M2000 Facial Recognition Terminal

User Manual

Original operating instructions Version 1.1 / 12-2014 EN

General Notice

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This manual describes M2000 facial recognition terminal
in detail and contains full operating instructions.

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0. About this document

Validity

These instructions are valid for the M2000 Facial Recognition Terminal.

Target group

The target group for this document comprises the terminal operator and technical personnel.

Content and purpose

These user manual describe the M2000 facial recognition terminal installation and operation information to users.

Supplementary documents

N/A

Abbreviations

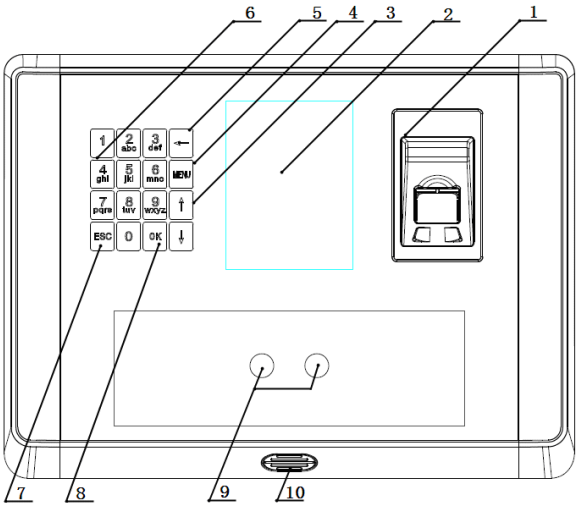
Hanvon	Hanwang Technology Co., Ltd Brand
Face ID	Hanwang Technology Co., Ltd Brand
M2000	M2000 Facial Recognition Terminal

Danger categories and warning symbols

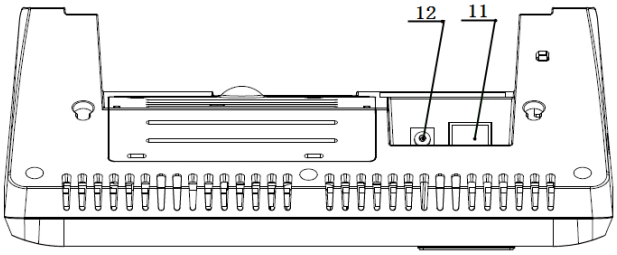
	DANGER
⚠	Danger Operation!
	NOTE
ℹ	Application tips, useful information

1. Product Features

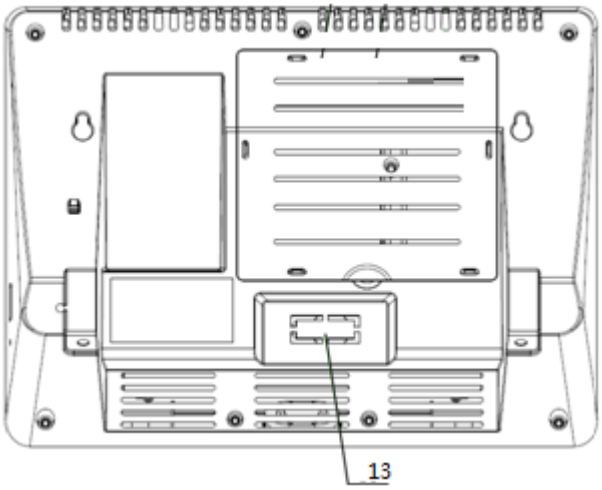
2.1 Appearance View



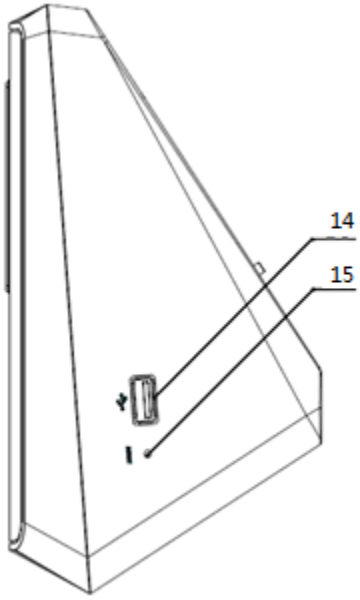
1. Fingerprint Reader
2. Display
3. Button: Previous or next field
4. Button: Main function menu
5. Button: Backspace and delete
6. Button: Digital Keypad
7. Button: Cancel button
8. Button: Confirm button
9. Camera
10. Loudspeaker



11. Power Adaptor Port
12. Network Cable Port



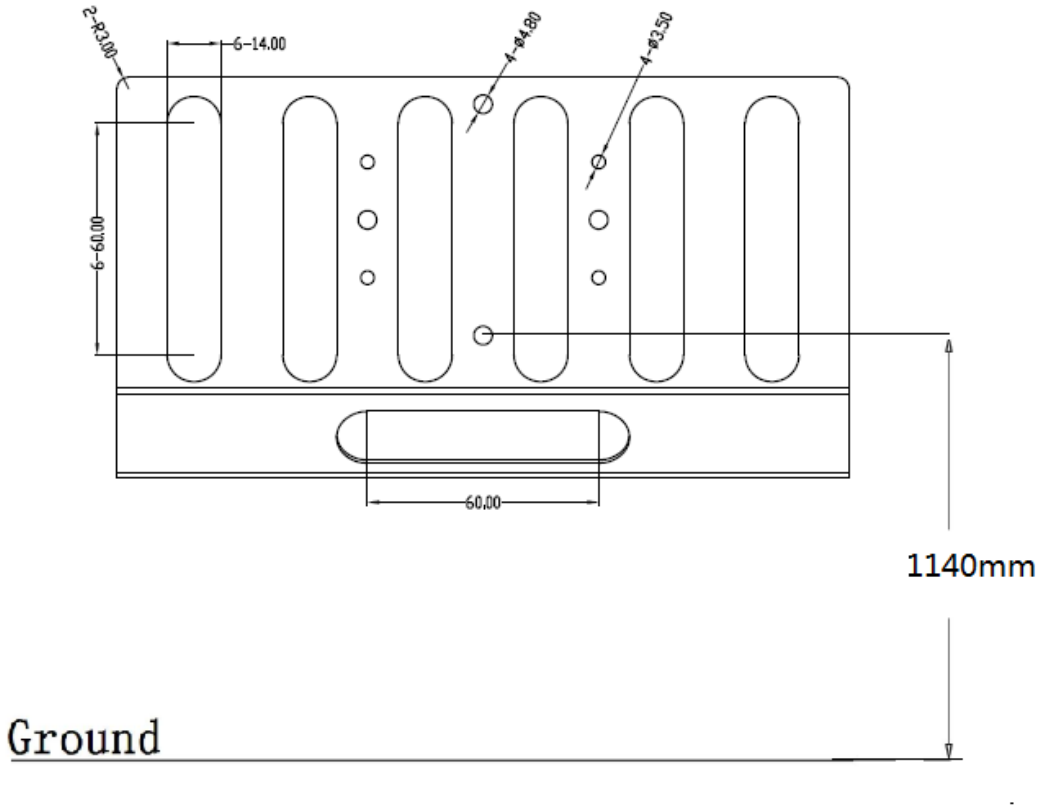
13. Connection Port

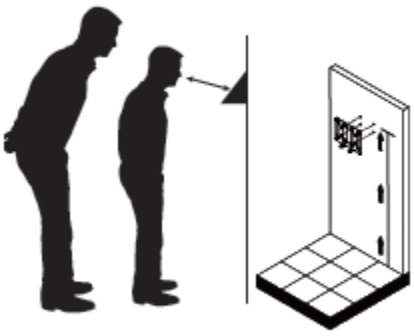


14. USB Socket(Just for data transmission)

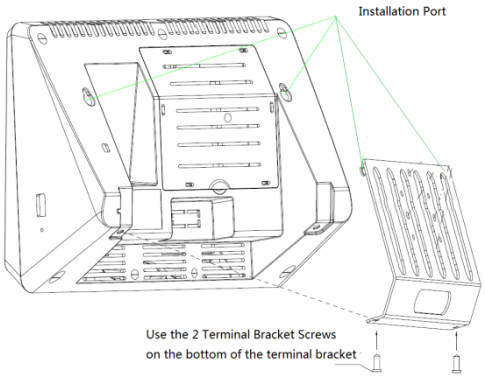
15. Reset Button

2.2 Installation Guide



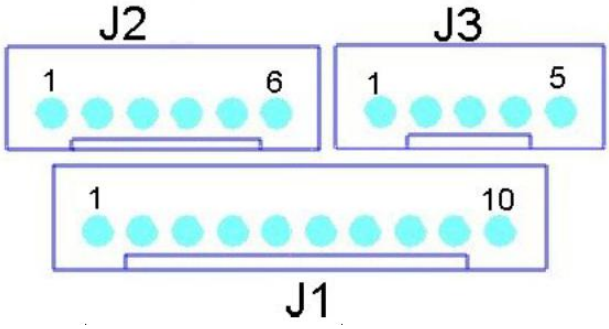


User can drill the holes according to the mounting diagram. Use the 4 wall mount, screws to mount the bracket to the wall.
User also could mount the terminal by choosing your “shortest” users and have them stand in front of the device.
Hold the terminal on the wall that employee can comfortably center their face in the LCD display window.



Use the 2 bracket screws on the bottom of the bracket. Align the terminal with the pairs on the mounting-plate and secure the two together with the 2 Philips head screws. Be careful not to pinch the AC cord. When finished, plug the Power Adapter into the AC wall outlet.

2.3 Connection Port



PIN	Definition	Feature
J1.1	VC12V	12V Power Supply
J1.2	GND	Ground
J1.3	LOCK_NO	Door Lock
J1.4	LOCK_COM	
J1.5	LOCK_NC	
J1.6	DOORSENSOR	Door Magnetic Detection
J1.7	GND	Ground
J1.8	DOORSWITCH	Door Switch
J1.9	COM 2	Alarm/Bell Output
J1.10	NO 2	
PIN	**Definition**	**Feature**
J2.1	WGD0_IN	Weigand Input(Need Customized)
J2.2	WGD1_IN	
J2.3	GND	Ground
J2.4	GND	
J2.5	SPK+	Audio Output
J2.6	SPK-	
PIN	**Definition**	**Feature**
J3.1	WGD0_OUT	Weigand Output
J3.2	WGD1_OUT	
J3.3	GND	Ground
J3.4	GND	
J3.5	BEEP	Buzzer

2.4 Power up terminal

Select a proper language when the terminal boot first time. The terminal will provide several language options for customers:

- English
- Spanish
- Korean
- Turkish
- Japanese
- **-------**

2. Operating Guide

3.1 Admin. Management

➢ Admin. Management Main Menu

- If no admin. in system, then press **<MENU>** to enter the main menu.
- If there has enrolled admin. in system, then press **<MENU>** to enter admin. verifying process. While the verification is correct, then the system enter to the main menu.
- Press **<↑/↓>**to move selection to **<Set Admin>**, and press **<OK>** to enter into admin. menu.

Press 1-7 digital buttons on the keypad to enter the corresponding functions directly.

➢ Set Admin.

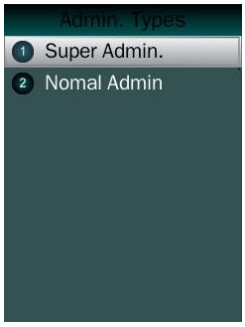
- There are total 8 admin. accounts. A **<Null Admin.>** sign will display for unset admin. accounts. Choose a **<Null>** account to register an admin.

- Input Admin. ID: Input an ID for admin. If the ID is in the database, then the terminal displays admin.'s name.

Admin ID uses natural sequence numbers.
Admin.ID can't be duplicated and start with "0".

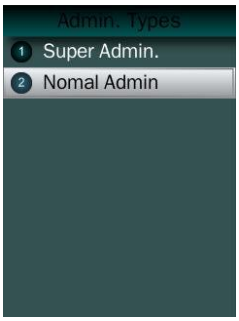
- Input Admin. Name: Press **<MENU>** to switch character inputting mode between **<Upper Case>, <Lower Case>** and **<Digital>.**

➢ Admin. Types



- Super Admin. can operate all functions and normal administrators.

⚠ The first administrator must be super admin and can't be deleted in system.



- Normal Admin. can operate User/Data/USB Management function, check system info. and auto test function.

- Verification modes:
  - **ID and Pin:** Use ID and password sequentially as a verification method.
  - **ID and Face:** Use ID and face sequentially as a verification method.
  - **Card and Face:** Use card and face sequentially as a verification method.
  - **Card:** Use card as a verification method.

- Add as an User: Press **[OK]** to make the admin. as an user. If don't, please check **[ESC].**

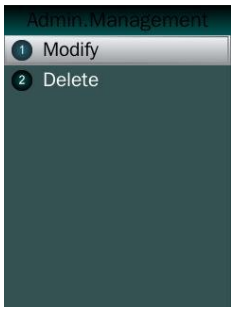
- If add as an user, please select the user privilege mode:
  - **Access & Attendance:** The terminal is used for access control and time attendance with relay output.
  - **Attendance:** The terminal is only used for time attendance without relay output.

- User Photo: Press **[OK]** to capture a photo for the user. If don't, please check **[ESC].**

➢ Admin Verification

- After set an admin. account, then press **<MENU>** to activate admin verification process.
- Input admin. ID (or using registered RFID card)
- Input corresponding password or using face verification, according to the mode during admin registration, after verification is successful, then the system enter to the main menu.

➢ Modify & Delete Admin account

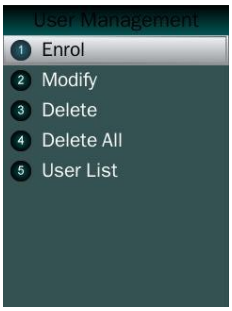


- Select a registered admin. account to modify or delete this account.
- Modify admin. name
- Change verification mode:
- Modify password
- Re-enroll face template
- Re-register RFID card

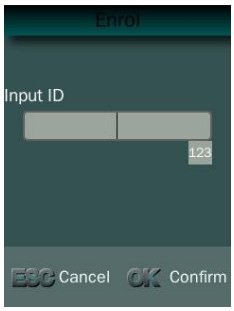
⚠ Delete the certain admin. account: If only one registered admin. account with in the system, then it will be banned to delete.

3.2 User Management

➢ User Management Main Menu



➢ User Enroll



- Input User ID

⚠ The range of User ID is from 1-99,999,999,999,999.

- Input name

ℹ Press to **<MENU>** will switch character inputing mode between **<Upper Case> <Lower Case>** and **<Digital>.**

⚠ User Name can contain 18-bit characters totally.

- Select a verification mode

- **Face:** Use face as a verification method.
- **Face and FP:** Use face and fingerprint as a verification method
- **Face or FP:** Use face or fingerprint as a verification method
- **Fingerprint:** Use fingerprint as a verification method
- **Card and Face:** Use card and face sequentially as a verification method.
- **Card or Face:** Use card or face separately as a verification method.
- **Card:** Use card as a verification method.
- **Card and Photo**: Use card as a verification method, and takes a picture after successful verification.
- **ID and Pin:** Use ID and password sequentially as a verification method.

- Select a privilege
  - **Access & Attendance:** The terminal is used for access control and time attendance with relay output.
  - **Attendance:** The terminal is only used for time attendance without relay output.

- User Photo: Press **[OK]** to capture a photo for the user. If don't, please check **[ESC].**

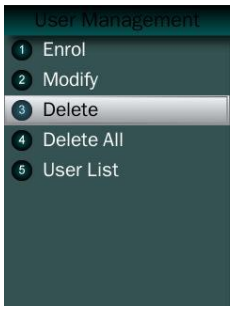
- User registering finished.

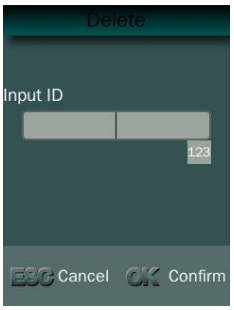
➢ Modify User

- Input User ID

- Following the procedure to change **<user name>**, **<verification mode>** and **<privilege>**.

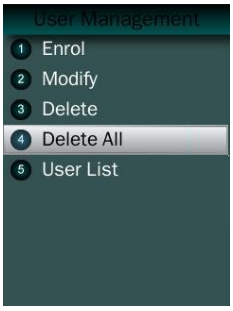
➢ Delete User

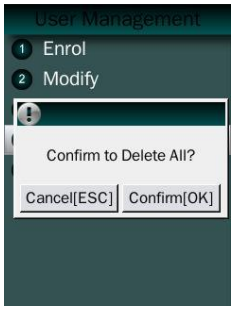




- Input an User ID
- Press **[OK]** (or **[ESC]**) to confirm (or cancel) this process.

➢ Delete All Users



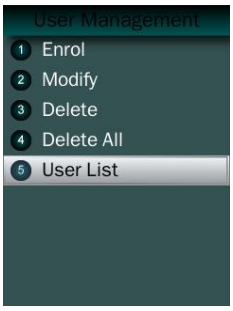


- Press **[OK]** (or **[ESC]**) to confirm (or cancel) this process.

All user's ID, name and templates will be erased.

This step is irreversible. Not affect Admin data and records.

➢ User List



- Enter user list to check Un-enrolled and Enrolled list.
- Press **[OK]** (or **[ESC]**) to confirm (or cancel) this process.

3. 3 Data Management

➢ Data Management Main Menu

➢ Record Management

- Record Inquiry: User records can be inquiry by User ID/Name.

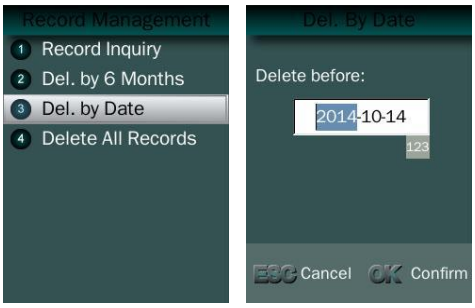
- Select a search mode to inquiry user records.

- Select inquiry duration: 1 day/6 days /All records / from start date to end.

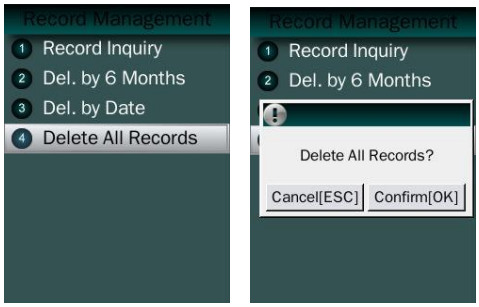
- Del. by 6 months

⚠ Before 6 months records will be erased. This step is irreversible.

ℹ Backup all user data before doing this step.



- Del. by Date: Input the delete time.



- Delete All Records

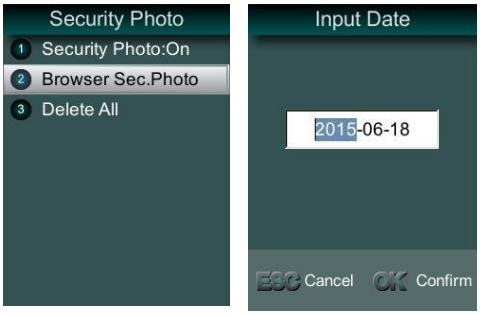
⚠ All records will be erased. This step is irreversible.

ℹ Backup all user data before doing this step.

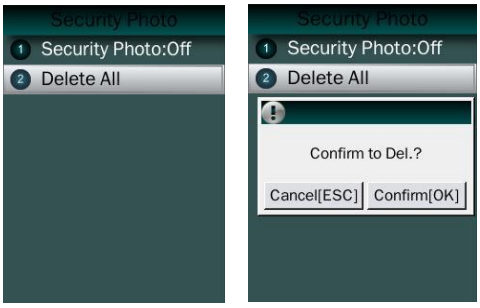
➢ Security Photo

- Security Photo Switch: Turn on / off security photos function.

ℹ Default switch is off.



- Security Photo Browser Switch: User can input the date to browser the security photo.



- Delete All

⚠ All security photos will be erased. This step is irreversible.

ℹ Backup all user data before doing this step.

3.4 USB Management

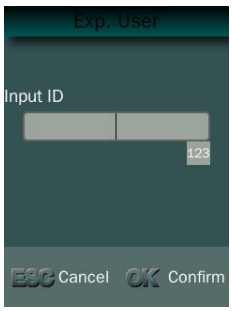
➢ USB Management Main Menu

⚠ Don't remove USB Disk while data transferring.

ℹ Try other USB Disk, if the terminal doesn't recognize it.

➢ Export Management

- Exp. Admin.: Export all admin. data into a file which named as "MANAGER.TXT "



- Exp. Part Users: Export part user's data into a file which named "USER.TXT"

- Exp. All Users: Export data of all users.

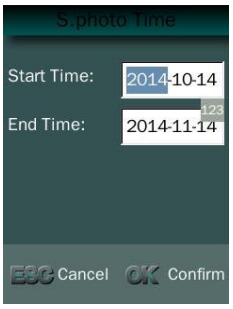
ℹ Data is stored into a "USERALL.TXT" file.

- Exp. All Records: Export all user records into a file, which named as "TIME+SN".TXT.

ℹ For example, TIME063.TXT, "063" is the last 3 bits of SN of the terminal.

- Exp. Admin. Log: Export all admin operating logs.

Data is stored into a “LOG.TXT” file.



- Exp. Security photos: Set a time duration of exporting security photos

Security photos are saved in <security> folder

- Exp. Config. File: Export terminal configuration file into a file, which named as “sys.dat”.

➢ Import Management

- Import admin
  Import all administrators data from MANAGER.TXT file on an USB Disk into the terminal.
- Import Part Users
  Import all users data from USER.TXT file on an USB Disk into the terminal.
- Import All Users
  Import all users data from USERALL.TXT file on an USB Disk into the terminal.
- Import User List
  Import all ID and name information of users from USERLIST.TXT file on an USB Disk into the terminal.

It is a shortcut way to add user ID and name for a terminal before registration process. The contents of USERLIST.TXT file are list of <ID>+<TAB Key> + <Name>.

The range of user ID is from 1-99,999,999,999,999.

- Import work code
  Import all work code data from WORKCODE.TXT file on a USB Disk into the terminal.

The contents of WORKCODE.TXT file are list of <ID> + <TAB Key> + <Work Code>.

The range of work code ID is from 1-99,999,999.

- Import work status

  Import all work status data from WORKSTATUS.TXT file on a USB Disk into the terminal.

The contents of STATUS.TXT file are list of <ID> + <TAB Key> + <Work Status>.

The range of work status ID is from 1-255.

- Import Config. File

  Import terminal configuration file from sys.dat file on a USB Disk into the terminal.

➢ Set Wallpaper

- Update the new wallpaper on a terminal.

  240 * 320pix BMP/JPG file, and named to <idlepicture.bmp> or <idlepicture.jpg>.

➢ Set Prompt Audio

- Update Successful and Failed prompt audio on a terminal.

  PCM, 16000Hz, 16bit, stereo wave file, and named to <granted.wav> and <deny.wav>

  Keep audio length less than 1 second.

➢ Firmware Upgrade

- Upgrade a new firmware for a terminal.

  Firmware files are <M2000.BIN> and <M2000.TXT>

3.5 System Settings

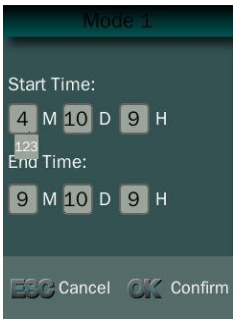
➢ System Main Menu

➢ Basic

➢ Date and Time

- Date and Time: System date and time can be set with this function.

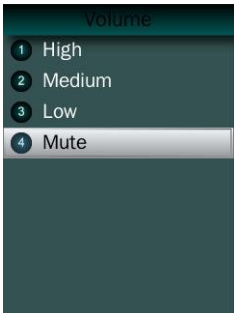
- Date Format: System date format can be set in 9 formats.



Daylight Saving: Set daylight saving time. Select proper DST format according to DST rule of your region. Month-Day-Hour: DST time starts on 01:00 AM May. 1st, and ends at 03:00 AM Oct. 2nd

ℹ Default is off.

➢ Volume



- Set Volume: terminal support 4 modes to customers.

ℹ The default is medium.

➢ Head Photo Switch

- Photo ID Switch

  Switch On: Users head photo will display on the screen when the user verified successful.

  Switch Off: Users head photo will not display on the screen when user verified successful.

➢ Communication

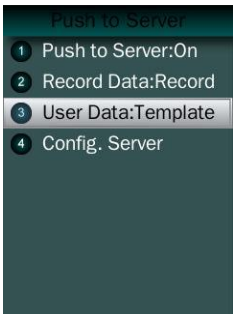
- Communication: Network and Wiegand setting.

- Network -Push to sever

1. Push to sever Switch: On/OFF

The default is off.

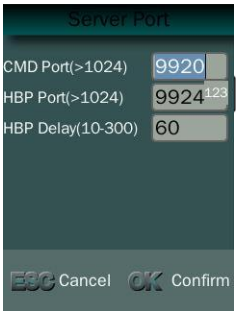
2. Record Data Switch: User can select record data/record+security photo data be pushed to the server.



3. User Data Switch: User can select user template data/user template+head photo data be pushed to the server.

4. Server configuration: User needs to set IP address and port of server.

The default IP address is 192.168.0.3.

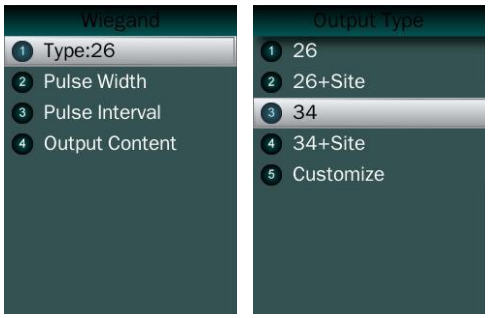


The default CMD/HBP port is 9920/9924.

The default HBP Delay is 60.

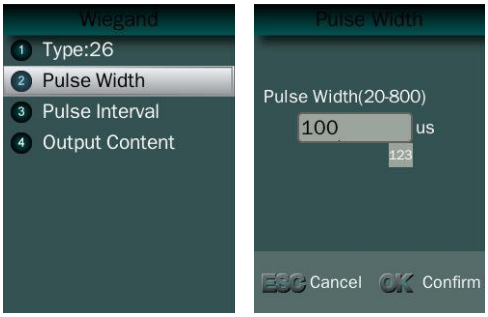
The port parameters have to more than 1024. The HBP delay range is 10~300.

➢ Communication -Wiegand Output



- Wiegand Output-Type: System supports standard Wiegand protocol output on the follow list.

ℹ The default type is Wiegand output 26.

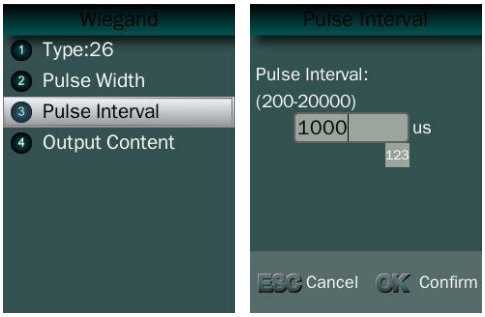


- Wiegand Output-Pulse Width

Set proper pulse width for wiegand output to match the external wiegand input terminal.

ℹ The default Pulse Width is 100 us.

⚠ The pulse width range is 20~8000 us.

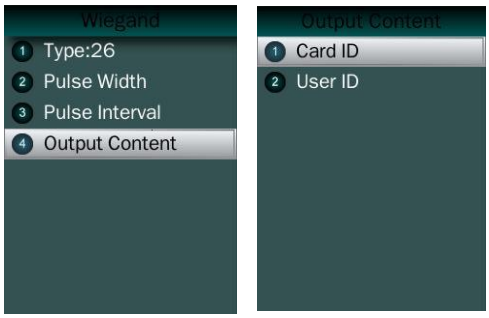


- Wiegand Output-Pulse Interval

Set proper pulse interval for wiegand output to match the external wiegand input terminal.

ℹ The default Pulse Interval is 1000 us.

⚠ The interval range is 200~20000us.

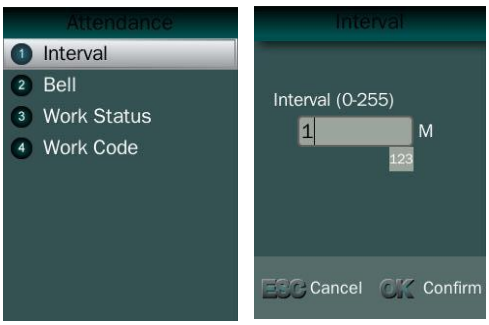


- Wiegand Output-Content

The user can set Weigand output content with Card ID or User ID.

➢ Attendance

➢ Attendance -Interval

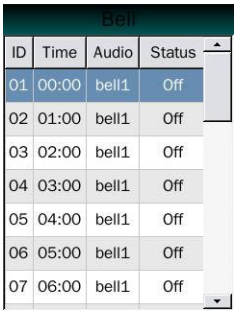


- Interval: Only the first record will be saved while several records created by the same user during defined interval time.

ℹ The default Interval is 1 minute.

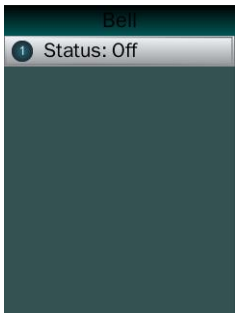
⚠ The interval range is 0~255 minutes.

➢ Attendance – Bell



- Bell: User can select the attendance bell on the list.

ℹ System supports 24 bell groups.



- Bell Status Switch.

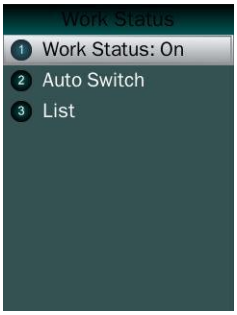
ℹ The default is off.

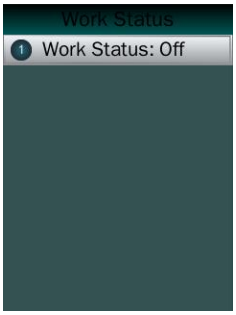
- Edit Bell Time: User can set bell time on/off from Monday to Sunday.

ℹ The default is 1-1-1-1-1-1-1, (1=On, 0=Off)

- Bell Audio: System supports 7 groups audio.

➢ Attendance – Work Status

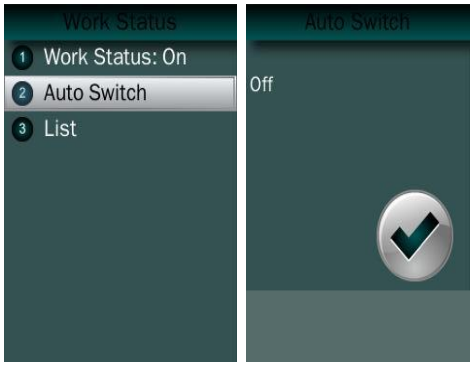




- Work Status: It is defined to mark the work status related to each record such as in, out, overtime in, overtime out.

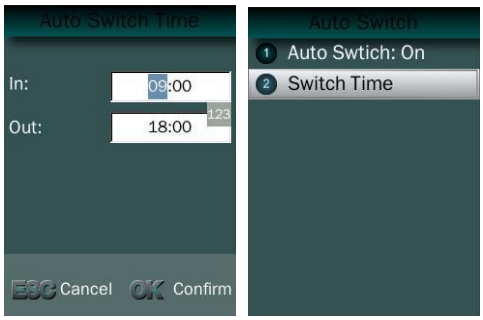
ℹ The default is off.

⚠ If Work Status is on, user could select the desired work status by pressing down key**<↑/↓>** or just finish the verification if desired work status displaying on screen.



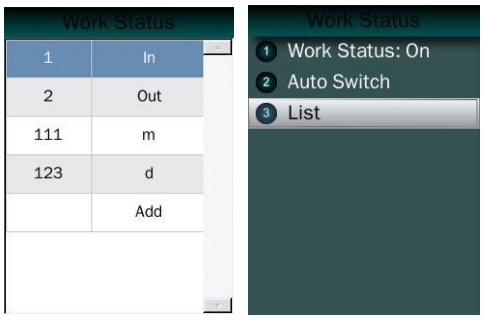
- Auto Switch: It is defined to display the work status automatically according to the time that set.

For example, if the time of work status “in” set as 9:00 and work status “out” set as 18:00, the work status “in” will be displayed automatically when time reach 9:00 till time reach 18:00, the work status “out” will be displayed automatically when time reach 18:00 till time reach 9:00 in next day. The default is off.

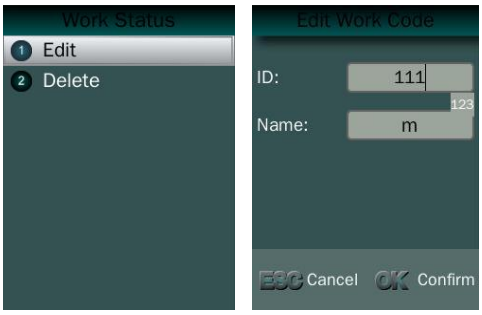


- Switch Time: User can set auto switch time.

The default is 09:00 for “in” and 18:00 for “out”.



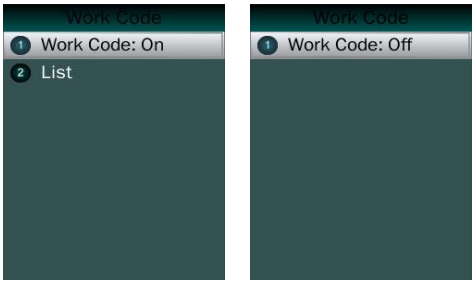
- List: User can edit or add the work status on the list by selecting the desired one then press ok to edit or delete.



- Edit and Delete: User could edit the ID and Name of work status.

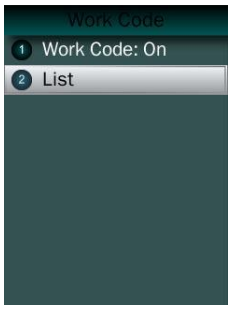
The default work status is In/Out and they can’t be deleted. New added work status could be deleted.

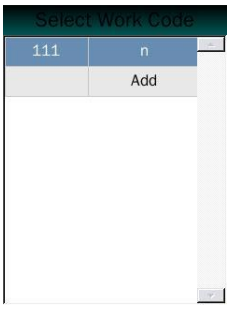
➢ **Attendance – Work Code**



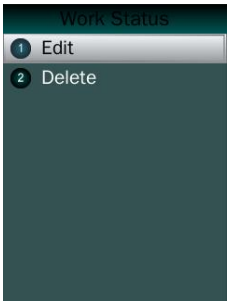
- Work Code: It is defined to mark the work code related to each record such as engineering, maintaining, training etc.

The default is off. If Work Code is on, user has to select the desired work code after verification.





- Add: User can browse/add work code on this list.



- Edit and Delete: User edit the work status and code with ID/Name.

➢ Security

➢ Security – Access Control

- Unlock: User can set duration time of unlock.

ℹ The default duration is 3 seconds.

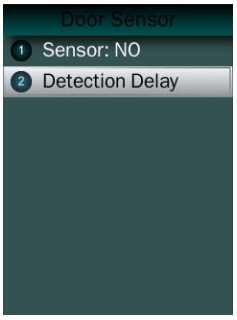
⚠ The duration range is 0~10 seconds.

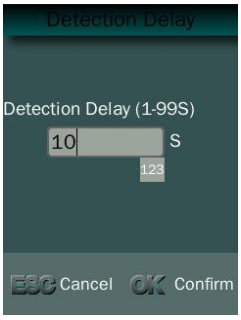
- Unlock Sync: It is defined to enable the unlock execution synchronic to the attendance interval. The unlock execution will be only executed at the first time for the same user during defined time of attendance interval time.

ℹ The default is off.

- Sensor: User can set sensor type with None/NO/NC

The default sensor is “None”.





- User can set detection delay time.

The default duration is 10 seconds.

The duration range is 1~99 seconds.

➢ **Security – Alarm**

- Sensor Alarm Switch: Enable/Disable sensor alarm function.

The default is OFF.

- Rejection Alarm Switch: Enable/Disable rejection alarm function

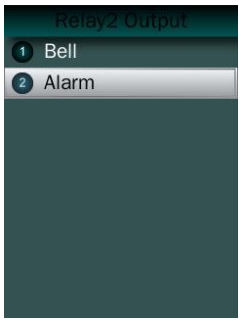
The default is OFF.

- Rejection Times: Set the rejection times to activate rejection alarm

The default duration is 3 times.

The rejection time range is 1~9 times.

➢ Advanced



- Relay 2 Output: User can set output to external Bell or Alarm output.

- Duplication Check: System will match new enrolled user with database to check this user already enrolled or not. If system displaying “Similar to ID XX”, admin is suggested to check this user for double enrollment.

ℹ The default is OFF.

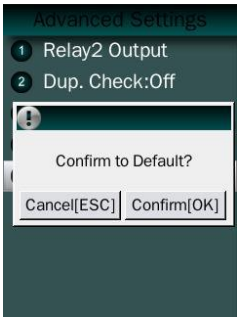
- Face Detection Switch: Enable/Disable face detecting function when using Card and Photo recognition method.

ℹ The default detection is off.

- Algorithm Version: User can select V2.6 or V3.1 algorithm for a certain terminal.

ℹ The default version is V3.1.

⚠ The system will erase all enrolled users’ templates if change the algorithm version.

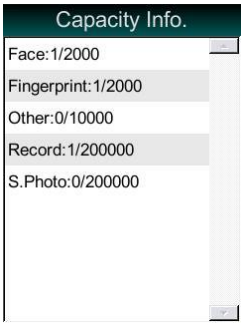


- Default: This operation will delete all data and configurations. And then initialize the device to factory setting.

⚠ If the administrator **<confirm to default>**, the terminal will be in factory mode!

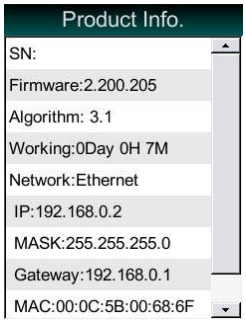
3.6 System Info.

➢ Capacity Info.



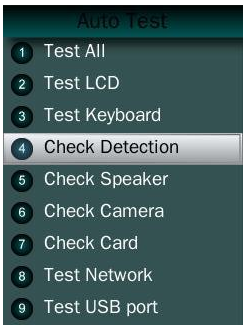
- Face: Current enrolled user numbers and total capacity of user numbers for face related recognition mode.
- Other: Current enrolled user numbers and total capacity of user numbers for card and ID+PIN related recognition mode.
- Record: Current record numbers and total capacity of record numbers.
- S. Photo: Current security photo numbers and total capacity of security photos.
- Unsent Records: Unsent record numbers while push to server mode is on.
- Unsent Users: Unsent user numbers while push to server mode is on.

➢ Product Info.



- Product info: IP Address/Mask Number/Gate/MAC/SN/Firmware version/Algorithm.

3. 7 Auto Test



- Test All: Test all below hardware automatically

  Press **<OK>** if it is working normal

  Press **<ESC>** if it is working abnormal.

A list of status will be displayed after all testing.

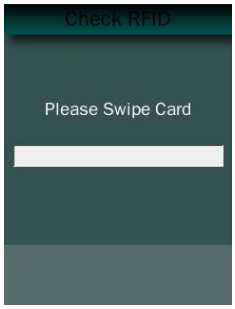
- Check LCD: Display Red, Green and Blue on the screen

- Check Keyboard: Follow the screen message to check all keys.

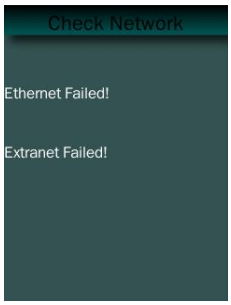
- Check Detection.

- Check Speaker.

- Check Camera.



- Check RFID Cards.



- Check Network.

- Check USB Port.

3. Appendix

Appendix1. Product Specification

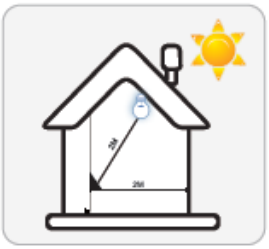
- **User capacity**
  - 2,000 users for face related verification method;
  - 2,000 users for fingerprint related verification method
  - 10,000 users for other verification methods including card, card and photo, ID and Pin
- **Record capacity**
  - Data Capacity:200,000
  - Security Photo: 200,000
- **Verification methods**
  - Face
  - Face and Finger
  - Face or Finger
  - Finger
  - Card and Face
  - Card or Face
  - Card
  - Card and Photo
  - ID and Pin
- **Languages:**
  - English
  - Spanish
  - Portuguese
  - Korean
  - Japanese
  - Turkish
- **Recognition algorithm**
  - V2.6 or V3.1
- **Display**: 3.5 inch TFT
- **Keypad**: 4 * 4 touch keypad
- **RFID card**: Proximity card or Mifare card (Optional)
- **Communication**
  - TCP/IP
  - USB port

- **Power:** 12V DC, 1.5A
- **Environment Light**: 0-20000Lux
- **Working Temperature**: 0°C-40°C
- **Working Humidity**: 20% - 80%

Appendix2. Caution

- **Installation Environment**

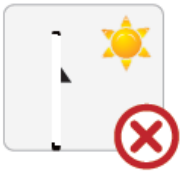
  Terminal should install inside of the room, and make sure the installation place far with the window/door/light more than 2 meters.



Outside of the room

Sunlight directly shines on the terminal through the window.

Sunlight slanted shines on the terminal through the window.



- **Restoration and restart**

  When the system halted and cannot quit, you can remove the adapter to restore and restart the system, or you also can press **<RESET>** to restart the terminal.

- **Restore to default setting**

  Restore all parameters to the default setting.

- **Non-Water proof**

  The terminal is non-waterproof, please keep away from water.

- **Prevent from Falling**

  The parts in this terminal are friable; please prevent the terminal from dropping, smashing, bending and high pressure.

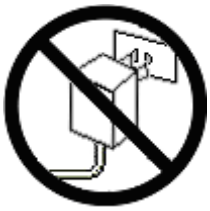
- **Cleaning**

  Please use soft cloth or the other similar material to clean the screen and faceplate, please avoid cleaning with water and cleanser.

- **Low Temperature Environment**

  The working temperature for screen and the main parts in this terminal are the normal indoor temperature. The performance of this terminal will get worse, if the working temperature extend this temperature range.

Please prevent the screen from oil or any sharp objects.



Please use the equipped adapter for the terminal, the other unknown adapters will burn out

Warning

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.