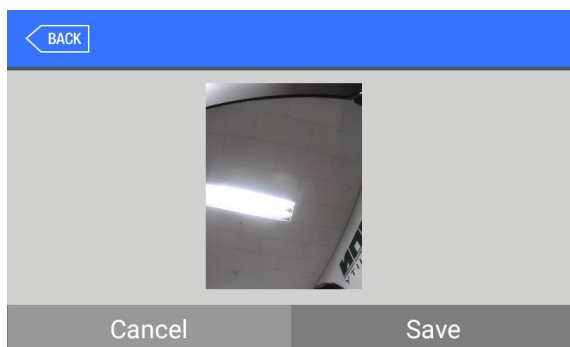
: Administrator

: Take a picture of a user and register it.

You can register the name with **[Name]**, unique ID with **[Unique ID]**, fingerprint with **[Fingerprint]**, duress finger with **[Duress FP]**, iris with **[Iris]**, card with **[Card]**, and password with **[Password]** button. The registration is basically set to be user, and it can be changed to administrator if you click **[Admin]** button. Click **[Save]** button to save the registration, and click **[Cancel]** or **[BACK]** button to cancel the registration and return.

※ Only user who is registered as administrator can change the operating method of the terminal and can register/modify/delete the information of all the saved users, so be careful to register the administrator.

3.3.1.1. Photo registration

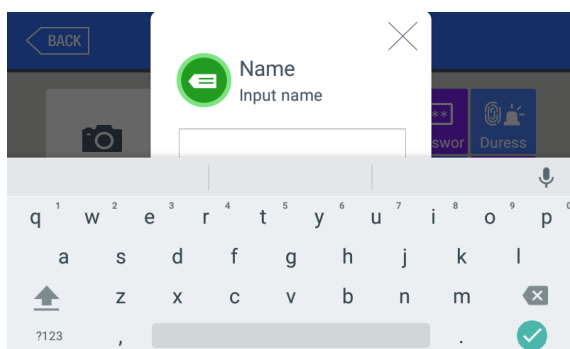


Register by clicking [] button at the **[Add User]** screen.

Click **[Save]** button to register with the present camera image.


Click **[Cancel]** or **[BACK]** button to cancel the registration and return.

3.3.1.2. Name registration

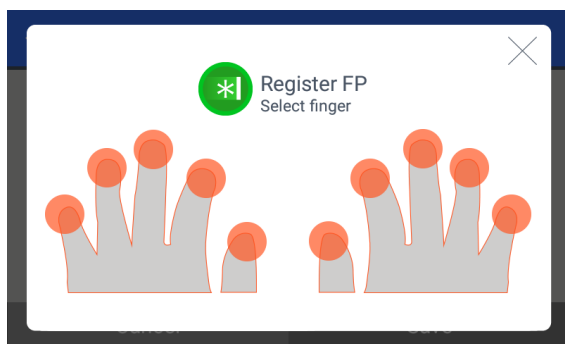


Register by clicking **[Name]** button in the **[Add User]** screen.


After entering name with the keyboard at the bottom, click **[OK]** button.

Click the [] button to cancel the registration and return.



3.3.1.3. Fingerprint registration

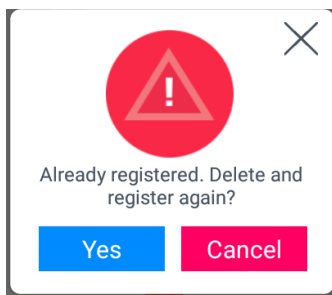


① Register by clicking **[Fingerprint]** button at the **[Add User]** screen.

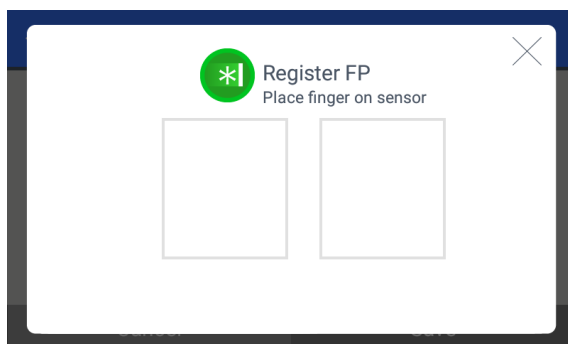
Click [] button to cancel the registration and return.

Select the finger to be registered when the left screen appears.

※ If you register the multiple fingers, the fingers already registered are represented by blue circle () and the duress fingerprints are represented by violet circle (). If you select the finger already registered, the following message appears, and if you select the re-registration, you can register again with deleting previously registered fingerprint.

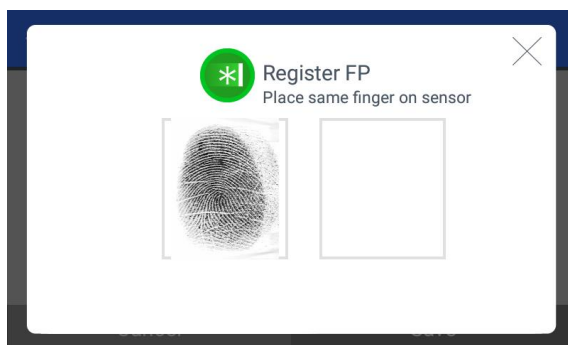


※ When you authenticate with duress FP, the alarm message can be transferred to the server and you can output the dry contact signal if you set the duress FP alarm from the setting of lock from the terminal menu. (Refer to '3.7.4. Lock').



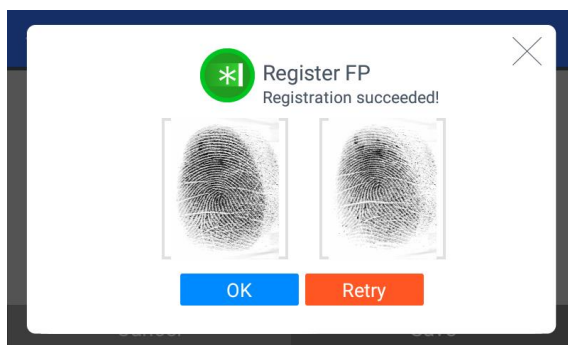
② Enter the fingerprint with referring '1.7 Proper fingerprint registration and input methods'. Enter the fingerprint twice according to the screen instruction as follows.

When the light is turned on at the fingerprint sensor with the message 'Register FP', put your finger on the input screen and wait for 2~3 seconds until the light is turned off.



③ When the message 'Enter the same fingerprint again' appears, enter the same fingerprint again.

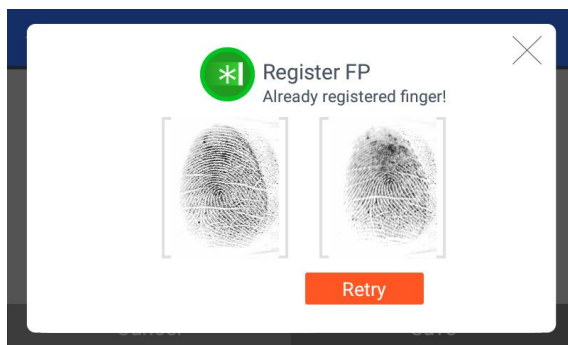
※ In the second fingerprint input after the first fingerprint, you should take your finger off the sensor once and place it again.



④ The message of the left side appears when the input is completed. If you click [OK] button, the registration is completed and the screen is returned to the previous menu.

If you want to register again, you can click [Retry] button and then go through the registration process from ②.

But if you want to cancel the registration, you can click [X] button.



If it is similar with the fingerprint already registered, the message "Already registered finger!" appears like the left side, and you can start again from the procedure of ② if you click the **[Retry]** button. You can click **[X]** button to cancel and return to the previous menu.

※ You can register 10 fingerprints at most for one ID, and you cannot register more than 10 IDs.

If the registration is failed 2~3 times despite the proper fingerprint registration method, it is recommended to use iris, password, or card.

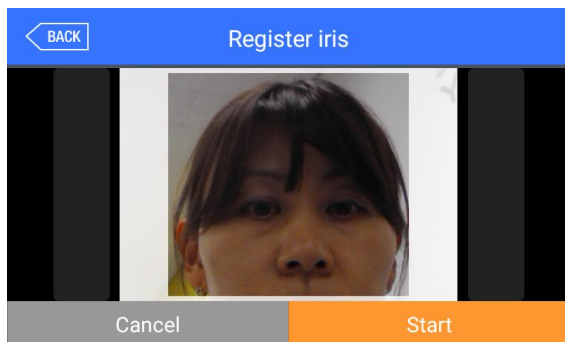
※ The similar fingerprint check on registration should be verified for the registered fingerprints on the terminal side only.

If the same fingerprint is registered from each terminal and UNIS with the different User ID, the server doesn't check the similarity for the retrieved fingerprint from the terminal.

In this case, the same fingerprint can be authenticated with the different user ID, so you have to watch out this.

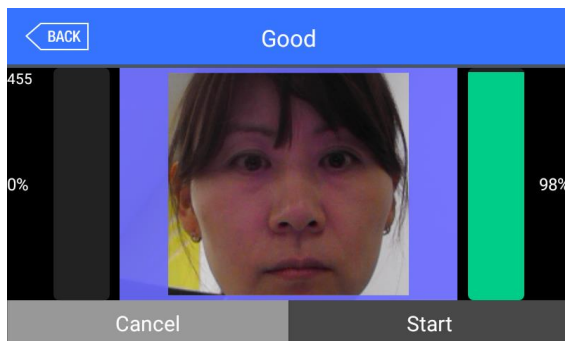
3.3.1.4. Iris registration

Register with referring to '1.6 How to register and authenticate the iris properly'.

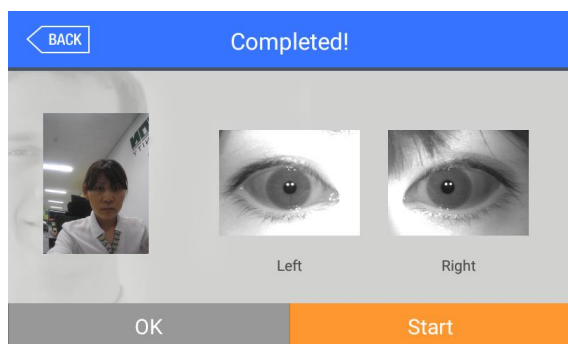
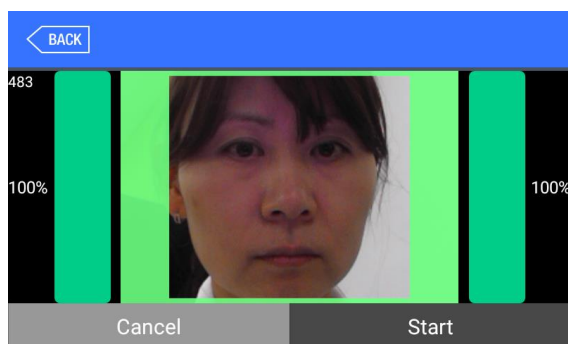


① Select **[Start]** button to register the iris.

After aligning the iris with the iris outline as shown in the left screen, follow the guide message displayed on the screen and look at the front.



② If the iris is recognized normally as shown in the left screen, the green bars on both sides will rise and the iris will be registered. At this time, do not blink the eyes and stop as they are so that the registration can be done well.

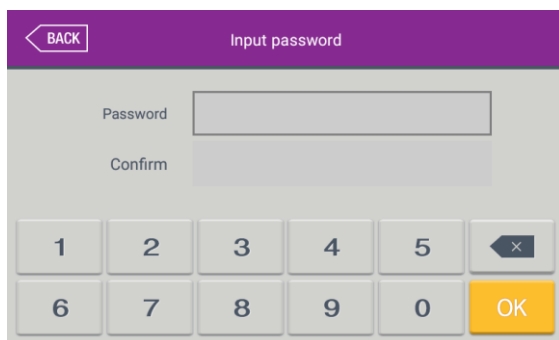


③ When the registration is completed, 'Completed' message is shown on the screen. If you click [OK] button, the iris registration is completed and the screen is moved to the previous screen.

If you want to register again, click [Start] button to start from the procedure of ②.

※ The feature to check the iris similarity is performed when iris is registered, and the function is made only among users who have iris included in the user's authentication combination and 1:N iris authentication is enabled in the authentication option. For this reason, users not included in the conditions may not be detected in this feature. (The same is applied for fingerprint registration.)

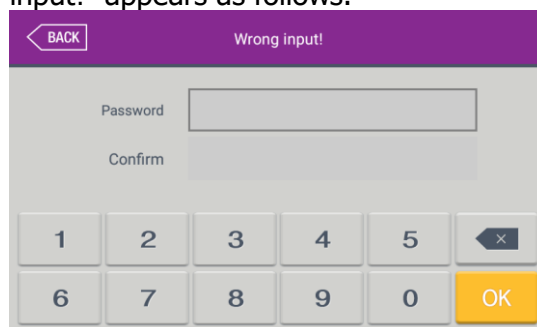
3.3.1.5. Password registration



If you enter the password in 1~8 digits in the password input window and click **[OK]** button, the input focus is moved to the 'password confirmation' window at below. Enter the same password again and click **[OK]** button.

Click [**X**] button to cancel and return.

※If you enter the different password in the confirm window, the message "Wrong input!" appears as follows.

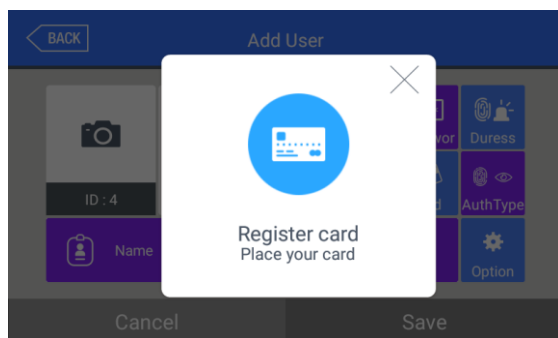


※ Duress password

When entering a password, the authentication is successful even if you enter the password you registered in reverse. But this is an attempt to authenticate threats to the server.

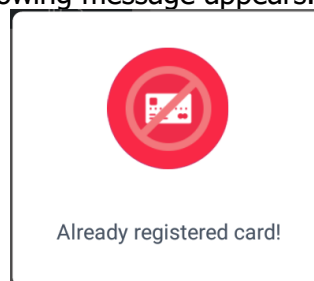
Ex) If the password is 1234, it will be certified as a duress password when entered as 4321.

3.3.1.6. Card registration



Register with clicking **[Card]** button in the **[Add User]** button. Click [~~X~~] button to cancel and return.

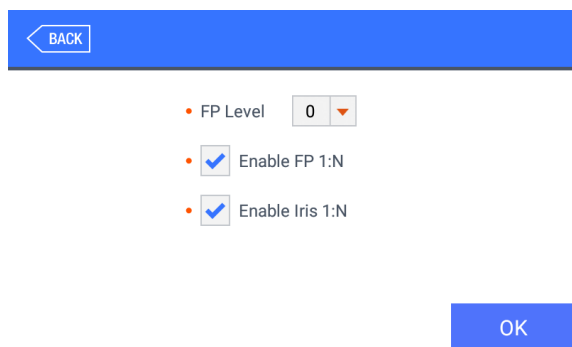
※If you enter the card already registered, the following message appears.



※If a user tried over than 10 registrations, the following message appears.



3.3.1.7. Authentication option

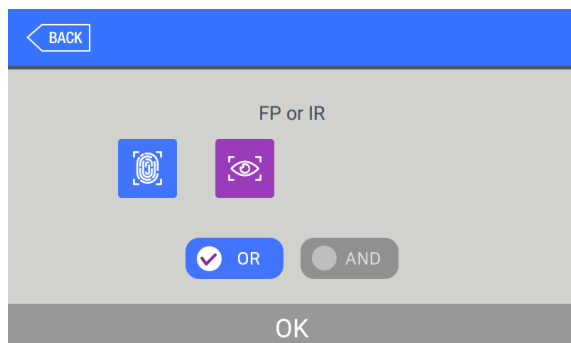


► 'FP Level' (Basic setting: '0')
 It decides the fingerprint authentication level of each user, and the registered users can have different authentication level by modifying this value. If you set '0', the authentication uses the level of fingerprint authentication.
 For example, if you select the '1' for FP Level, this user will be applied with "1" on 1:1 FP Level.
 But if you select '0' for this level, the user will be applied with the 1:1 FP Level set from **[System]** -> **[Finger]**.

► 'Enable FP 1:N' (Basic setting: If the fingerprint is registered, [v])
 If this option is checked, you can authorize only with fingerprint without user ID or card

► 'Enable Iris 1:N' (Basic setting: If the iris is registered, [v]). If this option is checked, you can authorize only with iris without user ID or card.

3.3.1.8. Auth type



Set by clicking **[Auth type]** at the **[Add User]** window. (But, it can be set when there are more than 2 authentication methods registered)
Click **[BACK]** button to cancel and return.

This shows all the authentication methods already registered, and the buttons at the lower side shows the buttons **[OR]** / **[AND]** which can be selected. The selected authentication method is displayed by blue and the registered or non-used authentication method does by gray.
If you click the **[OK]** button, the authentication method is changed and the screen moves to the previous window. The authentication method icons are represented as follows.



※※ In case of authentication method, if it is not set, the authentication methods are set as **[OR]** combination automatically with the current registered authentication methods. (However, 3 of authentication methods can be selected and 2 of OR combination with password can be limited for maximum.)

3.3.1.9. Save

Click the **[Save]** button to save when all the registration procedure is finished. At this point, if you click **[Cancel]** or **[BACK]** button to return, the user is not saved.

Next is the LCD messages which can appear at the registration procedure.

| | |
|--|---|
| | <p>When you click the [Save] button, the case that the user is successfully registered</p> |
|--|---|



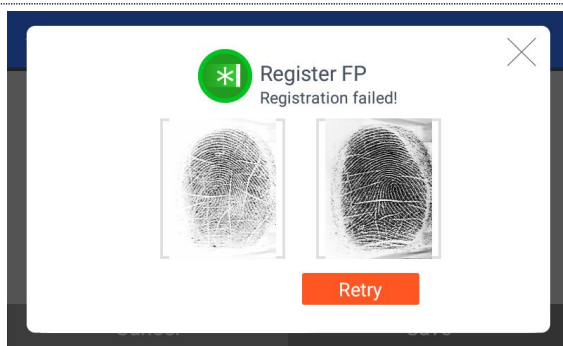
Failed!

When you click the **[Save]** button,
the case that the user fails to register
: The case none of authentication
methods such as fingerprint, iris, card
or password is registered.

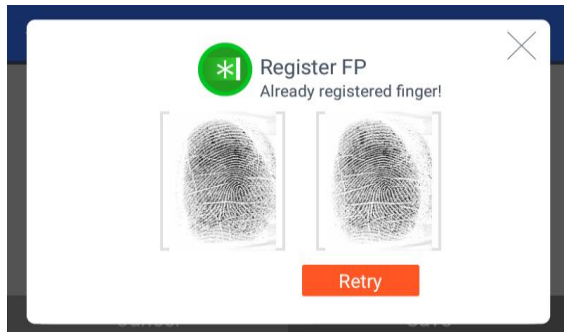


Auth method
is not registered!

When you click the **[Auth Method]**
button,
the case none of authentication method is
registered



In **[Register FP]**,
the case you input the different fingerprint
at the fingerprint registration.

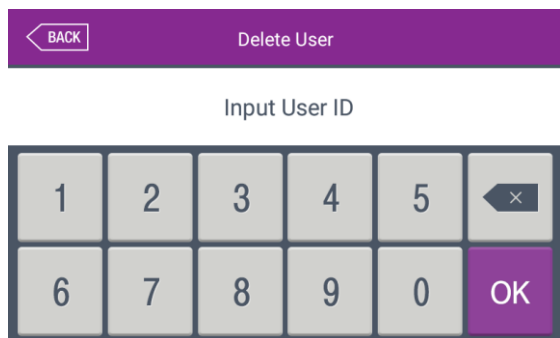


In **[Register FP]**,
the case you tried to register the
fingerprint already registered. (But, you
can input the same fingerprint with the
same user ID).

※ If you want to register the same
fingerprint in the different ID, you
should uncheck the '**Check similar FP**'
feature from **[System]** ->**[Finger]**.
But, in this case, since the same
fingerprint can be authorized as
different ID, it is not suitable for the
time and attendance management.

3.3.2. Delete

The following window appears if you click **[User]** → **[Delete]** at the main menu.



Input the user ID to be deleted and click **[OK]** button.

Click **[BACK]** button to cancel and return.

If you input the unregistered ID, the failure message "Unregistered user" appears, and if you input the registered ID, the success message "Deleted" appears.

But, the deletion in the terminal is not led to the deletion in the server, so if you want to delete completely, you should delete it in the server.

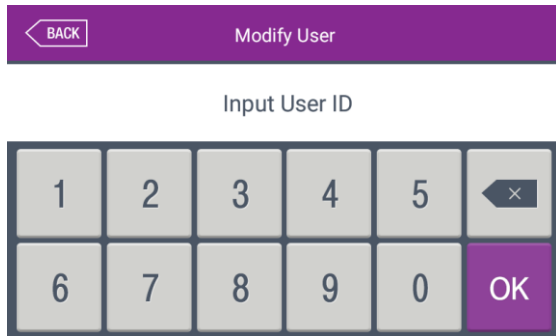
It deletes both user and admin, so you should be cautious, and the user registered only in the terminal is cannot be recovered.

The followings are LCD guidance which can appear at the deletion procedure.

| | |
|--|----------------------------------|
| | When it is deleted normally. |
| | When unregistered ID was entered |

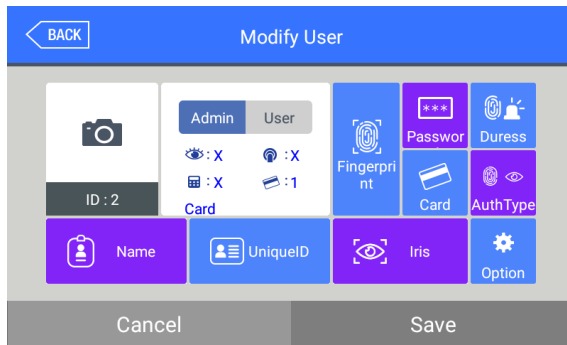
3.3.3. Modify

The following window appears if you click the **[User]** → **[Modify]** in the main menu.



Input the user ID to be modified and click **[OK]** button. Click **[BACK]** button to cancel and return.

The failure message appears if you input the unregistered ID, and if you input the registered ID, the information of registered user is represented as follows:



The icons at the left side means as follows.

: The number of registered irises (X,1~2)

: The number of registered fingerprints (X,1~10)

: Existence of password registration (1: Registered / X: Not registered)

: The number of registered cards (X,1~10)

: The user ID to register

: User

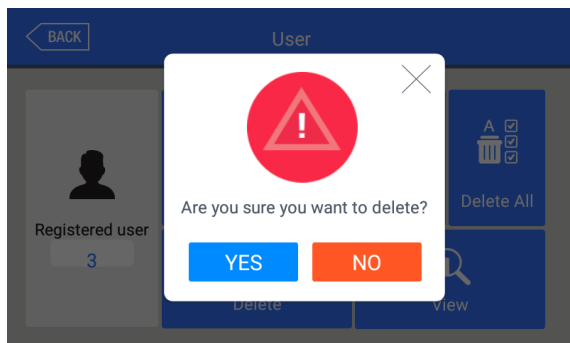
: Administrator

If you touch the picture, you can register with re-taken picture.

The modification method of each item is the same with the user addition, so refer to the '3.3.1. Add'.

3.3.4. Delete All

If you click the **[User] → [Delete All]** in the main menu, the following window appears.

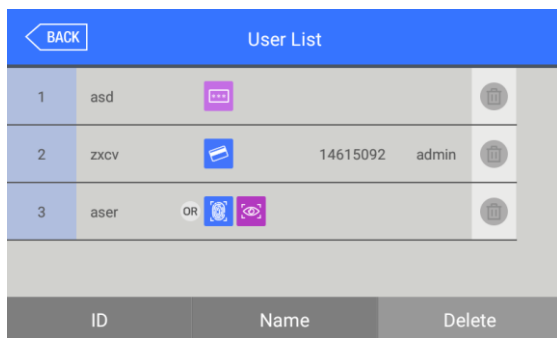


If you want to delete all the users, click **[YES]**, and if you want to cancel, click **[NO]**.

※If you click **[YES]**, the users and admin are deleted, and **the restoration is impossible once they are deleted, so be careful.**

3.3.5. View


If you click the **[User] -> [View]** in the main menu, all the users registered can be searched as follows.



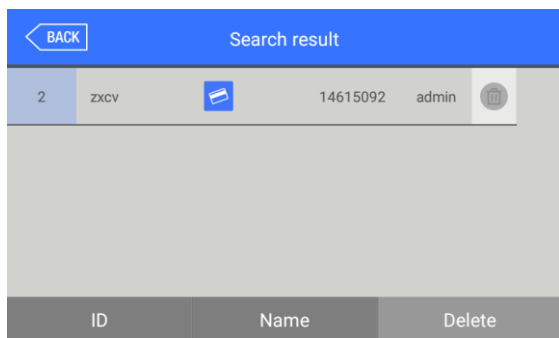
The user list appears by the order of ID, and if you slide the screen upward, you can search the additional user list.

The list appears in the unit of 100 people and if the list is more than 100 people, you can see the previous or next list by clicking **[BACK]** or **[NEXT]** button.

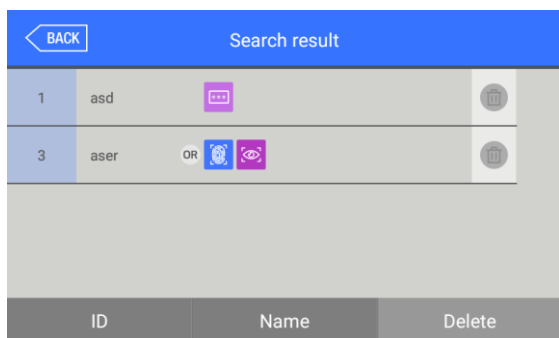
►**[ID]**: If you click the ID of a specific user, you can directly move to the modification window of the user.

►**[Delete]**: If you select  button at the right side and click the **[Delete]** button, you can delete all the checked users at once.

If you click **[BACK]** button on the top, you can move to the previous '3.3 User management' menu.



► **[ID]**: If you input the User ID by clicking **[ID]** button, the user is searched like in the left picture. If you click **[BACK]** button in this window, you can move to the '3.3. User Management' menu.

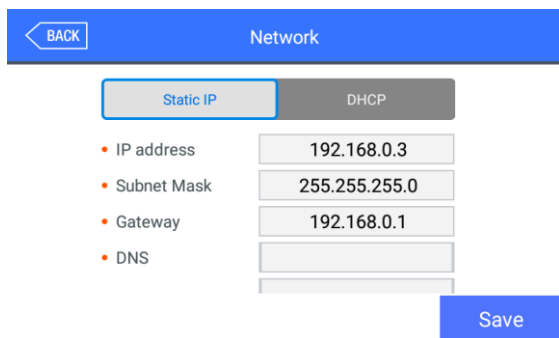


► **[Name]**: If you input the user name by clicking **[Name]** button, the registered user list including the characters is shown. If you click **[BACK]** button in this window, you can move to the '3.3. User management' menu.

Ex) If you search 'as', it searches all the users including 'as' as the left picture.

3.4. Network setting

If you select **[Network]** in the main menu, the following window appears.



► **Basic setting**: Same with the left screen

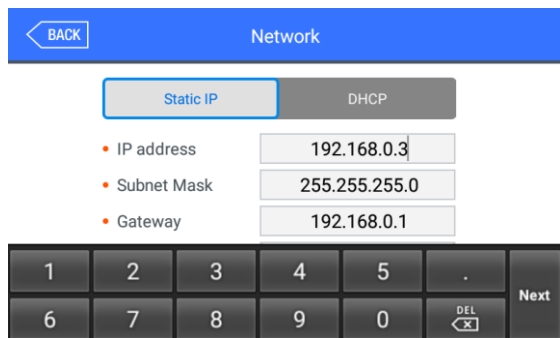
Select the method **[Static IP]** if the static IP is allocated from the connected network, and select **[DHCP]** if the IP is allocated from the DHCP server in the connected network.

If you select **[Static IP]**, set the IP address, subnet mask, and gateway. And if you select **[DHCP]**, you don't have to set them.

DNS entry is possible instead of IP in the **[Server IP]**, and if you use specific DNS server, input the IP address of **[DNS]** server together. Check "DDNS" when typing DNS in order to type in English.

► **[Port]:** The basic port value of the authentication server (UNIS server) is '9870', and if you change the value, you should change the server program with the same value, so be cautious.

► **[Terminal ID]:** It is a unique ID used for the terminal to distinguish the terminals and the default value is '1'. It should be the same with the ID of the terminal registered in the server program and the characters can be set up to 9 digits for maximum.

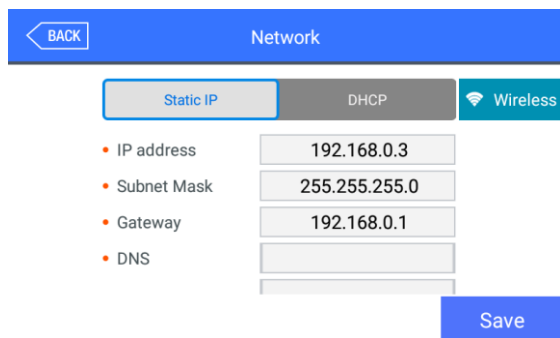


If you touch the item you want to change, the keypad appears at the bottom.

If the input is finished with the keypad, continue the input by touching [↩] button or the next input window. If you touch the background window which is not the input window, the keypad disappears.

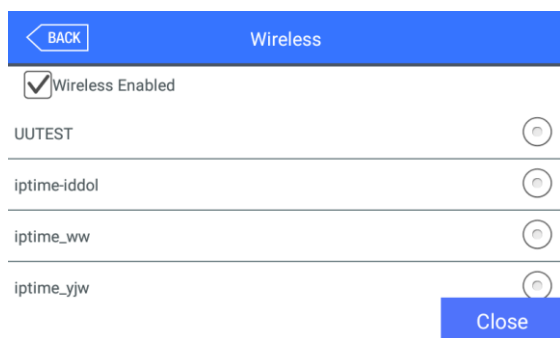
If you want to apply the changes, click **[Save]** button, and return to the previous menu by clicking **[BACK]** button.

► **[Wi-Fi]**



When the Wi-Fi dongle is connected to the USB port on the backward of the device, this icon [Wireless] will automatically be activated as same as left picture.

[Notes]: If you want to apply the Wi-Fi dongle, you have to purchase it from our sales team since we cannot guarantee to cooperate 3rd party Wi-Fi dongle with our device.



When the check box **[Wireless Enabled]** is checked, the AP list around will be scanned automatically as the left picture.

If you select the AP name from the AP list, the AP password will be asked and then the device will be connected to this AP when inputting the proper AP password.

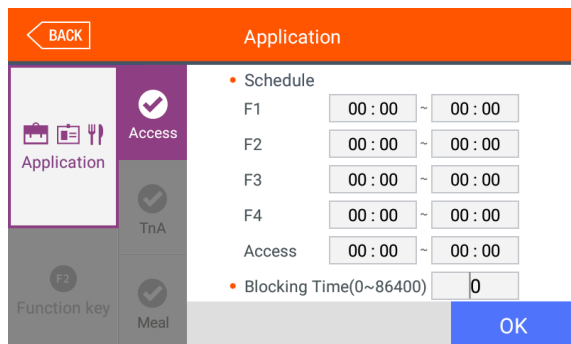
If you want to apply the changes, click **[Close]** button, and return to the previous menu by clicking **[BACK]** button.

3.5. Application mode

3.5.1. Application

If you select the **[Application]** in the main menu, the following window appears. In the application mode, you can select the **[Access / TnA / Meal]** according to the purpose.

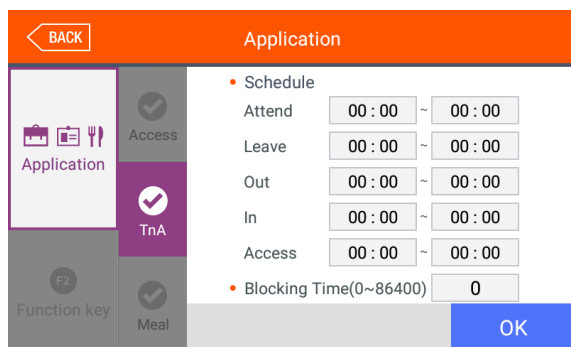
3.5.1.1. Access or TnA setting



It is the screen showing when you select 'Access'.

Click **[OK]** button to apply the changes, and click **[BACK]** button to cancel and return.

►Basic setting : Same with the window at the left side.

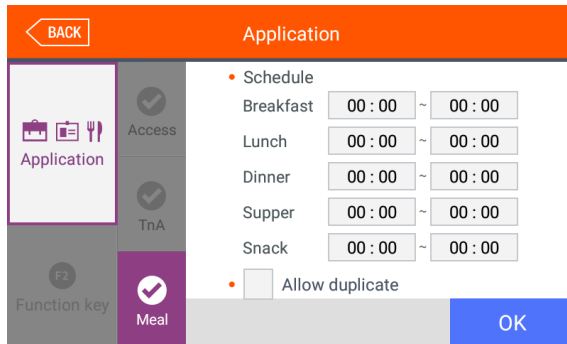


It is the screen showing when you select 'TnA'.

Click the **[OK]** button to apply the changes, and click **[BACK]** button to cancel and return.

- **Schedule (00:00~23:59):** You can set the time for each authentication mode and if you do not need the function, set '00:00-00:00'. During the set time, the set mode is always shown unless clicking another function button, and it is convenient for the TnA management because the indication mode is changed to the set authentication mode automatically though another mode was authorized by clicking another function key. The time periods should not be overlapped, but if they are overlapped, the application order is Attend (F1) →Leave (F2) →Out (F3) →In (F4) →Access. If the time is set between 23:00~01:00, it means from 23:00 to the 01:00 the following day.
- **Blocking time (0~86400):** This function prevents the same user to authorize again in the set time. There is no restriction if it is set 0, but if it is set bigger than 0, the user can authorize again when the set time (sec) is passed from the previous authentication. It can be set up to 86,400 seconds (24 hours).

3.5.1.2. Meal setting



It is the screen showing when selecting the meal management.

You can set the time period of each meal type.

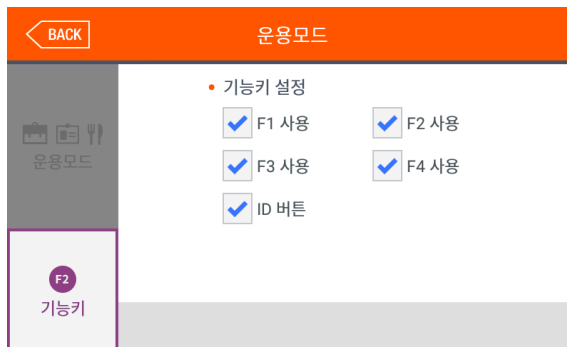
And if the setting is not needed, set '00:00-00:00'.

- ▶ Allow duplicate : If it is unchecked () , each user can authorize once in the one meal, but if it is checked () , the multiple authentication is possible regardless of the previous authentications.

Click **[OK]** button to apply the changes, and click **[BACK]** button to cancel and return.

3.5.2. Function key

The following window appears if you select the **[Application]** → **[Function key]** in the main menu.



- ▶Basic setting: Same with the window at the left side.

▶Fn key

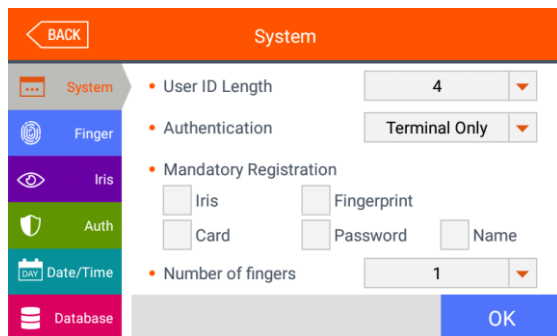
It means the **[F1] ~ [F4]**, **[Access]** button used to change the authentication mode such as attendance and leaving, and if you click the Fn key, the authentication mode is changed to the mode. Because only the checked buttons are represented on the basic window, you can use with unchecking other function keys when using as device only for the attendance or leaving

Click **[OK]** to apply the set value, and click **[BACK]** button to move to the previous menu.

3.6. System

3.6.1. System

The following window appears if you select the **[System] → [System]** in the main menu.



►Basic setting: Same with the window at the left side

►User ID Length
It sets the length of the user ID, and it can be 2~8 digits and should be the same with the length of the registered ID of the server program. If the ID registered in the server program uses '000075' as a 6 digits ID, set 6.

►Authentication

It determines the priority of the authentication between the terminal and network server and there are 4 modes "Terminal Only", "Server Only", "Terminal/Server", "Server/Terminal".

[Terminal Only]: It only authorizes the user registered in the terminal.

[Server Only]: It only authorizes the user registered in the server.

[Terminal/Server]: It authorizes the user registered in the terminal as 1:N identification but it authorizes the user in the server as 1:1 verification if failed.

[Server/Terminal]: It authorizes the user registered in server as 1:N identification but if the network between server and terminal is disconnected, it authorizes the user registered in terminal as 1:N identification if failed.

※ Iris authentication does not currently support server authentication and can only be authenticated on the terminal regardless of the setting.

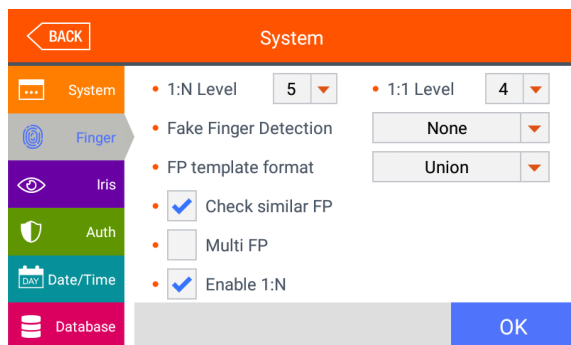
►Mandatory Registration

It determines the items which should be entered in the user registration, and the user can be registered when all the checked items are entered. The number of registered fingerprints is only valid when the **[Fingerprint]** is checked.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return. If you click the **[OK]** button without changing the set value, it is moved to the previous menu directly. Click the menu button at the left side to set additionally.

3.6.2. Finger

The following screen appears if you select the **[System]** -> **[Finger]** in the main menu.



►Basic setting: Same with the window at the left side

►1:N Level (3~9)

It is the authentication level used in the 1:N Fingerprint authentication. In case of 1:N authentication, the authentication level is not set for each user, so the authentication level of the terminal is always the standard.

►1:1 Level (1~9)

It is the authentication level used in the 1:1 Fingerprint authentication. But, in case of the user whose 1:1 authentication level is not set '0' (using the authentication level of the terminal), it follows the 1:1 authentication level of the user.

►Fake Finger Detection

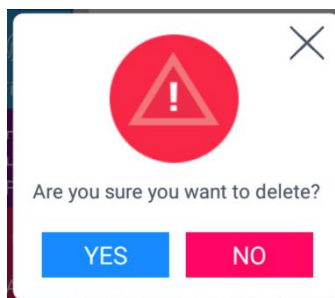
It sets the LFD level to prevent the fake fingerprint input. If you set the LFD level higher, the preventing function of the fake fingerprint input such as rubber, paper, film, or silicon can be more strengthened, but the fingerprint also can be hard to enter if the finger is dry too much.

► FP template format

It determines the format of fingerprint template. When some applications using SDK need another format of the fingerprint, the fingerprint template format of the terminal can be changed. But, if using UNIS server, **it should be set the same with the template format of the server.**

- Union: It is the default setting and the volume is 400 bytes for each template. It is the most optimized format related with all the functions using fingerprint (1:1 level, 1:N level, authentication speed, and fake fingerprint detection), and the authentication can be fulfilled rapidly and correctly.
- ISO Standard: Fingerprint data is saved as ISO template which is 500 bytes for each template.
- ISO Extended: Fingerprint data is saved as ISO template which is 600 bytes for each template.

If you change the template format of the fingerprint, the following message box appears.



If you click the **[YES]** button, the new format is applied, and if you click the **[NO]** button, the format value before the change is maintained.

※ **Notes**

If you change the fingerprint template format, all the registered fingerprints are deleted, so be cautions.

▶ Check similar FP

If it is checked () , the re-registration as another user ID is prevented by checking if the fingerprint is already registered. Similar fingerprints are checked against users who ticked the 1:N option. (100,000 fingerprints limit)

▶ Multi FP

If it is checked () , all the registered fingerprints should be authorized after the ID (or card) input. If it is checked, the user should input the user ID or card, the option **[Enable 1:N]** will be unchecked () automatically.

It is the function used when managing the access control of the special area strictly.

For example, if the user with ID '0001' has three fingerprints registered, the user should be authorized with all three fingerprints after entering ID.

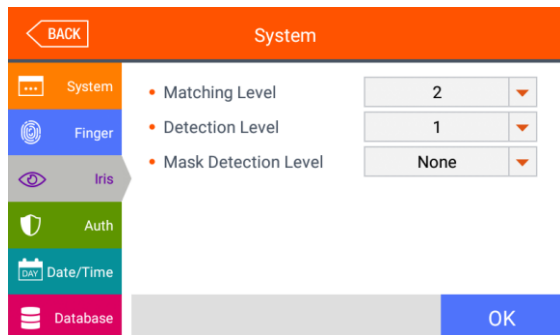
In this case, the order of three fingerprints is not important, but if one of the fingerprints is failed to be authorized, the authentication is failed.

▶ Enable 1:N

If it is checked () , the user can be authorized only with the fingerprint without user ID or card. Though the user is registered by enabling 1:N authentication, in the terminal where the option is not checked, only the 1:1 authentication is possible.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return. If you click **[OK]** button without changing the set value, it is moved to the upper menu automatically.

3.6.3. Iris



►Basic setting: Same with the window at the left side

►Matching Level

It is the level used in iris authentication, and it can be set 1~5 levels according to the accordance degree with the registered iris. And the authentication is successful when the accordance degree is higher than the set authentication level.

If the authentication level is higher, the security level will be higher, but you can also fail to authenticate easily due to the high requirement for the accordance level.

►Detection Level (1-5)

It is the level used when detecting the position of eyes. You can set it up in steps 1 to 5. The higher the level is, the more accurate position is detected but detection speed is slower.

►Mask Detection Level

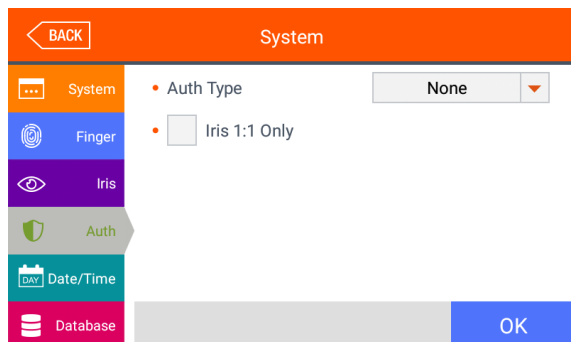
It is the level used to check the wearing of the mask. You can set it up in steps 1 to 5 and none. If you set it to None, the mask wearing is not checked.

If set to 1 to 5, authentication will fails when the user does not wear a the mask.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return. If you click **[OK]** button without changing the set value, it is moved to the previous menu automatically.

3.6.4. Auth

If you select the **[System]** → **[Auth]** in the main menu, the following window appears.



►Basic setting: Same with the window at the left side

► Auth Type: Select the authentication method of the terminal.

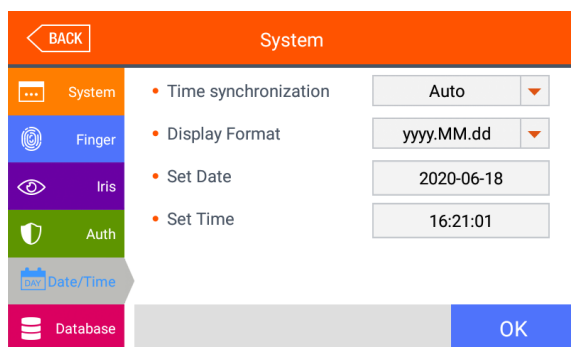
- Card: Even if the user is registered with the authentication method requiring the iris, fingerprint or password with the card, you can authenticate only with the card in the terminal that this option is checked. For the fingerprint, iris, or password users, they can authenticate as their authentication method.
- Fingerprint: Even if the user is registered with the authentication method requiring the iris, fingerprint or password with the fingerprint, you can authenticate only with the fingerprint in the terminal that this option is checked. For the fingerprint, iris, or password users, they can authenticate as their authentication method.
- Iris: Even if the user is registered with the authentication method requiring the card, fingerprint or password with the iris, you can authenticate only with the iris in the terminal that this option is checked. For the card, fingerprint and password users, they can authenticate as their authentication method.

► Iris 1:1 Only

When checking () in the box, the iris authentication is only operated with 1:1 mode.

3.6.5. Date/Time

If you select the **[System] → [Date/Time]** in the main menu, the following window appears.



► Basic setting: Same with the window at the left side

► Time synchronization

It determines the synchronization method between the current time of terminal and server. If you want automatic synchronization, set **[Auto]**, and if you want manual synchronization, set **[Manual]**.

► Display Format

It is the method to indicate the current time of terminal.
 - yyyy-mm-dd: It shows as the order of year, month, and date.
 - dd-mm-yyyy: Order of date, month (English), and year.

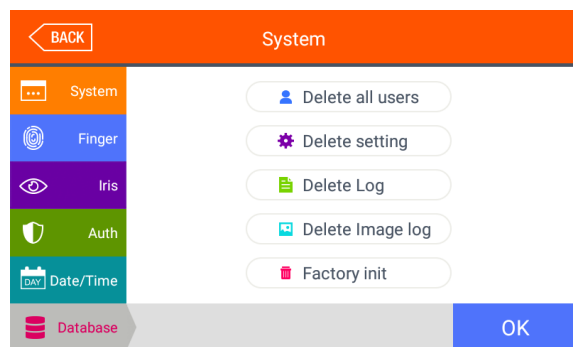
► Set Date / Set Time

It changes the current time of the terminal. If the server is connected and the [Time synchronization] is set [Auto], you don't have to change since it is synchronized with the server time.

Click [OK] button to apply the set value, and click [BACK] button to cancel and return.

3.6.6. Database

If you select the [System] → [Database] in the main menu, the following window appears.



If you want to delete all the users, click [Delete all users] button.

If you want to initialize the settings, click [Delete setting] button.

If you want to initialize the authentication record, click [Delete Log] button.

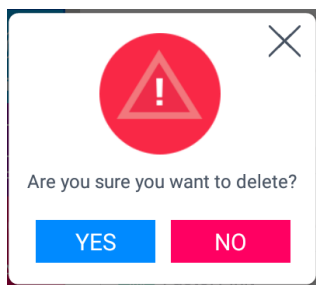
If you want to delete image log only, click [Delete image log] button.

If you want to delete all the data and initialize with the factory setting, click [Factory init] button.

If you want to move to the upper menu, click [Close] or [BACK] button.

3.6.6.1. Delete all the users

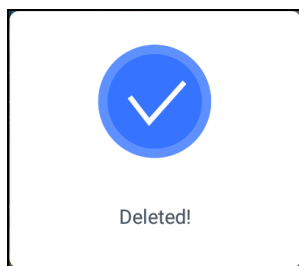
If you select the [System] → [Database] → [Delete all users] in the main menu, the following window appears.



If you want to delete all users, click [YES] button, and if you want to cancel, click [NO] or [X] button.

If there is no signal for 5 seconds in this state, the message box disappears without deletion.

If deletion is succeeded by clicking **[YES]**, the following success message box appears.

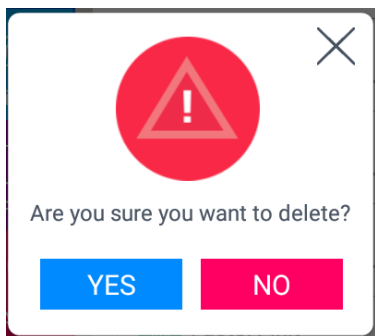


<Fig. 3-5>

In this case, both the users and administrator are deleted, **and the restoration is impossible once the data is deleted.**

3.6.6.2. Delete setting

If you select the **[System] → [Database] → [Delete setting]** in the main menu, the following screen appears.



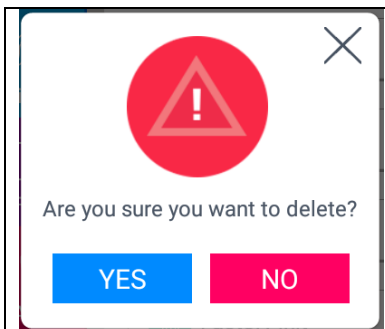
Click **[YES]** button to initialize all the set values, and click **[NO]** or **[X]** button to cancel.

If there is no signal for 5 seconds in this state, the message box disappears without initialization.

If it is successfully deleted by clicking **[YES]**, the success message in <Fig. 3-5> is displayed and the display language and voice are changed to the default value of English. It initializes all the setting value of terminal except for the MAC (Physical) address and **[FP template format]** but the user and authentication log are not deleted.

3.6.6.3. Delete Log

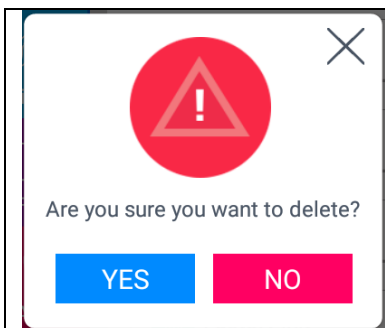
If you select the **[System] → [Database] → [Delete log]** in the main menu, the following window appears.

| | |
|--|--|
|  <p>A screenshot of a warning dialog box. It features a red circular icon with a white exclamation mark inside a triangle. Below the icon, the text reads "Are you sure you want to delete?". At the bottom, there are two buttons: a blue "YES" button and a red "NO" button. A close button (X) is in the top right corner.</p> | <p>If you want to delete all the authentication record in the terminal, click [YES] button, and if you want to cancel, click the [NO] or [X] button.</p> <p>If there is no signal for 5 seconds in this state, the message box disappears without deletion.</p> |
|--|--|

If it is deleted successfully by clicking **[YES]**, the success message in [Fig. 3-5] is displayed. All the authentication log is deleted including image log, **and the restoration after the deletion is impossible.**

3.6.6.4. Delete Image log

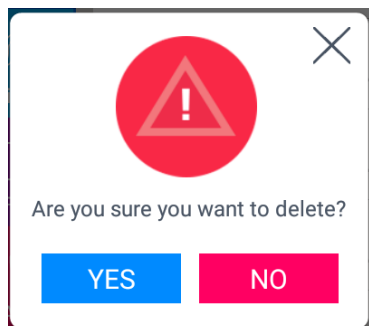
If you select the **[System] → [Database] → [Delete image log]** in the main menu, the following window appears.

| | |
|--|--|
|  <p>A screenshot of a warning dialog box, identical in layout to the one in the previous section. It features a red circular icon with a white exclamation mark inside a triangle. Below the icon, the text reads "Are you sure you want to delete?". At the bottom, there are two buttons: a blue "YES" button and a red "NO" button. A close button (X) is in the top right corner.</p> | <p>If you want to delete all the authentication record in the terminal, click [YES] button, and if you want to cancel, click the [NO] or [X] button.</p> <p>If there is no signal for 5 seconds in this state, the message box disappears without deletion.</p> |
|--|--|

If it is deleted successfully by clicking **[YES]**, the success message in [Fig. 3-5] is displayed. The image saved as a log is only deleted and the authentication log is not deleted.

3.6.6.5. Factory init

If you select the **[System]** → **[Database]** → **[Factory init]** in the main menu, the following window appears.



If you want to initialize the terminal in the factory setting, click **[YES]** button, and if you want to cancel, click **[NO]** or **[X]** button.

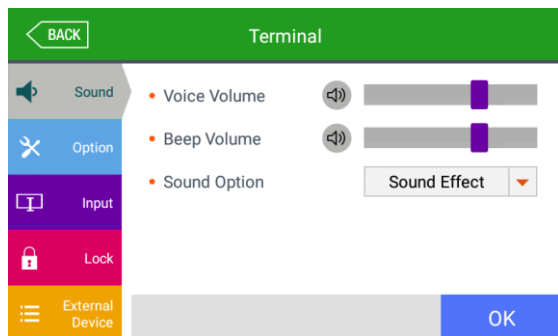
If there is no signal for 5 seconds in this state, the message box disappears without initialization.

If it is deleted successfully by clicking **[YES]**, the success message in <Fig. 3-5> appears, and the display language and voice are changed to the default value of English. All the set value, users and log information except for the MAC address in the terminal makes the terminal as the factory setting. **The restoration after the deletion is impossible, so be careful.**

3.7. Terminal

3.7.1. Sound

If you select the **[Terminal]** → **[Sound]** in the main menu, the following window appears.



▶Basic setting: Same with the window at the left side.

▶Voice Volume

Scroll from side to side in 0~15 degrees to set the voice volume. If you click the [Speaker] button at the right side, the voice is played to check the volume.

▶Beep Volume

Scroll from side to side in 0~3 degrees to set the beep volume. If you click the [Speaker] button at the right side, the beep sound is played to check the volume.

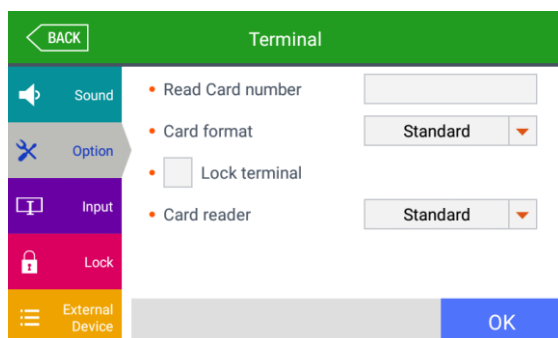
▶Sound Option

- Sound Effect: The sound effect can be output on authentication of success or failure.
- User Voice: If the user wants to change the voice played when the authentication is successful or failed, the user voice can be played if the user copies the sound into terminal and check the option. The method to copy the sound into the terminal can be referred in 3.10 **[SD card]** → **[Theme]** or [3.11.2 How to change voice sound].
- Stored Voice: The stored voice is played on authentication of success of failure.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return. If you want to set another items, click the menu you want to change at the left side.

3.7.2. Option

If you select the **[Terminal]** → **[Option]** in the main menu, the following window appears.



► **Basic setting:** Same with the window at the left side

► **Read Card number:** If the user places the card in this screen, the card number is displayed on the LCD. You can change the **[Card format]** to check the card number according to the set value.

► **Lock terminal:** This function enables the administrator to lock or unlock the terminal directly on the terminal, not on the server program. If it is checked () , none can access due to the lock until the administrator removes the setting.

► **Card reader:** You can set Standard or HID iClass which can be recognized depending the card of set type.

► **Card format**

It determines the representation method of the card number. The card number is changed according to the following settings. So if you have to change the card expression method, you should register the card again.

[RF card example] Card number (5byte): 08h 01h 16h 1Dh D6h

| Card format | Card number | Expression |
|---------------------|-------------|--|
| Standard | 02207638 | (3+5) digits decimal [022(16h)+07638(1DD6h)] |
| Hexadecimal | 0801161DD6 | 10digits hexadecimal |
| 10 Digit Decimal | 0018226646 | Posterior 4byte: 10digits decimal (01161DD6h) |
| 3,5 Digit Decimal | 02207638 | Same with [Standard] |
| 6 Digit Hexadecimal | 161DD6 | Posterior 3byte: 6digits hexadecimal |

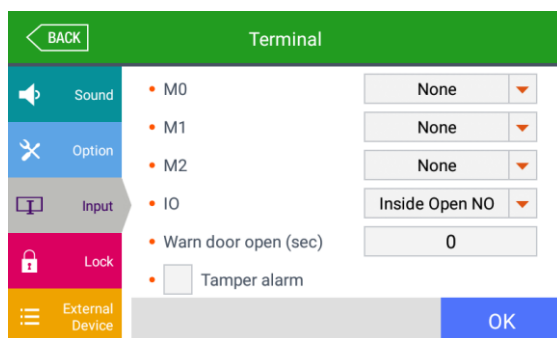
[SC card example] Card number (4byte): 52h 9Dh 06h E3h

| Card format | Card number | Expression |
|---------------------|-------------|--|
| Standard | 529D06E3 | 8 digits hexadecimal |
| Hexadecimal | E3069D52 | 8 digits hexadecimal with changing the order of byte |
| 10 Digit Decimal | 1386022627 | hexadecimal 529D06E3: 10 digits decimal |
| 3,5 Digit Decimal | 3808861522 | hexadecimal E3069D52: 10 digits decimal |
| 6 Digit Hexadecimal | 069D52 | Locate the foremost 3bytes backwards. |

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return.

3.7.3. Input

If you select the **[Terminal]** → **[Input]** in the main menu, the following window appears.



► Basic setting: Same with the window at the left side.

- **M0:** It is set when connecting the external access point to the DM0 (When using motor lock, set **[Door Monitor NO]** or **[Door Monitor NC].**)
 - None: When nothing is connected.
 - Door Monitor NO or Door Monitor NC: When the door open monitoring pin was connected.
 - Fire Monitor NO or Fire Monitor NC: When the fire detection sensor is connected.
 - Panic Monitor NO or Panic Monitor NC: When the panic situation detection sensor is connected.
 - Emergency Monitor NO or Emergency Monitor NC: When the emergency situation detection sensor is connected.
 - Set NO/NC depending on the state of pin input in detection.

- **M1/M2:** Set when connecting the external access point to DM1/DM2 (When using motor lock, set **[Lock Monitor NO]** or **[Lock Monitor NC].**)
 - None: When nothing is connected.
 - Lock Monitor NO or Lock Monitor NC: When the lock monitoring pin was connected.
 - Fire Monitor NO or Fire Monitor NC: When the fire detection sensor is connected.
 - Panic Monitor NO or Panic Monitor NC: When the panic situation detection sensor

is connected.

- Emergency Monitor NO or Emergency Monitor NC: When the emergency situation detection sensor is connected.

→ Set NO/NC according to the state of pin input in detection.

▶ IO: Set when connecting the external access point to the Exit pin.

- None: When nothing is connected
- Inside Open NO or Inside Open NC: When the exit button was connected
- Fire Monitor NO or Fire Monitor NC: When the fire detection sensor is connected.
- Panic Monitor NO or Panic Monitor NC: When the panic situation detection sensor is connected.
- Emergency Monitor NO or Emergency Monitor NC: When the emergency situation detection sensor is connected.

→ Set NO/NC according to the state of pin input in detection

▶ Warn door open (sec)

This is a function that checks the time when the door is opened by the terminal and sounds a warning sound if it is open beyond the set time (0 or minimum 5 seconds to maximum 60 seconds).

If it is set to [0], the warning sound does not sound at all. Even if it is set to [01~04], the warning sound starts to sound after at least 5 seconds have elapsed.

The door must be closed within the set time, but if the door is not closed due to unforeseen circumstances, a beep will sound to inform you that the door has not been closed so that you can take action to close it normally.

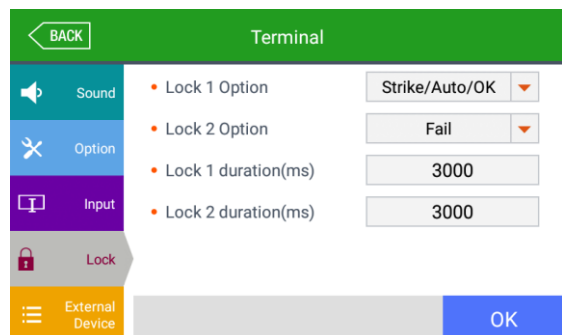
To use this function, the lock must be monitored whether it is currently open or closed, and the monitoring pin of the lock must also be connected to M0. Also, the previous M0 must also be set to [**Door Monitor NO**] or [**Door Monitor NC**].

▶ Tamper alarm

If it is checked() , a warning sound will be played when the terminal is disassembled. Click [**OK**] button to apply the set value, and click [**BACK**] button to cancel and return.

3.7.4. Lock

If you select the [**Terminal**]->[**Lock**] in the main menu, the following windows appears.



▶ Basic setting: Same with the window at the left side.

▶ Lock 1 Option

- None: When it is not used
- Strike/Auto/OK: When the warning light is connected to indicate the strike type, auto door, or authentication success/failure on Lock1.
- Motor Lock 1: When the motor lock is connected.
- Schedule alarm: When the siren setting of the terminal option was sent to the terminal, it sends the operating signal about it.
- Duress alarm: When the fingerprint registered as a duress FP is authenticated

▶ Lock2 Option

- None: When it is not used
- Fail: When connecting the light to Lock 2 to indicate the authentication failure
- Motor Lock 2: When connecting the motor lock
- Schedule alarm: When the siren setting of the terminal option is sent to the terminal, it sends the operating signal about it.
- Duress: When authenticating with the duress fingerprint

▶ Lock 1 duration (ms)

When Lock 1 is set 'Strike/Auto/OK', it determines the signaling time. Because it is set in ms unit, if you want to set 3 seconds, you should set 3000. The strike type means the time until the door is locked again when opening the door after authentication.

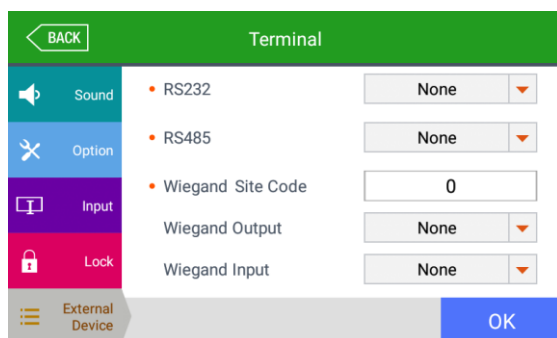
▶ Lock 2 duration (ms)

It sets the signaling time when Lock 2 is set 'Authentication failure notification'.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return. Because it is set in ms unit, if you want to set 3 seconds, you should set 3000.

3.7.5. External Device

If you select the **[Terminal]** → **[External device]** in the main menu, the following window appears.



▶ Basic setting : Same with the window at the left side

▶ RS232: It sets the device connected to RS232 port

- None: When there is no device connected to the RS232 port
- Ticket Format 1/ Ticket Format 2: The authentication result is printed when the authentication is successful. The terminal ID, user ID, authentication time, and

authentication mode are printed by the printer connected to the RS232 port. The printing format differs as per the setting, and when setting as **[Ticket Format 2]** the 'text for meal printer' which is set from the terminal option, becomes the title on the top side. The printer used to print ticket is "SRP-350" serial type model.

- ▶ RS485: It sets the connecting device to RS485 port.
 - None: When there is no device connected to RS485.
 - LC010: When LC010 is connected.
 - LC015: When LC015 is connected

- ▶ Site code
It sets the site code value sent in Wiegand output below.

- ▶ Wiegand Output
It is used only when the special controller is equipped running by the Wiegand input. When the authentication is finished, the data of the following format is sent to the Wiegand port of the terminal.

| | |
|--------|--|
| None | General case. It does not use Wiegand out port. |
| 26bit | Because it sends "Site code [1byte] + User ID [2 bytes]", set the user ID less or equal than 4 digits. Send example) In case of SiteCode:045(2Dh), UID:6543(198Fh) → 1 00101101 0001 1001 10001111 0 |
| 34bit | Because it sends "Site code [1 byte] + User ID [3 bytes]", set the user ID less or equal than 7 digits. But, if the user ID is 8 digits, ignore site code and send only the "User ID [4byte]". Send example) SiteCode:001(1h), UID:123456(1E240h) → 0 00000001 00000001 11100010 01000000 0 |
| Custom | It is set by the user definition, which only can be set in the server, and the setting type only can be inquired in the terminal. |

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return.

3.7.6. ETC.(Thermal)

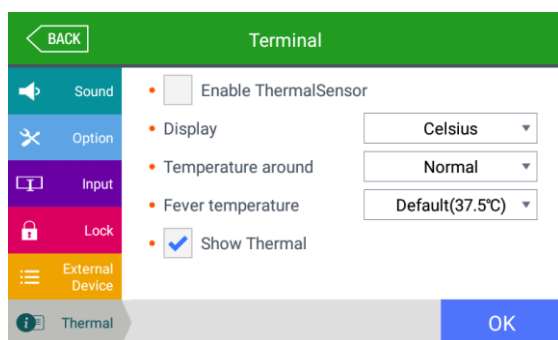
This product is an additional device to primarily check whether or not the skin temperature rises for unspecified people.

Since it is possible to quickly check whether the skin surface temperature of the test target is higher than the normal skin surface temperature, a large number of people can be quickly tested, but since disease or virus cannot be identified, the first selected test target must be tested as a second test through a medical device. Please follow-up by implementing it.

- (1) It is recommended that the sensor and face of the product are installed in parallel.
(If the face is not located in parallel, an error of 1 degree may occur.)

- (2) Errors may occur depending on the type of lighting.
(Errors may occur when incandescent lamps / halogens / quartz / tungsten are installed.)
- (3) If there are accessories or obstacles covering your face, errors may occur. (Glasses / Hats / When the bangs cover the forehead / Headband, etc.)
- (4) Please move an object that can reflect infrared rays on the background staring at the product's sensor. (Glass / Mirror / Metal surface, etc.)
- (5) If there are some air conditioners or heaters and etc. in the installed place, errors may occur.
(Errors occur in the case of air conditioners or near blowers for air conditioning in buildings.)
- (6) It is recommended to install and operate within the temperature range of 20 to 24 degrees / 10% to 50% humidity.
- (7) It is recommended that only one person detects fever at a time.
- (8) For accurate temperature measurement, it is recommended to use black body together.

If you select [**Terminal**] -> [**Thermal**] in the main screen, the following window appears. This menu sets the thermal sensor or thermal imaging camera only when you use it.



► **Default setting:** Same as left picture

► **Enable ThermalSensor**

When checking () this option, you can use the thermal sensor.

► **Display**

Select how temperature is displayed in the authentication results window.

- Celsius: Displays the measured temperature in degrees Celsius.
- Fahrenheit: Displays the measured temperature in Fahrenheit.
- None : The temperature is not displayed, only the exothermic detection is indicated.

► **Temperature around**

- Normal: Used for measurements at typical temperatures.
- High: Used to measure temperature in hot places.
- Low: Used to measure temperature in cold place.

► **Fever temperature**

The fever temperature reference is available between 37.0°C and 38.5°C.

If the measured temperature is higher than the exothermic temperature reference, it is treated as a certification failure

► **Show thermal**

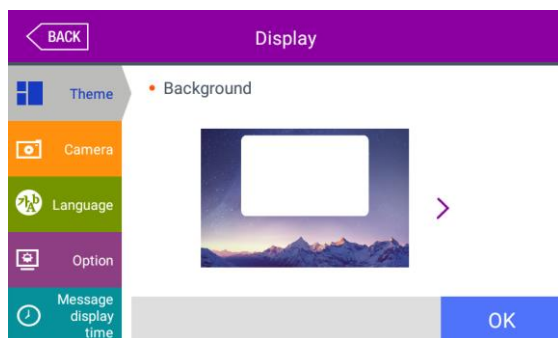
If it is checked(), displays the Preview image of the thermal imaging camera in the lower right corner of the main screen.

Click [**OK**] button to apply the set value, and click [**BACK**] button to cancel and return.

3.8. Display

3.8.1. Theme

If you select **[Display] → [Theme]** in the main menu, the following window appears.



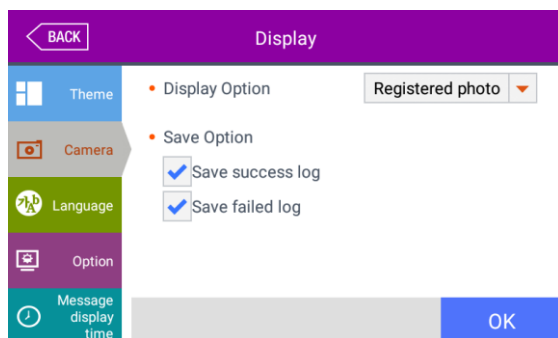
►Basic setting: Same with the window at the left side

►Background
Set the back ground in the main screen.
Select [>] button to see the next image.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return. If you want to set other items, select the button for that item.

3.8.2. Camera

If you select the **[Display] → [Camera]** in the main menu, the following window appears.



►Basic setting: Same with the window at the left side

►Display Option
Select the image displayed in the message window of authentication success
- None
- Registered photo
- Authentication method: Image stands for each authentication method

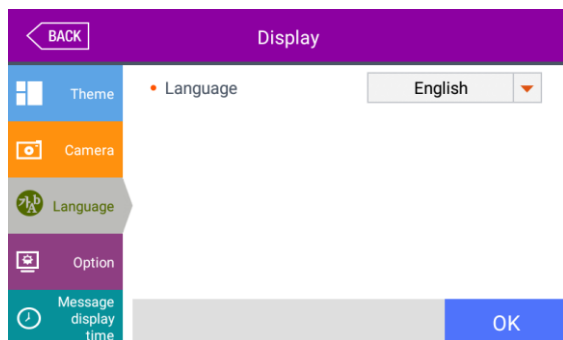
►Save success log
If it is checked () , the camera image is captured as image log when the authentication was successful.

►Save failed log
When it is checked () , the camera image is captured as image log when the authentication was failed.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return.

3.8.3. Language

If you select the **[Display] → [Language]** in the main menu, the following window appears.



▶ Basic setting: 'English'

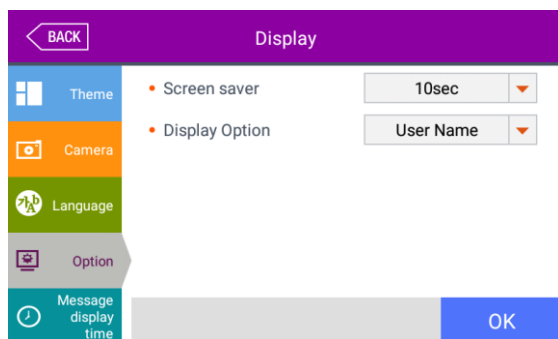
▶ Language
If you change the language and click **[OK]** button, the voice message and language are changed to the set language.

If you want to cancel and move to the upper menu, click **[BACK]** button.

※ Supported languages
English, Korean, Japanese, Portuguese, Chinese(Traditional), French, Chinese(Simplified), Spanish, Polish, Persian, German

3.8.4. Option

If you select **[Display] → [Option]** in the main menu, the following window appears.



▶ Basic setting: Same with the window at the left side.

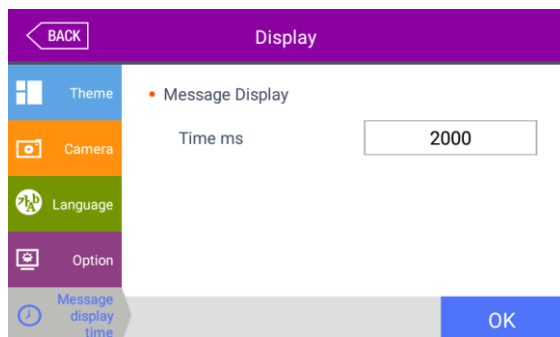
▶ Screen saver (5sec ~ 10min))
If there is no input for set duration, the LCD screen is turned off automatically. But, if you set 'None' in **[Screen saver]** is always turned on.

- ▶ Display Option
It sets what will be shown at the LCD screen when the authentication succeeds
 - None: The authentication result [Success/Failure] is only represented.
 - User ID
 - User Name: Representing user ID if it is not registered. (In this case, added "ID" in order to differentiate with name)
 - Social No: Representing user ID if it is not registered. (In this case, added "ID" in order to differentiate with employee's number)

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return.

3.8.5. Message display time

If you select the **[Display]** → **[Message display time]** in the main menu, the following window appears.



►Basic setting: Same with the window at the left side.

►Message Display (ms)

It sets the time that the authentication window is displayed.

0~5000 is available for the value, and the authentication result window appeared and disappear for the duration.

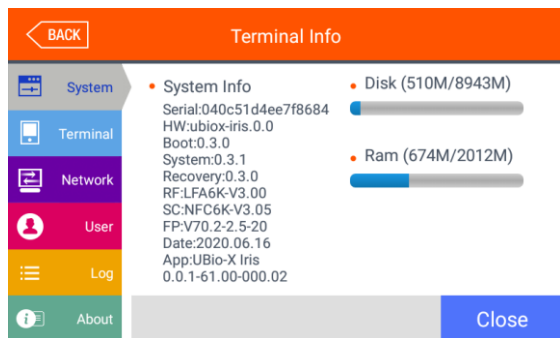
Because it is set in millisecond, if you want to set 2 seconds, you should set 2000.

Click **[OK]** button to apply the set value, and click **[BACK]** button to cancel and return.

3.9. Terminal Info

3.9.1. System

If you select the **[Terminal info]** → **[System]** in the main menu, the following window appears.



►System info

The hardware and firmware version of terminal is shown.

►Disk (using size / Total size)

It shows the using size of the hard disk. If the using size is high, it is represented in red.

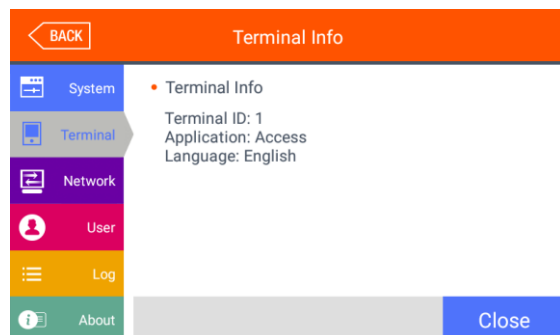
►Ram (using size / Total size)

The using size of RAM among the all size is represented. If the using size is high, it is represented in red.

Click **[BACK]** button to finish the inquiry and move to the previous menu. Click the menu on the left side to inquire additional item.

3.9.2. Terminal

If you click the **[Terminal info]** → **[Terminal]** in the main menu, the following window appears.

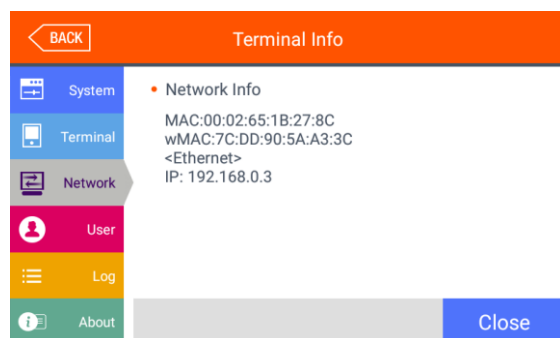


► **Terminal info**
It represents the option setting value of the terminal.

Click **[Close]** or **[BACK]** button to finish the inquiry and move to the upper menu.

3.9.3. Network

If you select the **[Terminal info]** → **[Network]** in the main menu, the following window appears.

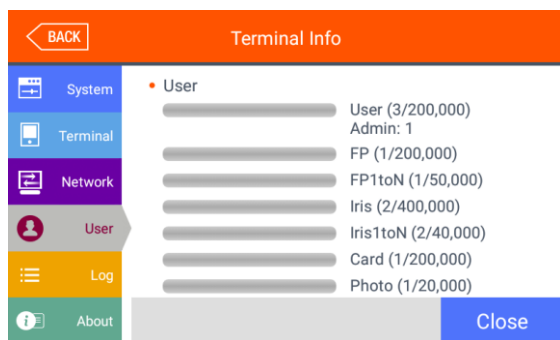


► **Network info**
It shows the setting value of the terminal.

If you want to finish the inquiry and move to the previous menu, click **[Close]** or **[BACK]** button.

3.9.4. User

If you select the **[Terminal info]**->**[User]** in the main menu, the following window appears.

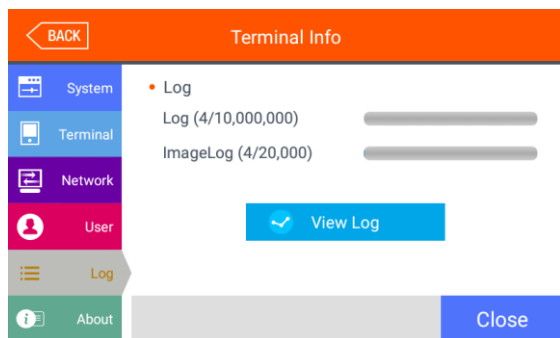


- ▶ User
 - User: The number of users registered (including administrator)
 - Admin: The number of the administrators registered.
 - FP: The number of all the fingerprints registered.
 - FP 1toN: The number of fingerprints which can be authorized by 1:N
 - Iris: The number of registered irises
 - Iris1toN: The number of iris available for 1:N authentication
 - Card: The number of cards registered
 - Photo: The number of users who registered the picture
- ※ **Max is the maximum number of registration for each item.**

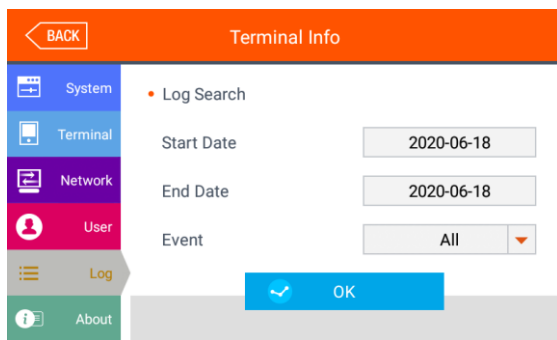
Click the **[Close]** or **[BACK]** button to finish the inquiry and move to the upper menu.

3.9.5. Log

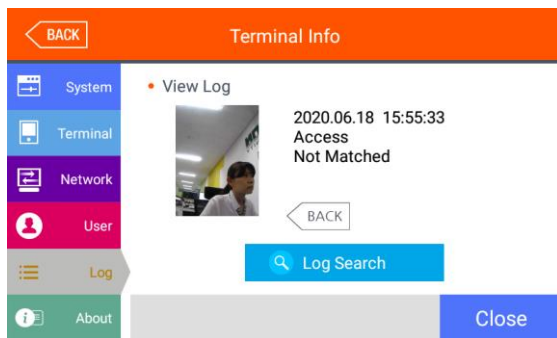
If you select the **[Terminal info]** → **[Log]** in the main menu, the following window appears.



- ▶ Log
 - Log: The number of logs saved in the terminal
 - Image Log: The number of image logs saved in the terminal.
- (Max means the maximum number of items which can be saved in each item.)
- ▶View Log
 - Displays log time and authentication result.



► **Log Search**
 To search log, follow the following steps, **[Terminal Info] → [Log] → [View Log] → [Log Search]**.
 And then set the Start Date, End Date and Event criteria and click **[OK]**.

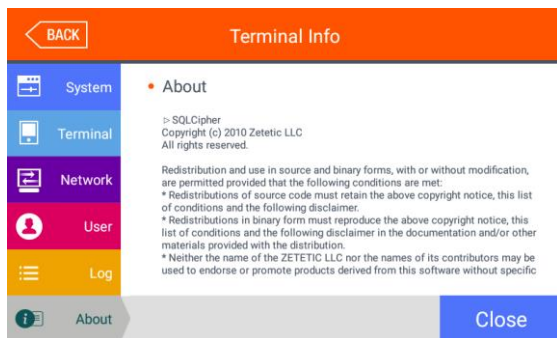


► **View Log**
 Log search result shows the information such as the date, time, ID and access result (success or failure).
 Click **[BACK]** or **[NEXT]** button to see the search information.

If you want to finish the inquiry and move to the previous menu, click **[Close]** or **[BACK]** button.

3.9.6. About

If you select the **[Terminal info] -> [About]** in the main menu, the following window appears.

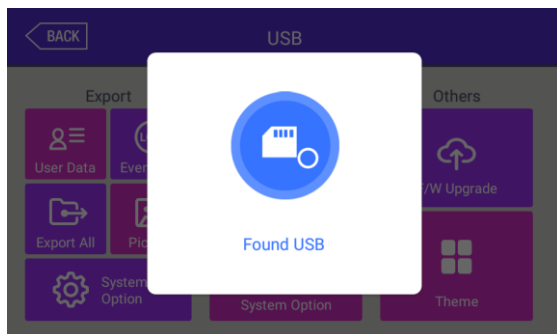


► **About**
 It shows the license information applied in the terminal.

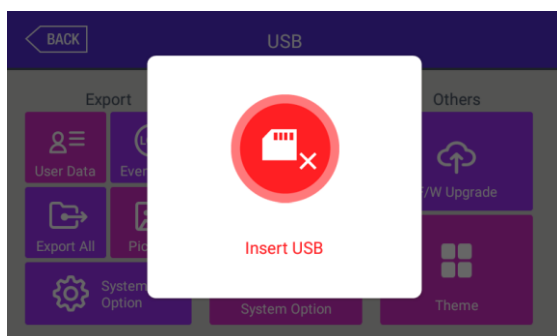
If you want to finish the inquiry and move to the previous menu, click **[Close]** or **[BACK]** button.

3.10. USB

If you select **[USB]** in the main menu, the following screen appears.

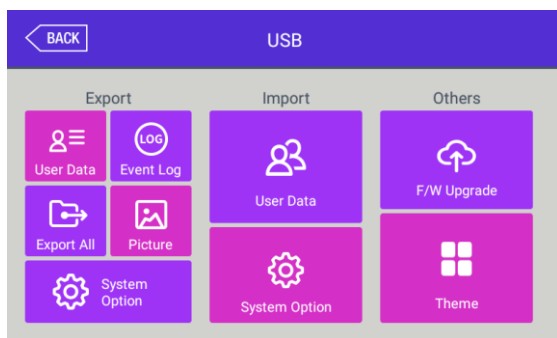


<When USB memory is inserted>



<When USB memory is not inserted>

※ **This operation is available only when USB memory is inserted. In case of some USB memory, since it cannot be recognized, please use the other USB memory in this case.**



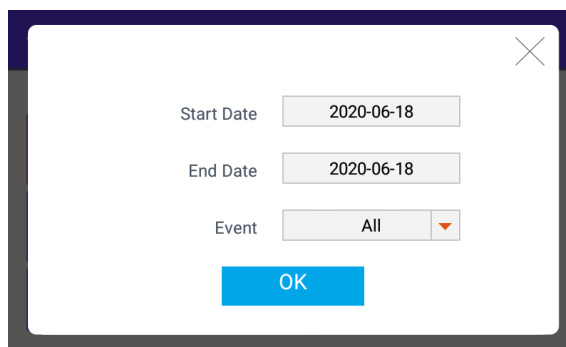
It is the feature to back up the data of the terminal via **[Export]**. You can copy the back-up data to the terminal via **[Import]**.

▶ **Export**

It copies the data from the terminal to the USB memory

- User Data: It copies the user DB to the folder 'unisuser' of USB memory.
- System Option: It copies the option setting values of the terminal to the folder of 'UbioXiris/config'.
- Event Log: It copies the authentication log DB to the folder of 'UbioXiris/Terminal ID (8 digits) /log' folder, (At this time, it doesn't copy the image log.)

It can set the period to copy the event log.



- Picture: The image log is saved in the folder of 'UbioXiris/Terminal ID (8 digits)/log/pictures' in USB memory as .jpg file.
- Export All: It can export all of them, specifically the user data, system option, event log to the folder of USB memory.

► Import

It copies the data from the USB memory to the terminal.

- User Data: It copies the user DB from the USB memory to the folder 'unisuser' in the terminal.
- System Option: The option setting value of the terminal is copied to the folder 'UbioXiris/config' folder in the terminal.

After importing the data, you should reboot the terminal to apply the new DB or setting value.

► Others

- Theme: The voice file in the 'UbioXiris/audio' folder in the SD card is copied to the terminal.

If you want to replace the authentication success (user_ok.mp3) and the authentication fail (user_fail.mp3) message with the user voice, set the name of the user voice file as (user_ok.mp3) and (user_fail.mp3) each which the user voice will play. And also the checkbox "User Voice" on [3.7.1. Sound] should be checked.

- F/W Upgrade: It upgrades the FW from USB memory.
(The firmware should be in 'UbioXiris' folder from USB memory.)

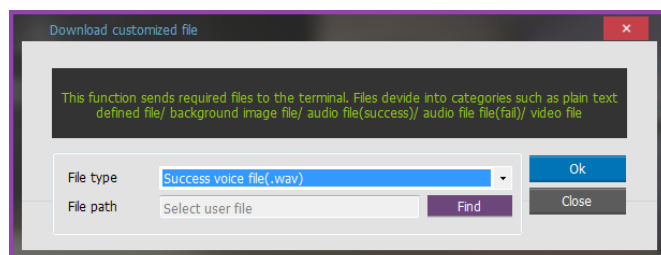
If you finished this operation and move to the previous menu, select **[OK]** or **[BACK]** button.

3.11. Download the user file

If needed, it is the feature that the user can change the background and voice message. You can copy it by using USB memory or change the user file by downloading it from UNIS server program.

3.11.1. Change the voice message

If you select the 'Download customized file' in the UNIS program, the following window appears.



If you select 'Success Voice File (.wav)' as the file type and click 'Send' button after selecting the sound file (.wav or mp3), the terminal selecting window appears. If you select the terminal in the terminal list window and click the 'Send' button again, the file is sent and the result of download appears.

In this time, the file name should be less than 15 letters (English, 15byte) including extension and mp3 format.

In case of 'Fail Voice File (.wav)', you can set 'Fail Voice File (.wav)' and change as same method above.

If you want to change back to the basic sound from the user's sound, uncheck the checkbox 'User Voice' at the 3.7.1 [**Terminal**] → [**Sound**].

4. How to use the terminal

The background image and composition of the basic window can be changed depending on the administrator's setting. In addition, if the administrator sets the screen saver time, the LCD screen is turned off automatically if there is no action for set time, and when the user accessed to the terminal, tried the authentication with fingerprint/card, or touched the main screen, the LCD screen is automatically activated.

4.1. How to change Auth mode





<Fig. 4-1>

Select the function key button among Attend **[F1]**, Leave **[F2]**, Out **[F3]**, and In **[F4]** button to change the auth mode as you want.

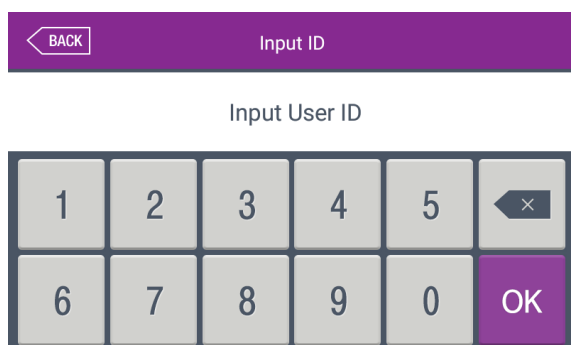
The current auth mode can be checked as the button status below.

If there isn't the selected mode button as <Fig. 4-1>, it is the access mode.

| | |
|---|---------------------------------|
|  | The status that is not selected |
|  | The status that is selected |

4.2. How to input the user ID

If you click the button **[ID]** on the basic window, following the window "Input User ID" as below.



Enter the user ID to authenticate and click **[OK]** button, then the input screen of fingerprint, iris, card or password is displayed.

4.3. Authentication

4.3.1. Iris authentication

▶ 1:N Authentication (Identification)

Locate your eyes in the LCD guideline until the guideline changes to blue. And when it turns blue, stare at the camera and pause for a moment to try authentication.

▶ 1:1 Authentication (Verification)

As shown in the following figure, enter your ID first by clicking **[Input ID]** button, and when the iris input message appears, locate your eyes until the LCD guideline is turned blue, and stare at the camera and stop moving. If the input is not available, the message box is changed to gray and 1:1 authentication is cancelled.



4.3.2. Fingerprint authentication

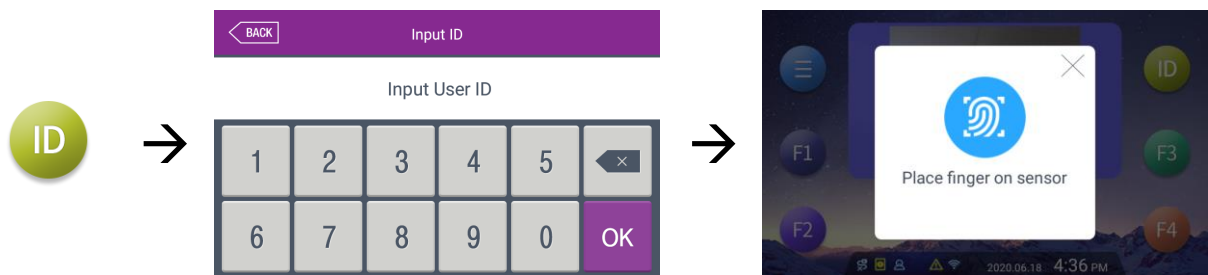
▶ 1:N Authentication (Identification)

If you put your fingerprint on the fingerprint sensor at the basic window, the fingerprint is entered with the light on the sensor with beeping. Do not take off your finger until the light of the sensor turns off completely.

▶ 1:1 Authentication (Verification)

As shown in the following figure, enter your ID first by clicking the **[Input ID]** button, and input your fingerprint when the fingerprint entering window appears and the light is turned on at the fingerprint sensor.

Do not take off your finger until the light of the sensor turns off completely.



4.3.3. Card authentication

Place the card on the card picture <Fig. 4-1>.

4.3.4. Password authentication

Input your ID by clicking **[ID input]** button as follows and input the password when the password input window appears.



4.3.5. Multi authentication

For the user who needs to authenticate more than 2 methods such as Card & FP and Card & FP & Iris, the preferential precedence of the authentication after ID is as follows: Card -> Fingerprint -> Iris -> Password in order. This is activated even if the iris or fingerprint authenticates firstly.

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