



dormakaba
Face Recognition Terminal 91 60-K5

User Manual

EN

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1 Product description

1.2 Overview



Modern finish design ,8-inch LCD Touch screen . High-speed processing and a large storage capacity make the terminal a powerful range: 1:30,000 user identification is carried out in 1 second.

Technology & Function:

The dormakaba 91 60-K5 Face Recognition Terminal can be easily integrated into building structures. It has large screen ratio which supports 1:N or 1:1 face authentication .

The devices embed a web server enabling on-device enrollment, terminal configuration and transaction log retrieval. For scenarios requiring the use of contactless cards, the series also features multiple card reader or QR code reader

1.2 Technical Data

1.2.1 System

linux: gcc-arm-8.3-2019.03-x86_64-arm-linux-gnueabi

1.2.2 Operating mode

Connect Discern Software for online or standalone.

1.2.3 RFID/Temperature Measurement

- RFID Reader Only(Legic&Mifare)
- RFID Reader with QR Code (Legic&Mifare)
- QR Code Only.
- Infrared Imaging Temperature Measurement Set

1.2.4 Power supply

- Rated voltage: 12V DC 1.8A

1.2.5 Inputs/outputs

- Network* 1
- USB* 1
- Tamper* 1
- Wiegand* 1
- Realy output* 1 Input Single* 2

1.2.6 Ambient conditions

- Operating temperature: -20°C ~ +70°C
- Relative humidity: 10% - 90% (non-condensing)
- Waterproof level: IP66

1.2.7 Dimensions

- 237mmL x 133mmW x20.8mmH

All dimensions in mm.

Wall dimension drawing



Mounting dimensions of bracket without temperature measurement



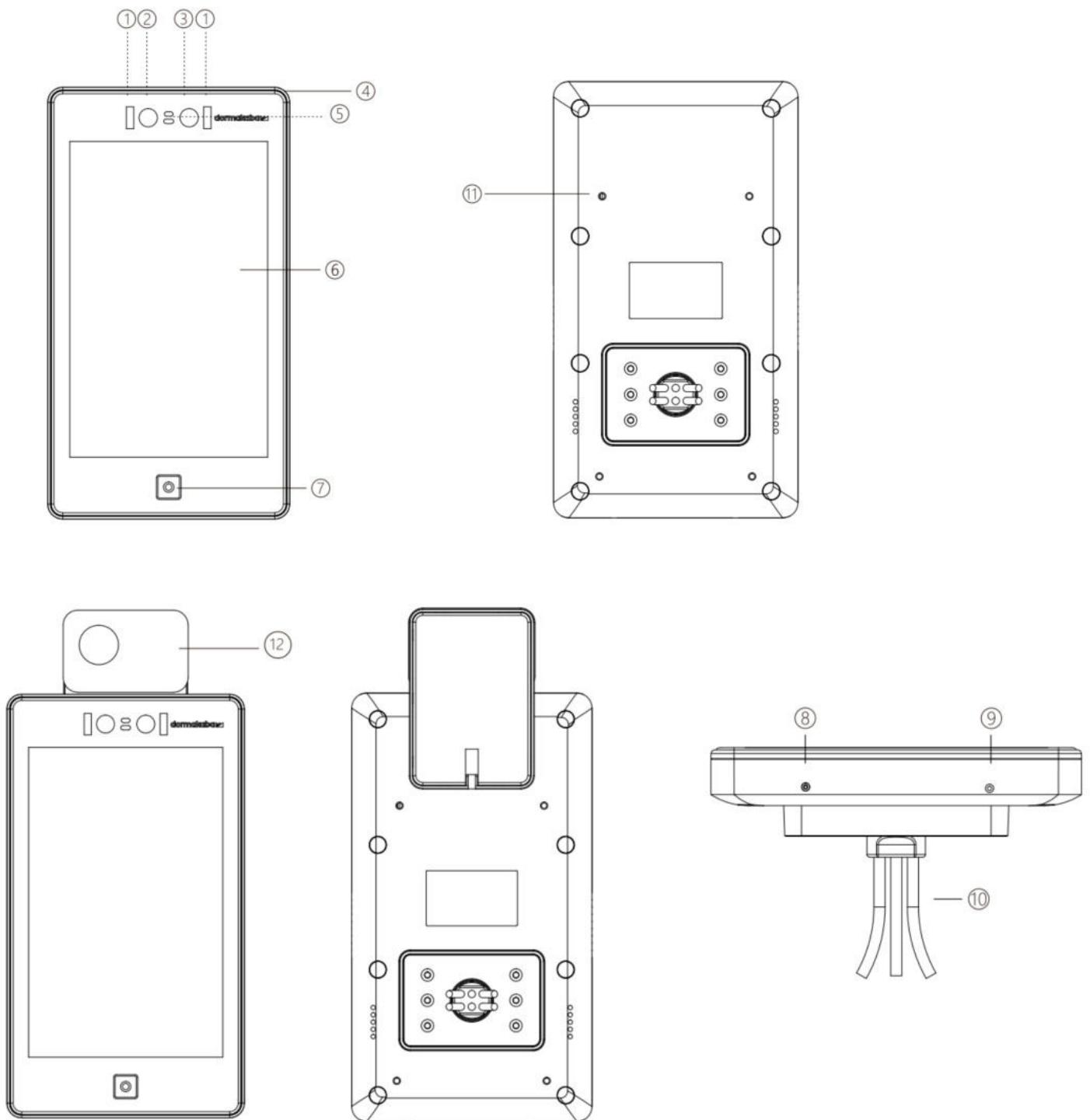
Dimension drawing of module with temperature measurement



Mounting dimensions of bracket with temperature measurement



1.4 Feature structure



- | | |
|-----------------------------|----------------------------------|
| ① Infrared fill light | ⑦ Card reading area |
| ② RGB Camera | ⑧ Bottom fixing screw |
| ③ Infrared Camera | ⑨ Bottom fixing screw |
| ④ Indicator feedback signal | ⑩ wiring |
| ⑤ Infrared sensor module | ⑪ Backplane fixing screw |
| ⑥ 8 Inch Touch Screen | ⑫ Temperature measurement module |

1.4 Labeling

The identification plate is located on the underside of the device.

The identification plate contains:

- Device name
- Item number
- Serial number
- Connection data (power supply)

2 Installation

2.1 Installation Lines

2.1.2 Power Supply Cable

Power is normally supplied to the 9160 terminal by the separate power supply.

Recommended cable: RVVP 2* 1.0 or higher.

In case of long lines, the voltage drop due to line resistance will need to be considered.

2.1.2 Data lines

Data transmission is mainly network data transmission.

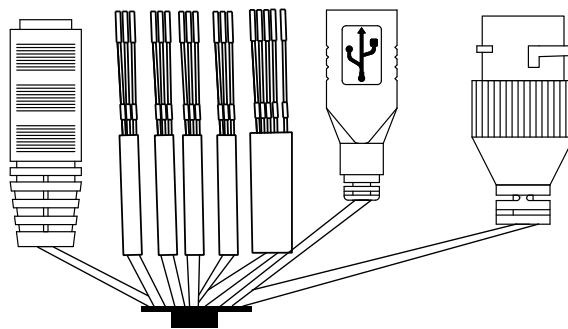
Recommended cable: CAT.5 or higher.

2.1.3 Connections

The following connections should be present at the installation location:

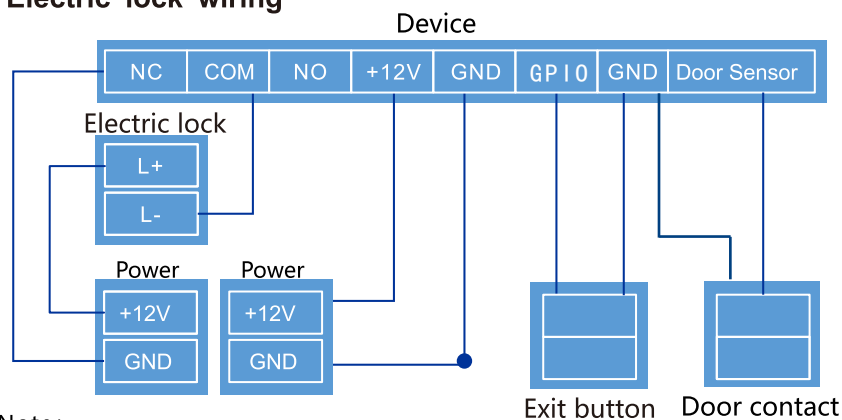
- Ethernet cable, with RJ45 plug
- Power supply cable
- Lines to electric strikes and opener key.
- Lines to the Wiegand Interface

Product wiring



Wire function introduction	
Power:	12V DC 1.8A
P2	Relay Output: NC、NO、COM
P3	Wiegand:D0、D1、GND
P4	RS 485: 485A、485B、GND (not use)
P5	Uart: TXD、RXD、GND
P6	Sensor Input: RECOVERY、Door Sensor、GPIO、REX、GND
USB:	USB 2.0
RJ 45:	10/100Mbps

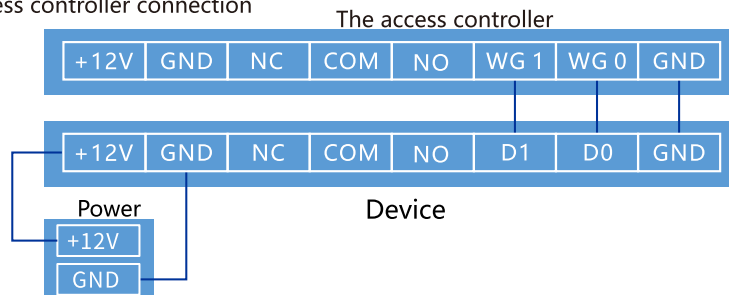
Electric lock wiring



Note:

As an independent access control machine, this device can unlock the contact point and exit button to ensure that the power of 12V power supply can meet the requirements of equipment and electronic control lock.

Access controller connection



Note:

The combination of NO and COM is normally open, while that of NC and COM is normally closed. The main equipment needs to use our power supply for independent power supply.

3 Start-up and commissioning

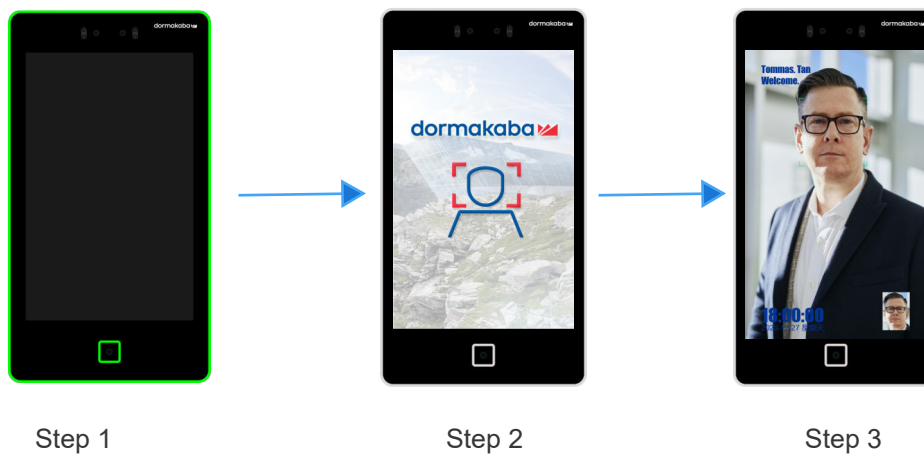
3.1 Start-up

Start-up and communication in regular operation are done via an Ethernet network.

Power Supply: DC12V 1.8A

The firewall configuration must therefore be adapted accordingly.

Without temperature measurement



With temperature

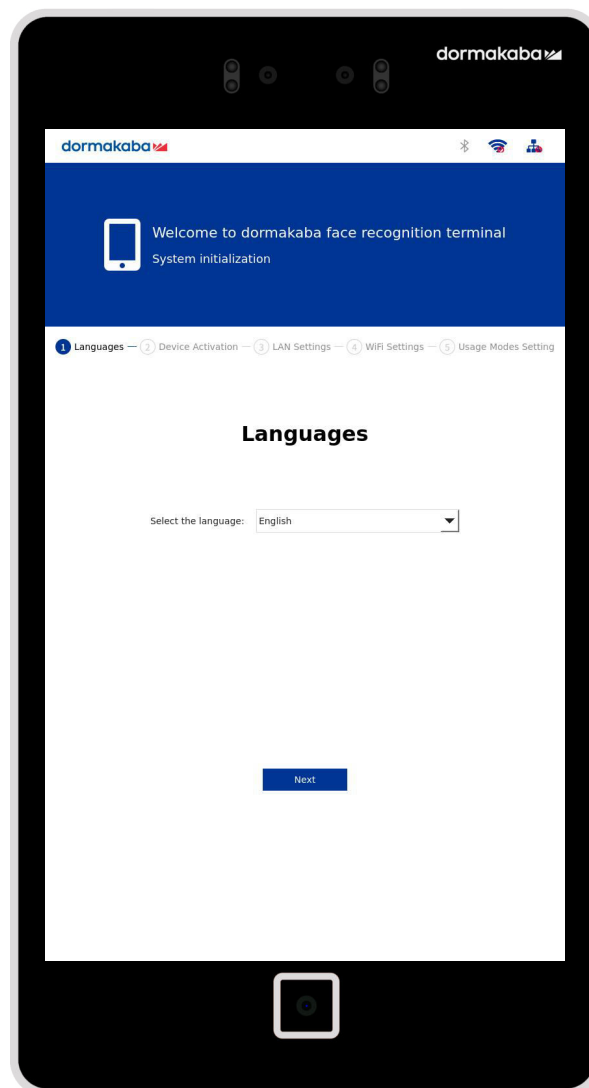


3.2 System Activation and login

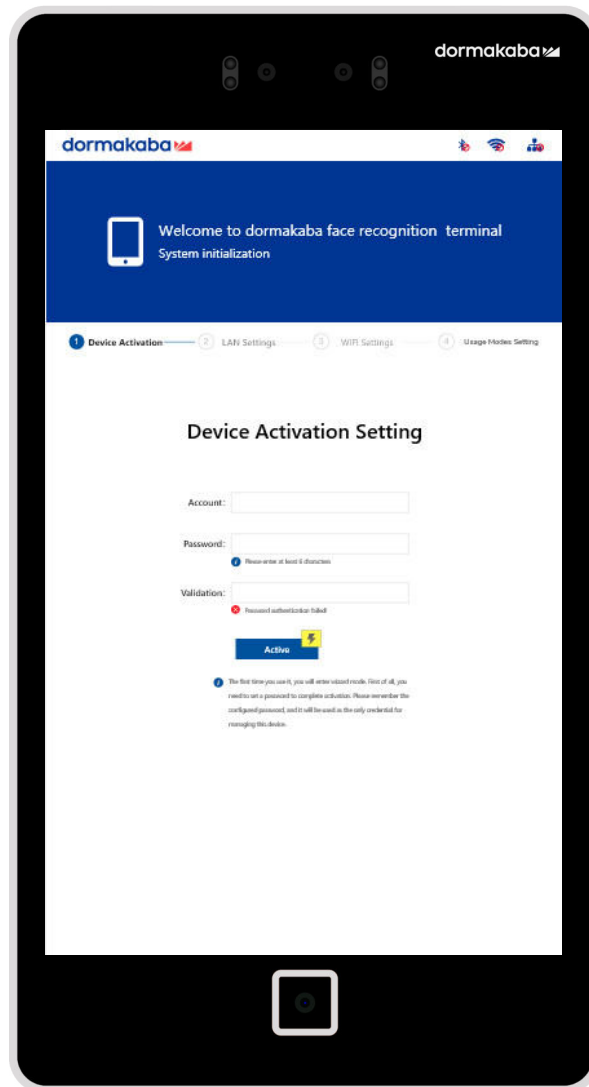
System-specific settings, connection settings, such as assignment of a fixed IP address, can be made via the 91 60 system settings.

Activate the 91 60 system settings

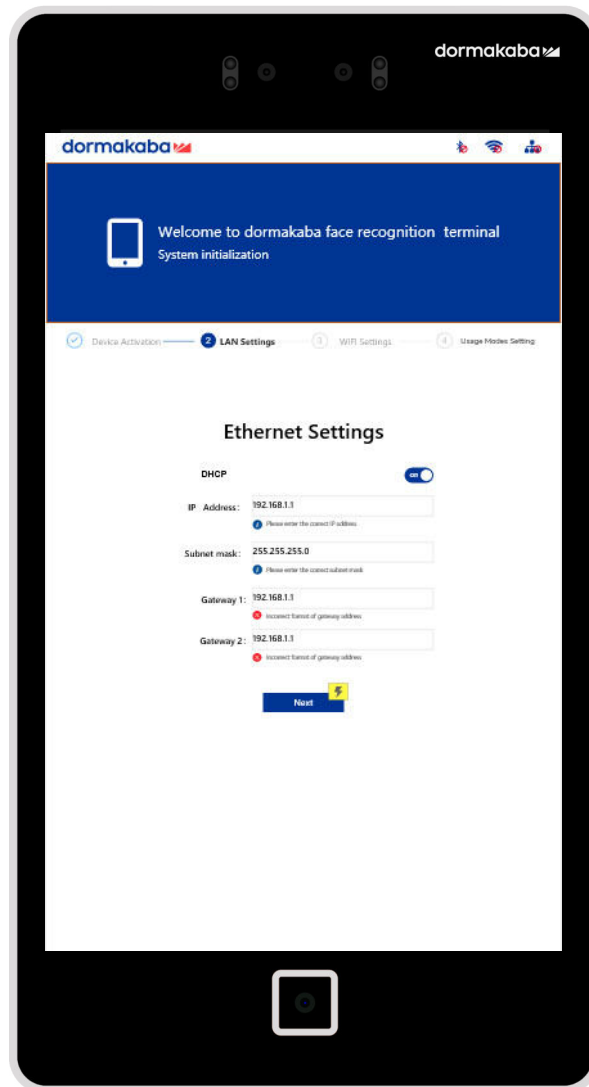
1. Start the terminal.
2. If the 9160 is started for the first time, the system prompts you to activate it.
3. After the startup is complete, the main activation screen is displayed.



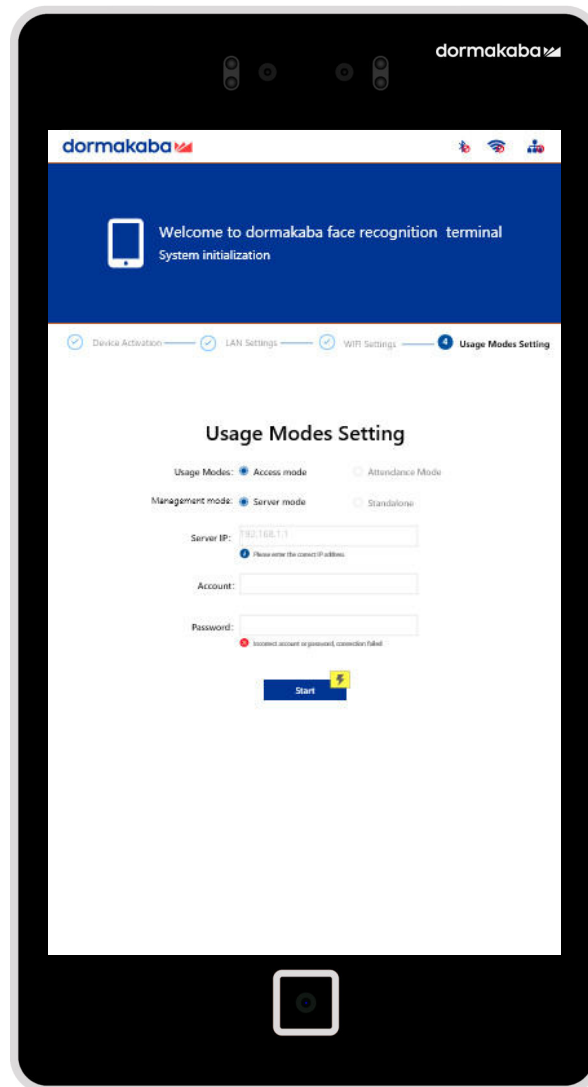
Step 1: The first login screen will prompt you to set the language to be used



Step 2:Set the account and password, enter the account password you need to set



Step 3:Set up network configuration



- Step 4: User mode : default is Access mode. Attendance mode is currently disabled.
- Management mode :
- Server mode is to use software to configure the device(for example DISCERN)
- Standalone mode is the local configuration device
- Server IP and account is the configured server connection address and account information

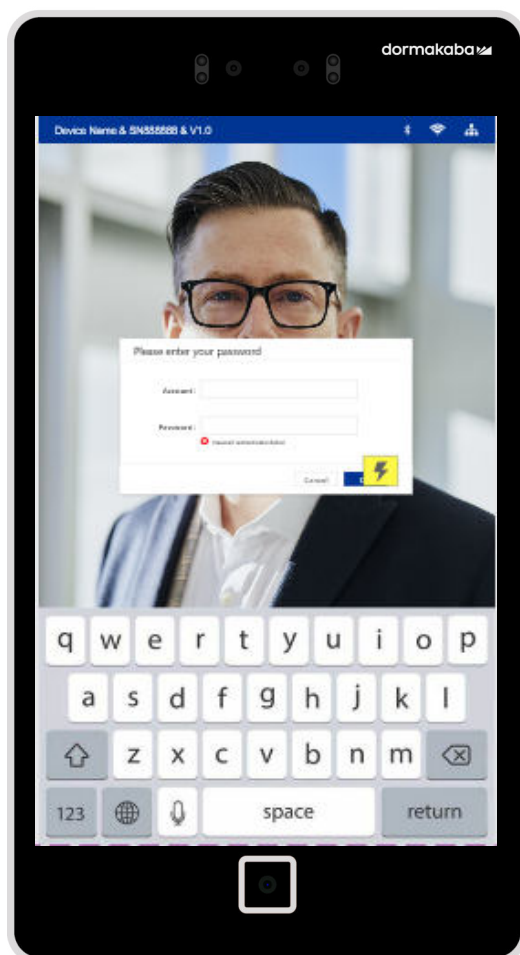
3.3 Device Local Management

Local Settings contain device parameters and some local configuration.

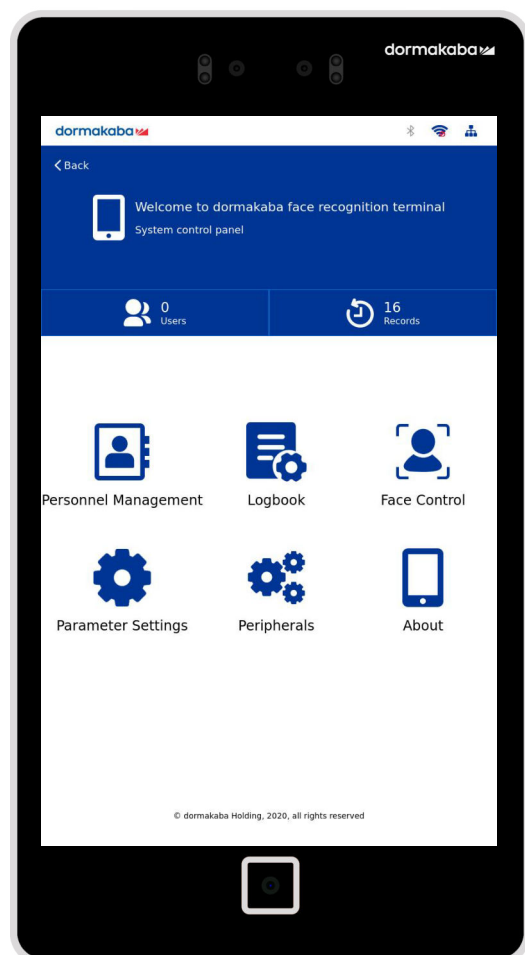
1. Personnel management
2. Logbook
3. Face Control
4. Parameter Setting
5. Peripherals
6. About

Login the 91 60:

In the upper right corner of the 91 60 screen, hold down the screen. The login screen is displayed. Enter your account and password to enter the main screen



Login interface

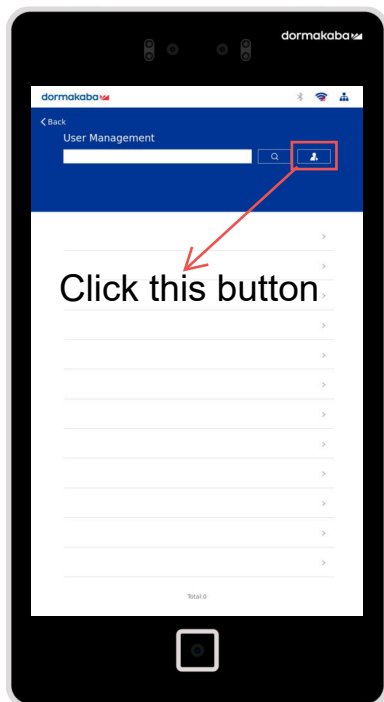


Menu options

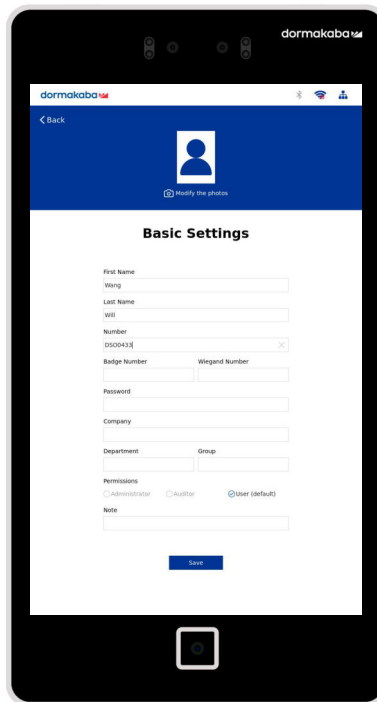
3.3.1 Personnel management

The personnel management mainly consists of the locally add personnel photo , the local badge number and the output of Weigen number

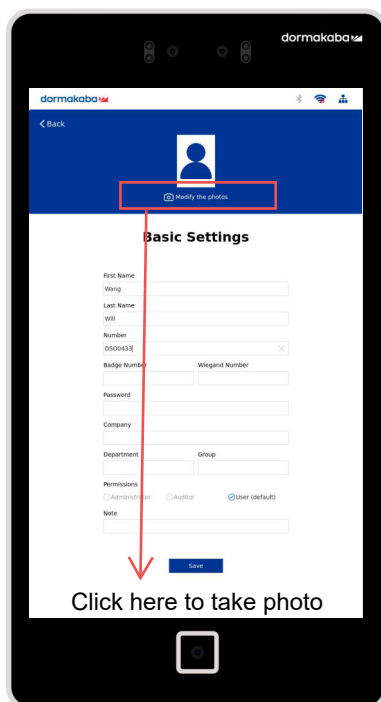
1.The action menu is displayed after successful login and select the **Personnel management**



1.Click the button to add the person



2.Input the information to add

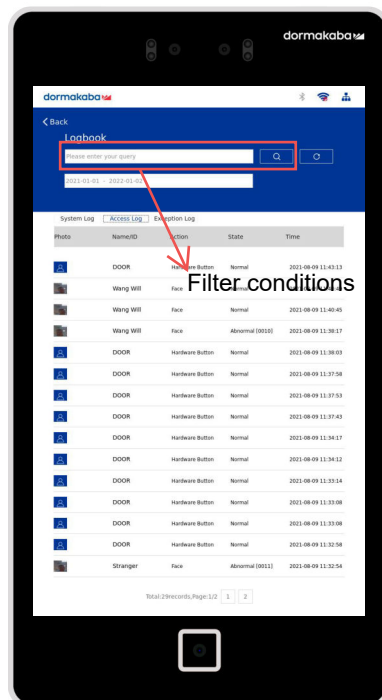


3. Take photo

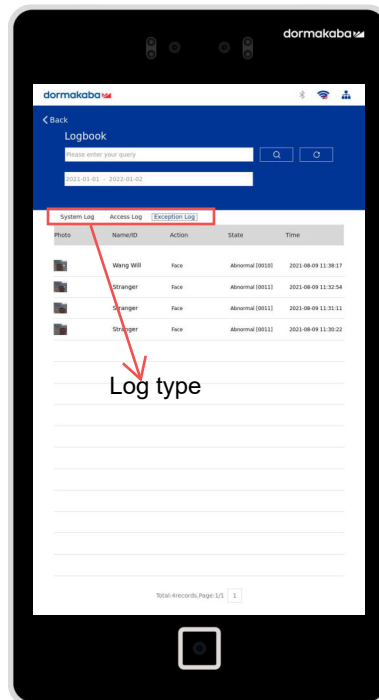
3.3.2 Logbook

Logbook mainly display local access log and system log and exception log

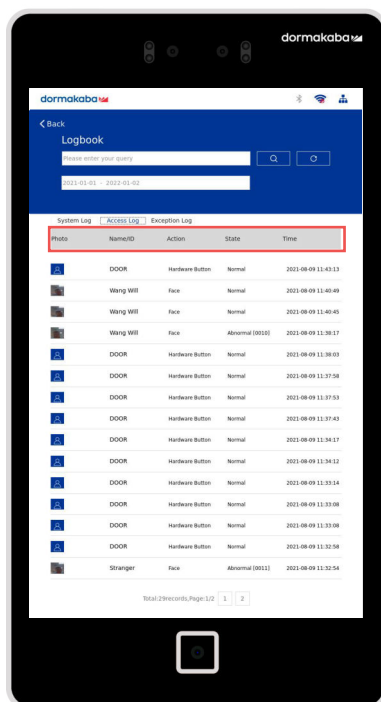
1.The action menu is displayed after successful login and select the **Logbook**



1.Enter the employee ID or name to filter logs



2.View Select a log type

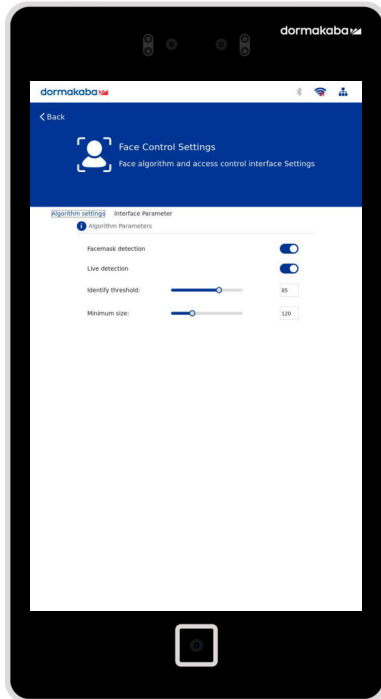


3. Event description and time

3.3.3 Face Control

Face Control includes Face algorithm and access control interface Settings

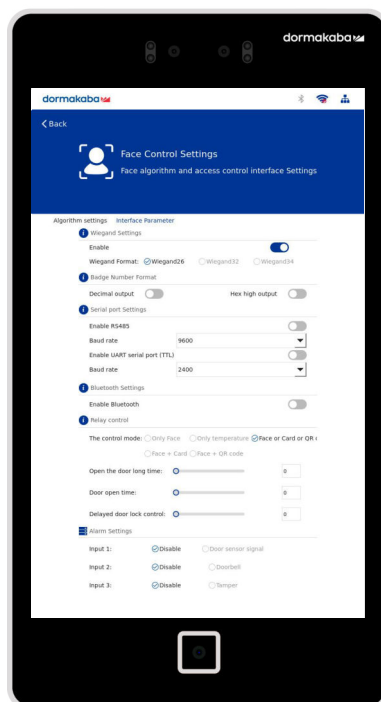
1. The action menu is displayed after successful login and select the **Face Control**



1. Algorithm settings

Algorithm Parameters:

- Facemask detection ☒ Enable the mask detection function.
- Live detection ☒ Enable face recognition in Live detection
- Identify threshold: 85 Set the threshold of face recognition, the size of the value of the eigenvalue adjustment
- Minimum size: 120 Set the size value of the face recognition



2. Interface Parameter

Interface Parameter :

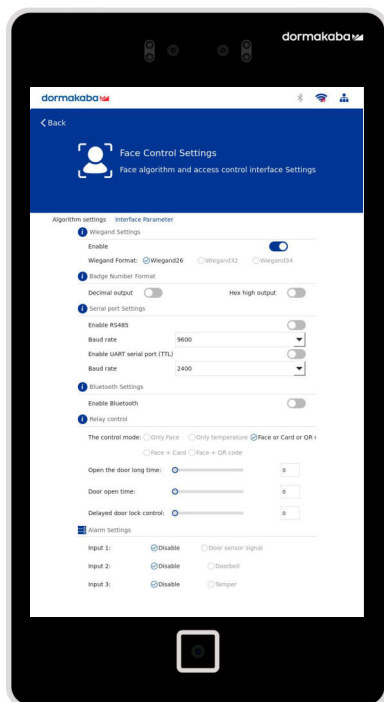
- Wiegand Settings**
 - Enable ☒
 - Wiegand Format: ☒ Wiegand26 ☐ Wiegand32 ☐ Wiegand34

Configure wiegand output function and format, Wiegand 26/32/34 output format
- Badge Number Format**
 - Decimal output ☐ Hex high output ☐

Configure the format of the card number identified by 91 60
- Serial port Settings**
 - Enable RS485 ☐
 - Baud rate
 - Enable UART serial port (TTL) ☐
 - Baud rate

Configure the 485 interface and baud rate. Currently, the functions are disabled
- Bluetooth Settings**
 - Enable Bluetooth ☐

The Bluetooth function is enabled



2. Interface Parameter

Interface Parameter :

Relay Control

The control mode: ☐ Only Face ☐ Only temperature ☒ Face or Card or QR code
☐ Face + Card ☐ Face + QR code

Set the face recognition mode, QR Code function is not available at present

Open the door long time: 0

Set the door open too long time, this parameter takes effect when the door sensor enable

Door open time: 0

Set the door open time.

Delayed door lock control: 0

Set the recognition success delay relay output

Alarm Settings

Input 1:	☒ Disable	☐ Door sensor signal
Input 2:	☒ Disable	☐ Doorbell
Input 3:	☒ Disable	☐ Tamper

Input 1: Set the door sensor function is enable.

Input 2 function is not available at present

Input 3 function is not available at present

3.3.4 Parameter Setting

Parameter Settings include Customer setting and Communication setting and Universal setting
 The action menu is displayed after successful login and select the **Parameter Settings**

3.3.4.1 Customer Parameters

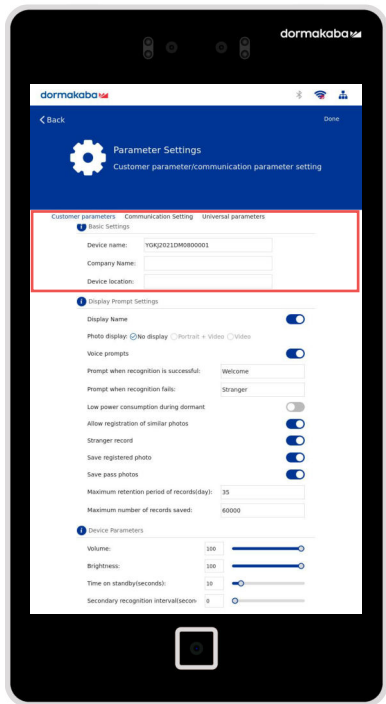
3.3.4.2 Communication Settings

3.3.4.3 Universal Settings

3.3.4.1 Customer Parameters

Customer Parameters include Basic settings and Display Settings

1.The action menu is displayed after successful login and select the **Parameter Settings--Customer Parameters**



1.Basic settings

Basic Settings:

Device name:

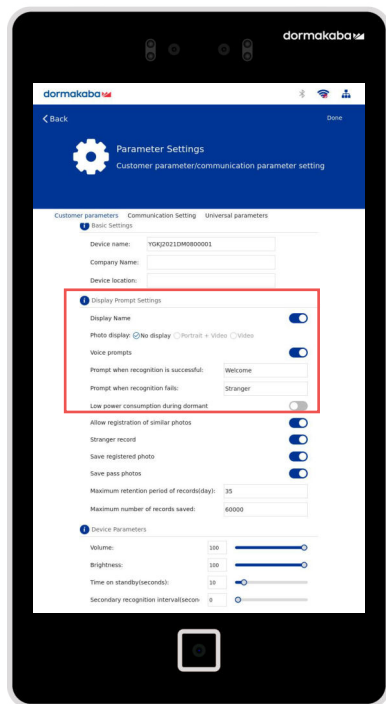
Device Name Description

Company Name:

Company Name Description

Device location:

Description of the device installation position



2. Display settings

Dispay Prompt settings :

Display Name

Enable the function to display the name of the person after the successful face verification

Photo display:

☒ No display
☐ Portrait + Video
☐ Video

Select whether to display photos after face verification or enable the temperature measurement function to display thermal imaging thumbnail images

Voice prompts

Enable voice prompt for face verification

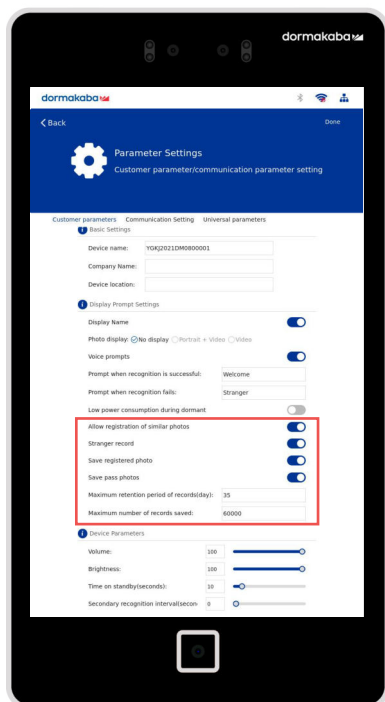
Prompt when recognition is successful:

Prompt when recognition fails:

The text message displayed on the screen when the face is verified for success and failure

Low power consumption during dormant

Whether to enable low-power mode, 91 60 disable some functions in idle state , such as NFC/Infrared light of the device.



2.Display settings

Dispaly Prompt settings :

Allow registration of similar photos ☒

Whether to enable the registration of photos with similar faces

Stranger record ☒

Set whether to display stranger face verification logs on the logbook

Save registered photo ☒

Whether to enable the local storage of registered photos on the 91 60

Save pass photos ☒

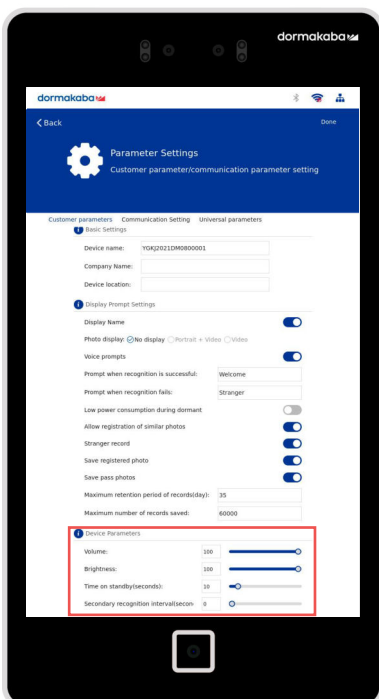
Whether to enable the device to locally save the verified face photos

Maximum retention period of records(day): 35

Specifies the maximum number of days for locally stored logs

Maximum number of records saved: 60000

Maximum number of records in the local storage



3.Device Parameters

Device Parameters :

Volume: 100

Sound volume Settings for the device

Brightness: 100

Adjust the brightness of the device

Time on standby(seconds): 10

Set the standby time of the device

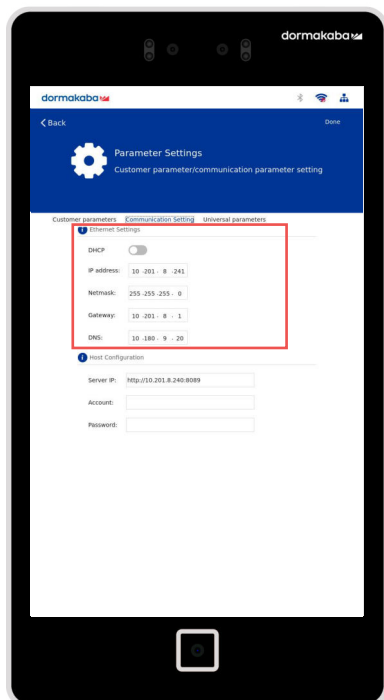
Secondary recognition interval(second): 0

The interval between recognition

3.3.4.2 Communication Setting

Communication Settings mainly include IP address and communication interface server address Settings

1.The action menu is displayed after successful login and select the **Parameter Settings--Communication setting**



1.Ethernet Settings

Ethernet Settings:

Ethernet Settings

DHCP: ☐

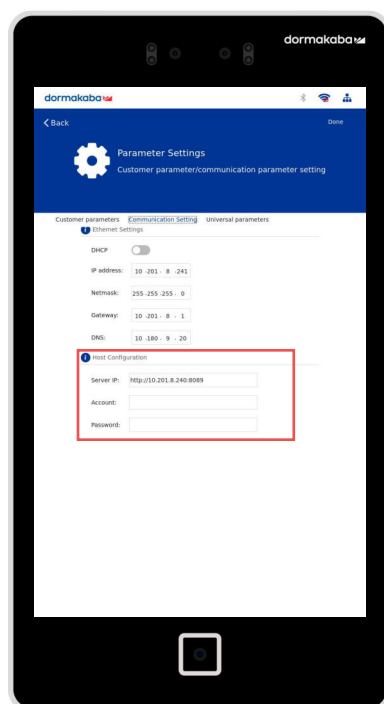
IP address: 10 .201 . 8 .241

Netmask: 255 .255 .255 . 0

Gateway: 10 .201 . 8 . 1

DNS: 10 .180 . 9 . 20

Set the IP address of the device and enable the DHCP function



2. Host Configuration

Host Configuration:

Host Configuration

Server IP: http://10.201.8.240:8089

Account:

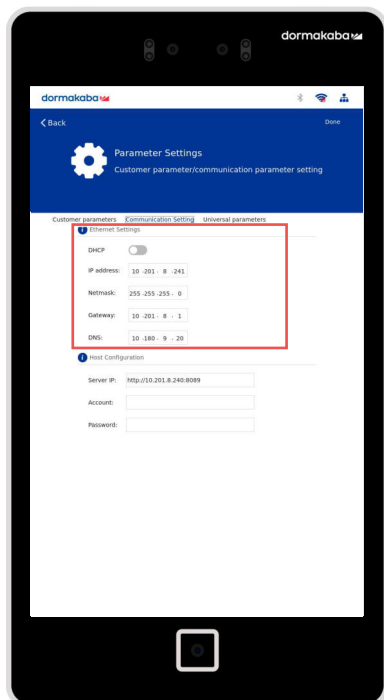
Password:

Set the address, port, account and password of the communication server (such as DISCERN or third-party interface software).

3.3.4.2 Communication Setting

Communication Settings mainly include IP address and communication interface server address Settings

1.The action menu is displayed after successful login and select the **Parameter Settings--Communication setting**



1.Ethernet Settings

Ethernet Settings:

Ethernet Settings

DHCP

☐

IP address:

10 .201 . 8 .241

Netmask:

255 .255 .255 . 0

Gateway:

10 .201 . 8 . 1

DNS:

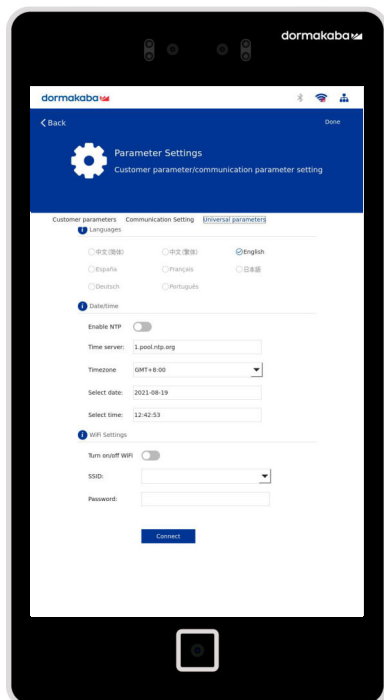
10 .180 . 9 . 20

Set the IP address of the device and enable the DHCP function

3.3.4.3 Universal Parameters

Universal Parameters include the local language, NTP server Settings

1.The action menu is displayed after successful login and select the **Parameter Settings--Universal Parameters**



1.Languages and Data/Time settings

Languages and Data/time settings:

Languages

☐ 中文(简体)
 ☐ 中文(繁体)
 ☒ English
 ☐ Español
 ☐ Français
 ☐ 日本語
 ☐ Deutsch
 ☐ Português

Language Settings. Currently, only Chinese and English are supported

Date/time

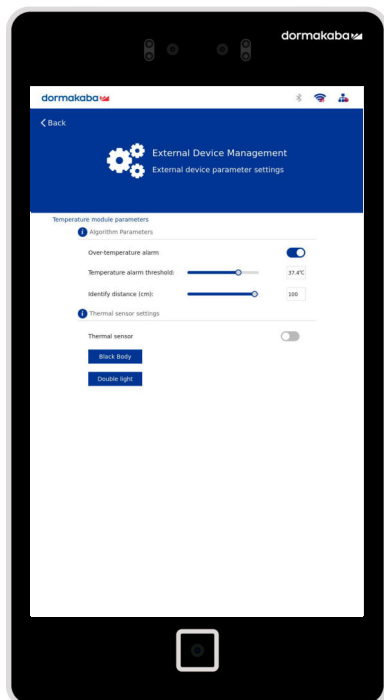
Enable NTP ☐
 Time server: 1.pool.ntp.org
 Timezone: GMT+8:00
 Select date: 2021-08-19
 Select time: 12:42:53

Set the time synchronization server

3.3.5 Peripherals

Peripherals mainly include how to enable and configure the temperature measurement function.

1.The action menu is displayed after successful login and select the **Peripherals--Temperature Parameters**



Algorithm Parameters:

Over-temperature alarm



Enable the temperature alarm function only when the temperature measurement function is enabled

Temperature alarm threshold:



37.4°C

Set the value of alarm temperature

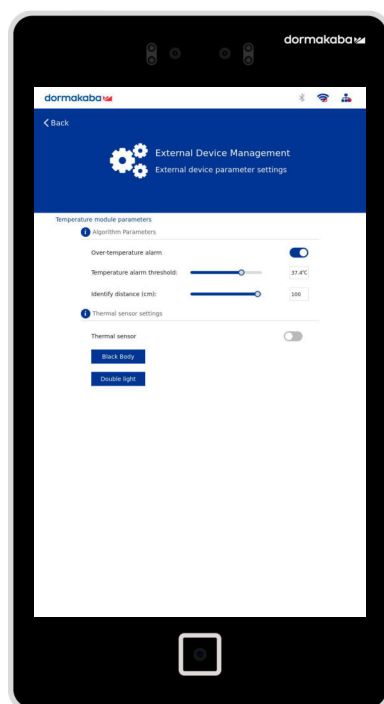
Identify distance (cm):



100

Set the identification distance of temperature measurement

1.Algorithm Parameters



Thermal sensor settings:

Thermal sensor



Enable the temperature measurement function

Black Body

In general, the verification function is not required. The boldbody verification function is used only in the case of inaccurate temperature measurement

Warning:The black body calibration procedure is only for professionals to operate.

Wrong operation will cause inaccurate body temperature measurement.

Double light

In general, the Double lighe is not required. The Double lighe verification function is used only in the case of inaccurate temperature measurement

Warning:The double light calibration procedure is only for professionals to operate.

Wrong operation will cause inaccurate body temperature measurement.

2. Thermal sensor settings

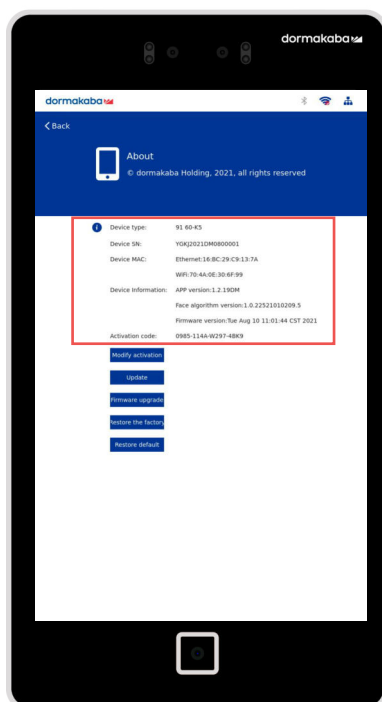
3.3.6 About

About mainly include About includes basic device information (model, serial number, and MAC address), APP update, and firmware upgrade.

3.3.6.1 Basic Device Information

Basin Device Information includes: Device model, serial number, MAC address, device version, and activation code information.

1.The action menu is displayed after successful login and select the **About**.



Basic Device Information:

Device type: 91 60-K5
Device SN: YGKJ2021DM0800001

Display device model and serial number

Device MAC: Ethernet:16:BC:29:C9:13:7A
WiFi:70:4A:0E:30:6F:99

Displays the MAC addresses of network adapters and wireless network adapters

Device Information: APP version:1.2.19DM
Face algorithm version:1.0.22521010209.5
Firmware version:Tue Aug 10 11:01:44 CST 2021

Display APP version, face algorithm version and firmware version number

Activation code: 0985-114A-W297-4BK9

Device activation code. **NOTE:**You must keep the device connected to the network when activating the device

3.3.6.2 Modify activation

Use activated device purpose

1.The action menu is displayed after successful login and select the **About--Modify activation**

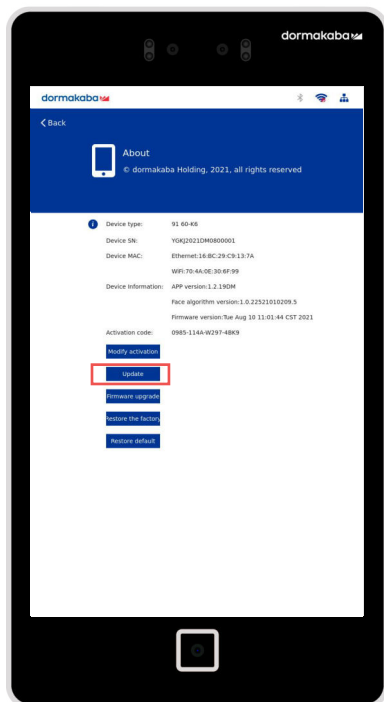


The device is delivered with an activation code. If the device does have an activation code, you need to contact the manufacturer to obtain the activation code and enter the activation code to activate the device while keeping the device connected to the Internet

3.3.6.3 Update

Update the 91 60 APP version

1.The action menu is displayed after successful login and select the **About-Update**



1.Update

Update:

Steps to update your APP

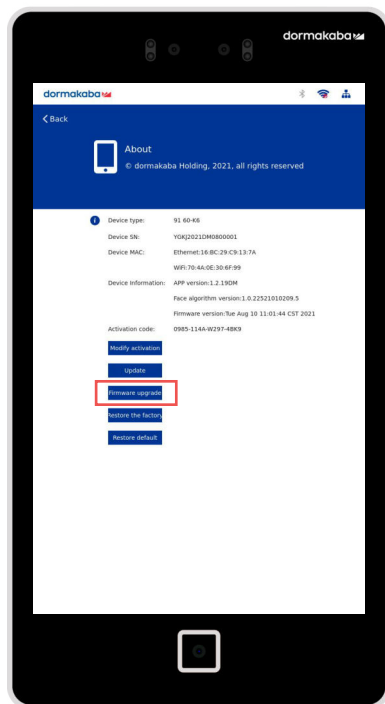
- 1.Copy the attachment "xxxxx.tar.gz" to the root directory of U disk
- 2.Rename xxxxx.tar.gz to "update_app.tar.gz" on your USB drive
- 3.Insert the U disk into the USB interface of the 9160
- 4.Keep touching the upper right corner of 9160 to display the login interface (Enter the account and password for initializing the device for the first time)
5. About--Update

Note:You can update APP versions with interfaces (e.g. DISCERN and third-party interface software)

3.3.6.4 Firmware Upgrade

Upgrade the 91 60 firmware version

1.The action menu is displayed after successful login and select the **About-Firmware Upgrade**



1. Firmware Upgrade

Firmware Upgrade:

Steps to update your firmware

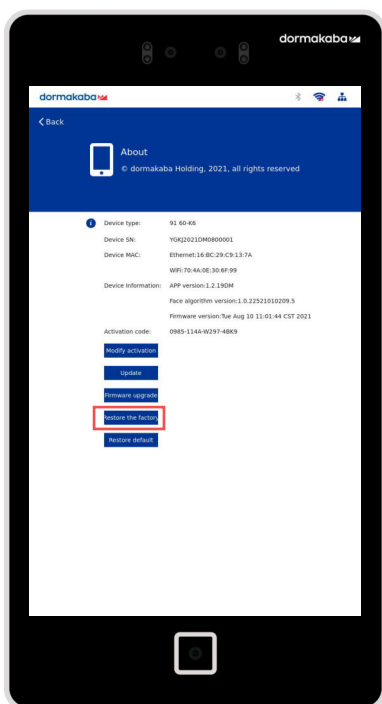
- 1.Copy the attachment "xxxxx.img" to the root directory of U disk
- 2.Rename xxxxx.img to "update.img" on your USB drive
- 3.Insert the U disk into the USB interface of the 9160
- 4.Keep touching the upper right corner of 9160 to display the login interface (Enter the account and password for initializing the device for the first time)
5. About--Firmware Upgrade

Note:After the firmware is updated, the device needs to be reactivated. Please back up the activation code of the device

3.3.6.4 Restore the factory

Restore factory Settings will clear the local Settings and account information

- 1.The action menu is displayed after successful login and select the **About-Restore factory**



1. Restore the factory

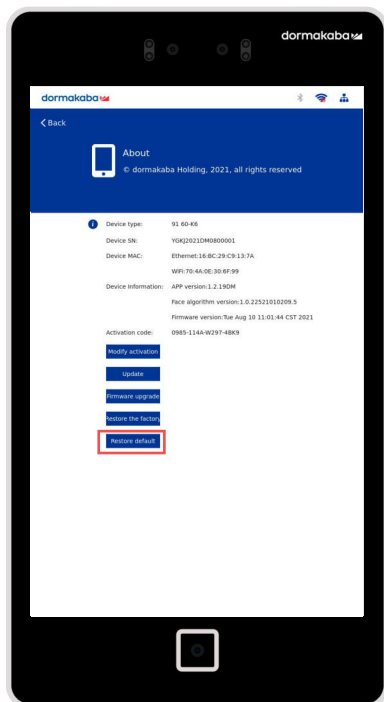
Restore factory:

Restore factory Settings will clear all data of the 91 60, and you need to initialize the device to set the account and password of the 91 60.

3.3.6.5 Restore default

Restore Default will Clear user Settings and restore the device to factory default Settings.

1.The action menu is displayed after successful login and select the **About-Restore default**.



Restore default:

Restore Default Settings Clear user Settings and restore the device to factory default Settings.

1.Restore default

4 Troubleshooting

Troubleshooting:

Trouble List	Solution
No Response when Power Up	● Discount the power and confirm that the power supply cable is correctly connected (See “Wiring” above). ● Check the input voltage is sufficient (See “Specifications” above).
Auto Restart	● Check the input voltage is sufficient (See “Specifications” above).
Cannot read card number correctly	● Check the format setting on the controller if it is the same as the card format. Use approved card (known format and Facility Code) to test. ● Check if the shield cable is correctly connected to Classis Ground at ONE point only.
Reader beeps but No card data info	● Check if data 0 & data 1 cable is correctly connected (See “Wiring” above). ● Check the input voltage at the card reader end is correct (See “Specifications” above).

FCC Statement

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.

RF warning for Portable device:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Note : This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates,uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between 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.