Manuals+ — User Manuals Simplified.

dormakaba 9160-K5 Face Recognition Terminal User Manual

Contents

dormakaba 9160-K5 Face Recognition Terminal

USER MANUAL

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-gnueabihf

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

- Operat ing temperature: -20°C ~ + 70°C
- Relat ive humidity: 10% – 90% (non-condensing)
- Waterproof level: IP66

1.2.7 Dimensions

All dimensions in mm.

- 237mmL x 133mmW x20.8mmH
- Wall dimension drawing

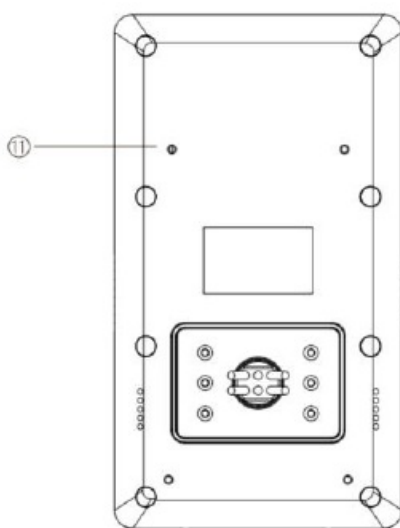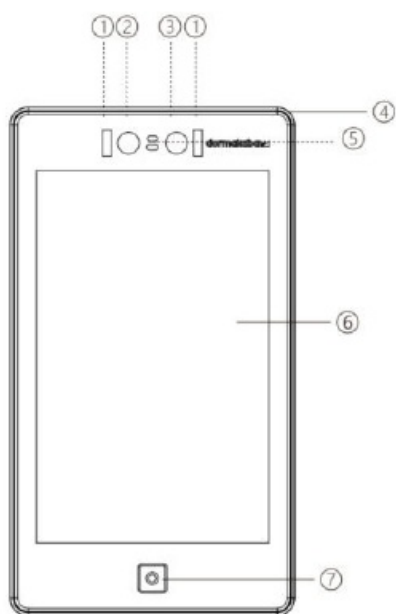**Mounting dimensions of bracket without temperature measurement**

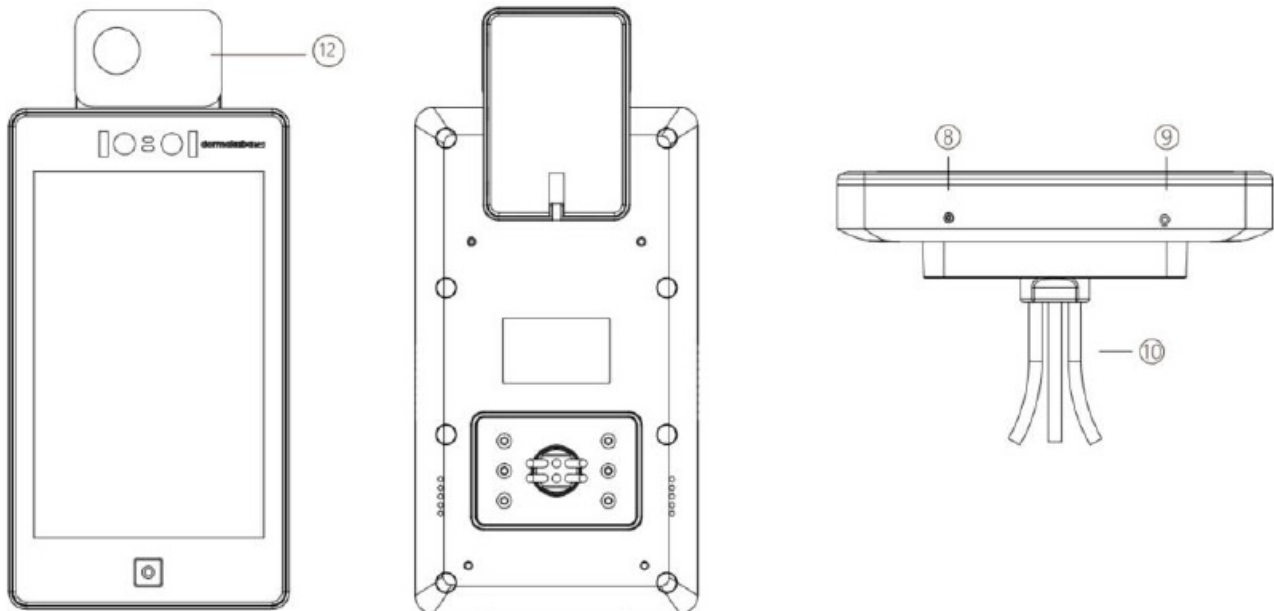**Dimension drawing of module with temperature measurement**

Mounting dimensions of bracket with temperature measurement

1.4 Featrue structure

1. Infrared fill light
2. RGB Camera
3. Infrared Camera
4. Indicator feedback signal
5. Infrared sensor module
6. 8 Inch Touch Screen
7. Card reading area
8. Bottom fixing screw
9. Bottom fixing screw wiring
10. Backplane fixing screw
11. 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 seperate power supply.
In case of long lines, the voltage drop due to line resistance will need to be considered.

2.1.2 Data lines
Recommended cable: CAT.5 or higher.
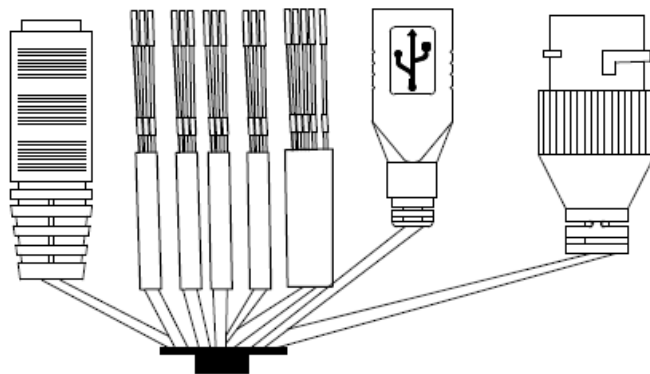Data transmission is mainly network data transmission.

2.1.3 Connections
Recommended cable: RVVP 2* 1.0 or higher.
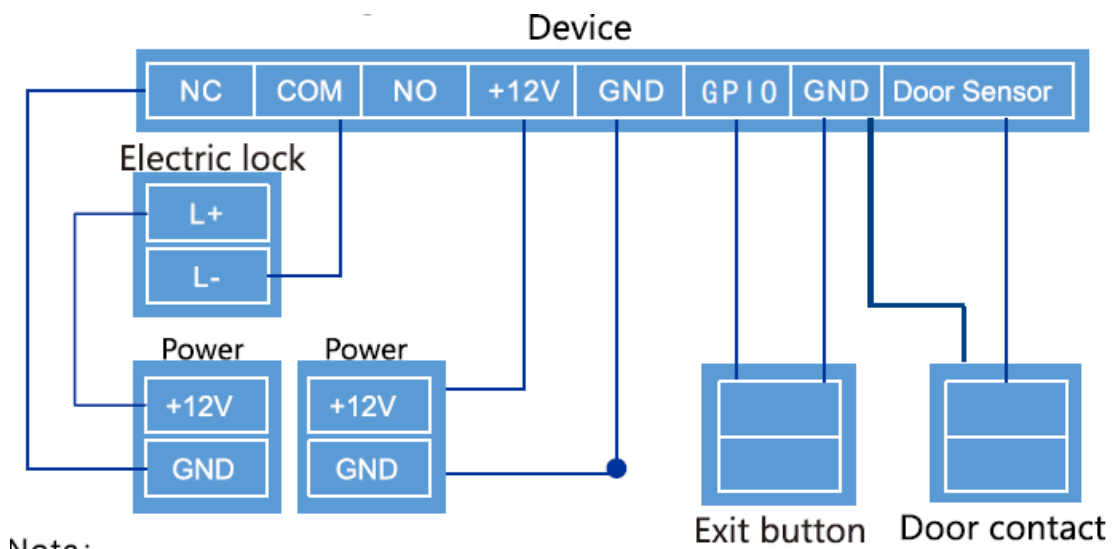The following connect ions should be present at the installat ion locat ion:

- 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

Device

NC	COM	NO	+12V	GND	GPIO	GND	Door Sensor

Electric lock

L+
L-

Power		Power	
+12V		+12V	
GND		GND	

Exit button   Door contact

Note:

Access controller connection

The access controller

+12V	GND	NC	COM	NO	WG 1	WG 0	GND

| +12V	GND	NC	COM	NO	D1	D0	GND

Device

Power

+12V
GND
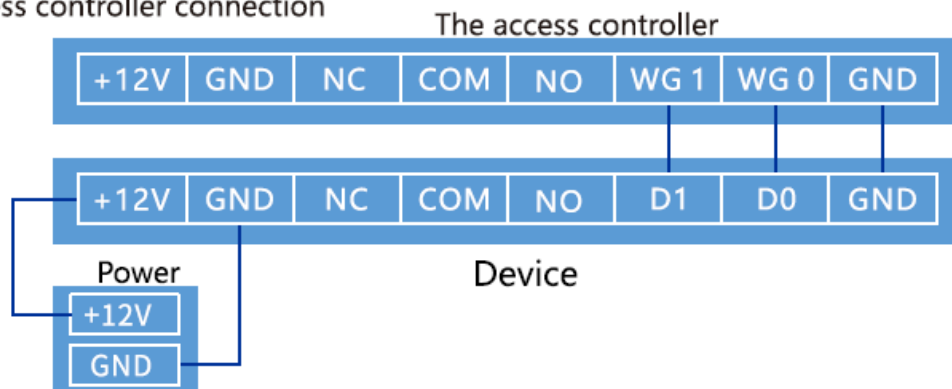
Note: The combination of NO and COM is normally open,while that of NC and COM is normally closed.The main equipment needs to use our power supply for independent power supply.

3. Start-up and commissioning
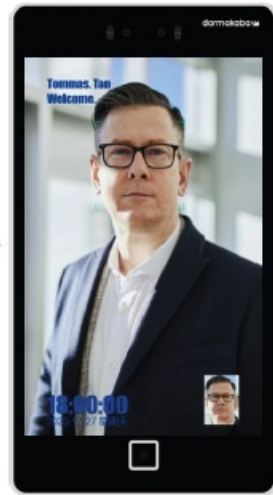
3.1 Start-up

Start-up and communication in regular operation are done via an Ethernet network. Power Suppply: DC12V 1.8A
The firewall configuration must therefore be adapted accordingly.
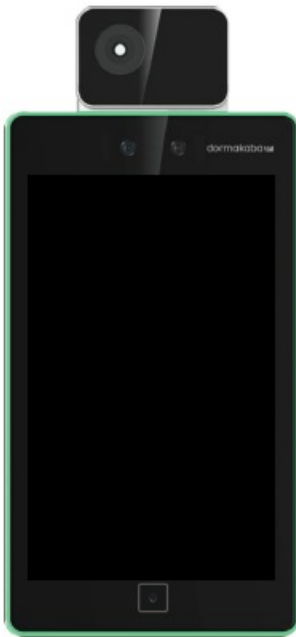Without temperature measurement
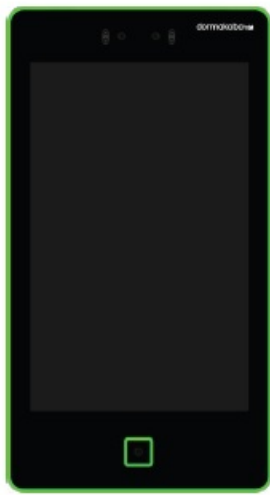
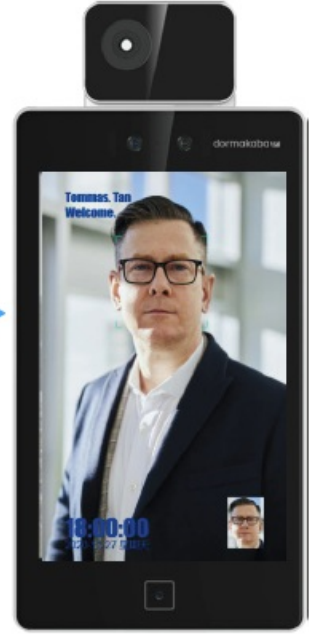|		
Step 1	Step 2	Step 3

With temperature

|		
Step 1	Step 2	Step 3

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.
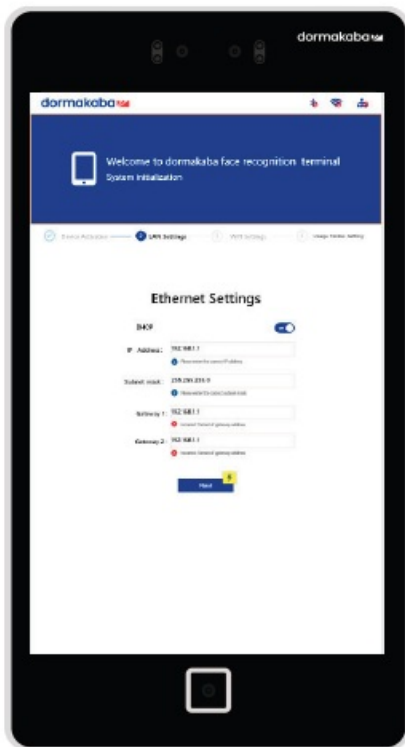
Activate the 91 60 system settings

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.
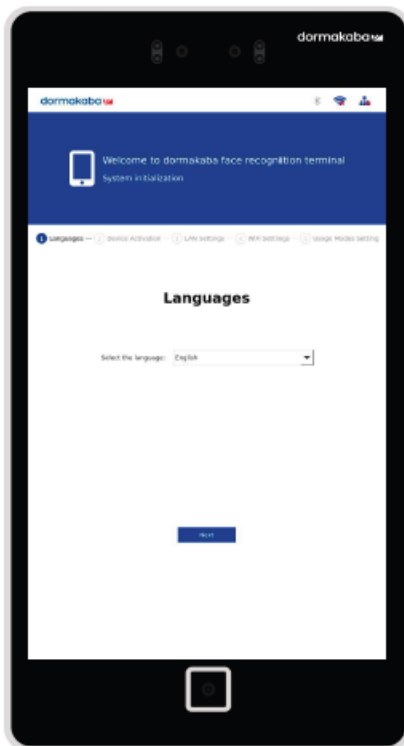
Step 1: The first login screen will prompt you to set the language to be used
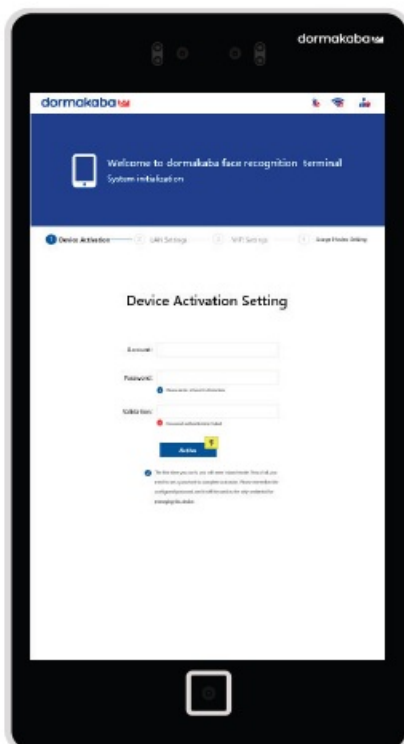
Step 2: Set the account and password, enter the account password you need to set

Step 3: Set up network configuration
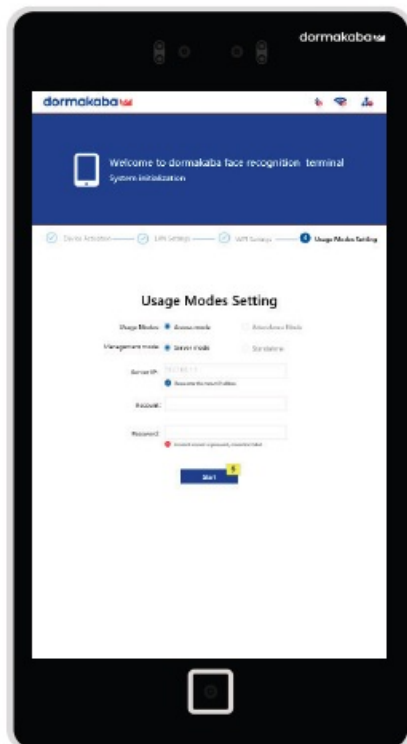
Step 4: User mode default is Access mode. Attendance mode is currently disabled.

Management mode
Server mode is to use software to configure the device(for example DISCERN) Standalon mode is the local configuration device
Server IP and account is the configured server connection address and account information

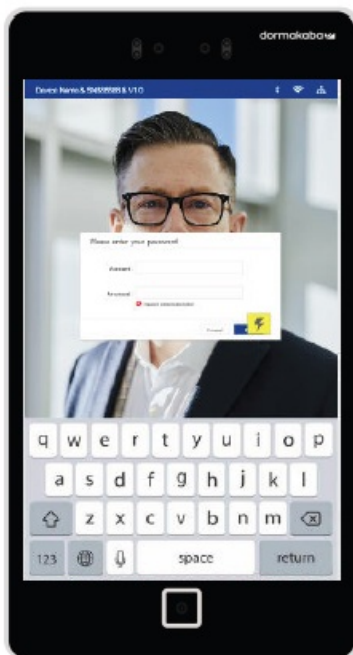**3.3 Device Local Management**

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
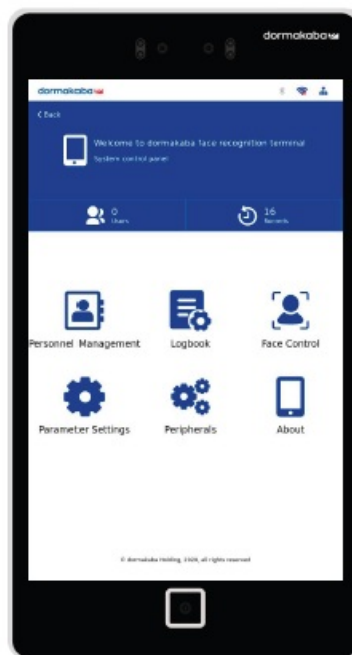
Login interface   Menu options

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
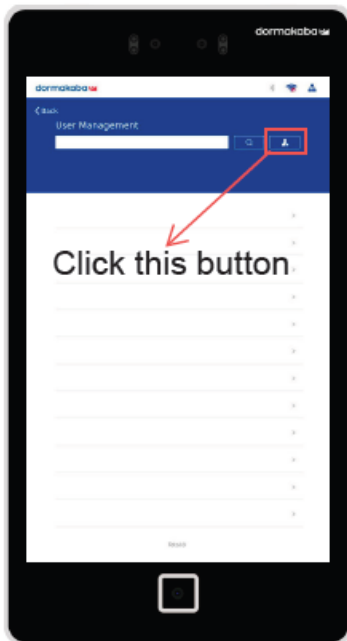
1.Click the button to add the person
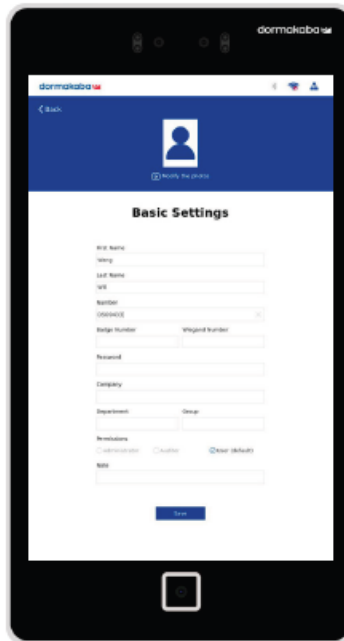
2.Input the information to add
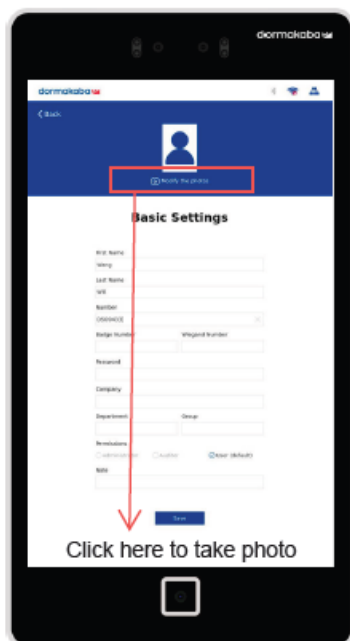
3. Take photo

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
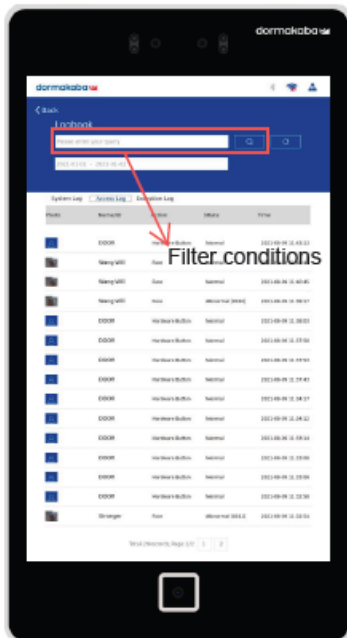
1.Enter the employee ID or name to filter logs
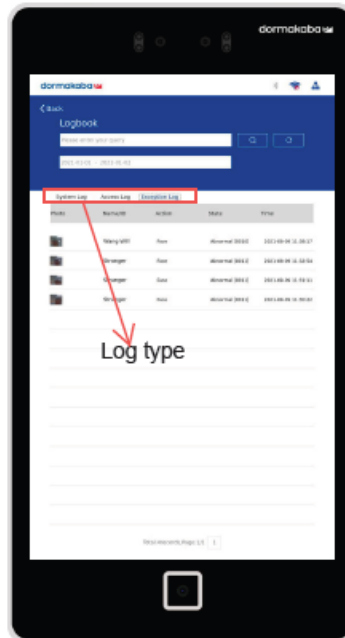
2.View Select a log type

3. Event description and time

3.3.3 Face Control

Face Control is includes Face algorithm and access control interface Settings

1. The action menu is displayed after successful login and select the Face Control
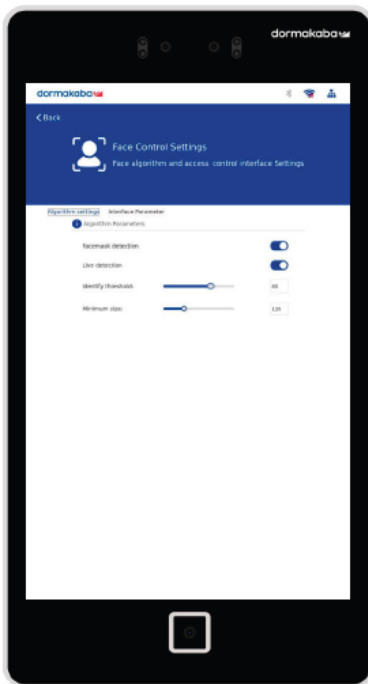
Algorithm Parameters:

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

1.Algorithm settings
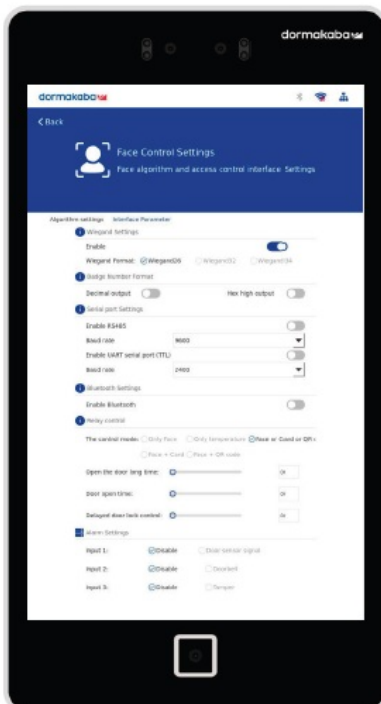
Interface Parameter：

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   9600

Enable UART serial port (TTL)

Baud rate   2400

Configure the 485 interface and baud rate. Currently, the functions are disabled

Bluetooth Settings

Enable Bluetooth

The Bluetooth function is enabled
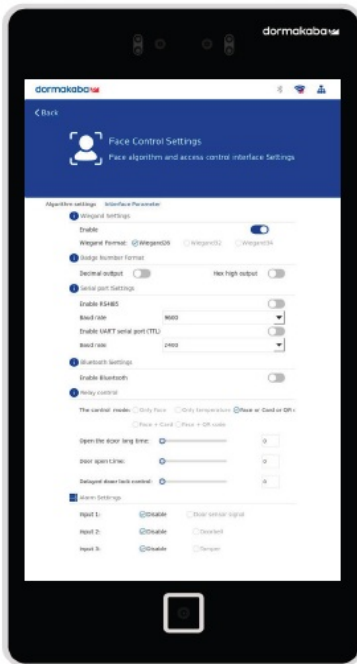
Interface Parameter :

Relay Control

The control mode: ○Only Face ○Only temperature ⊙Face or Card or QR (
○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

2. Interface Parameter

Input 1: Set the door sensor fuction 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 Communicationsetting and Universal setting The action menu is displayed after successful login and select the Parameter Settings
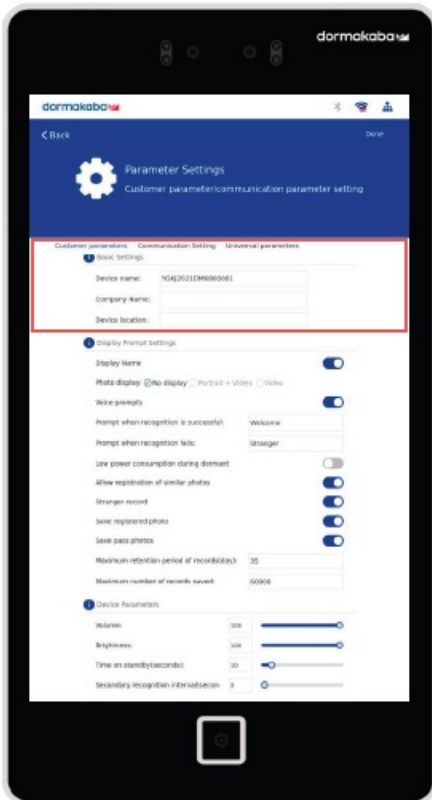3.3.4.1 Customer Parameters
3.3.4.2 Communication Settings
3.3.4.3 Universal Settings

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

Basic Settings:

Device name:	YGKJ2021DM0800001

Device Name Description

Company Name:	

Company Name Description

Device location:	

Description of the device installation position

1.Basic settings
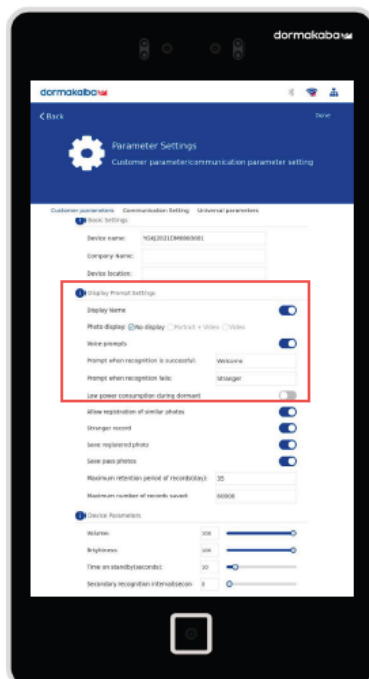
Dispaly Prompt settings：

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:	Welcome
Prompt when recognition fails:	Stranger

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. Dispaly settings

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
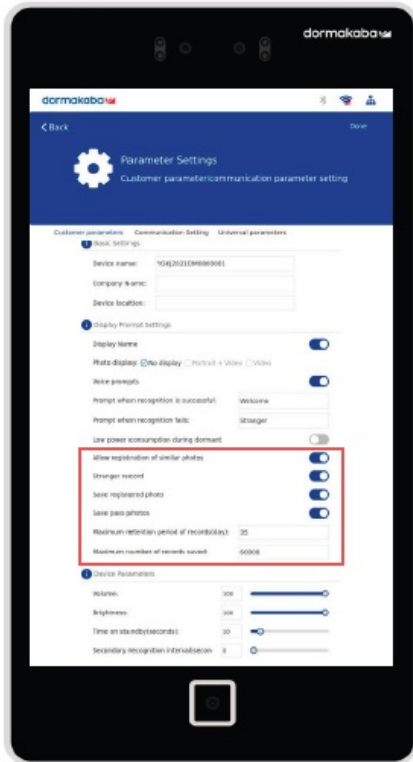
Save pass photos

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
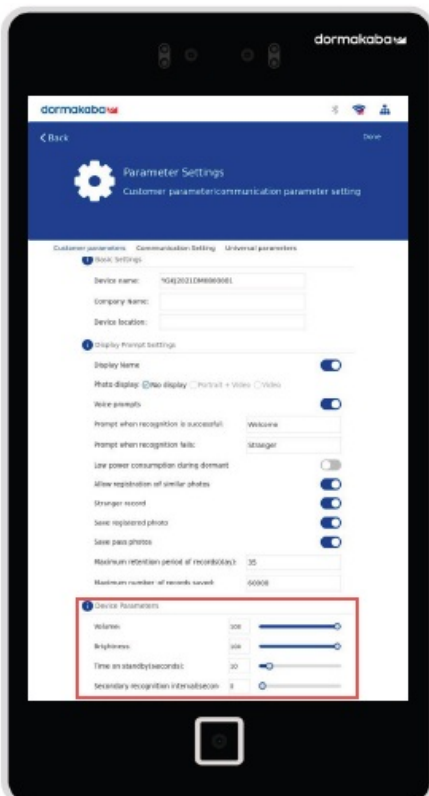
3.Device Parameters

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(secon　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– Commnication setting

Ethernet Settings:

i Ethernet Settings

DHCP

IP address: 10 .201 . 8 .241

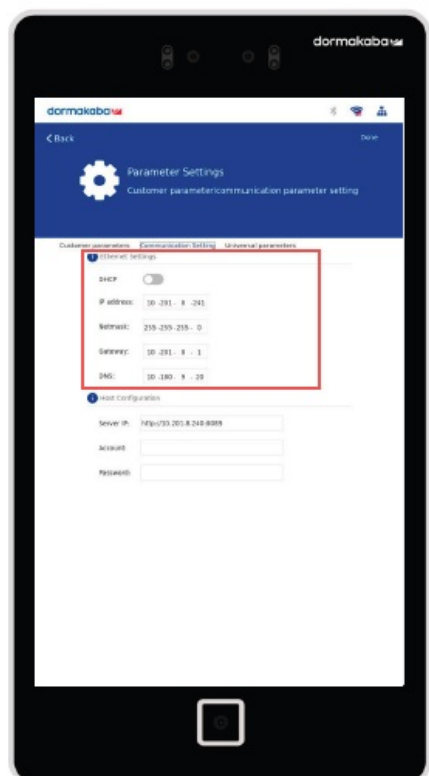Netmask: 255 .255 .255 . 0

Gateway: 10 .201 . 8 . 1

DNS: 10 .180 . 9 . 20

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

1.Ethernet Settings

Host Configuration:

i 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).

2. Host Configuration

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–
Commnication setting
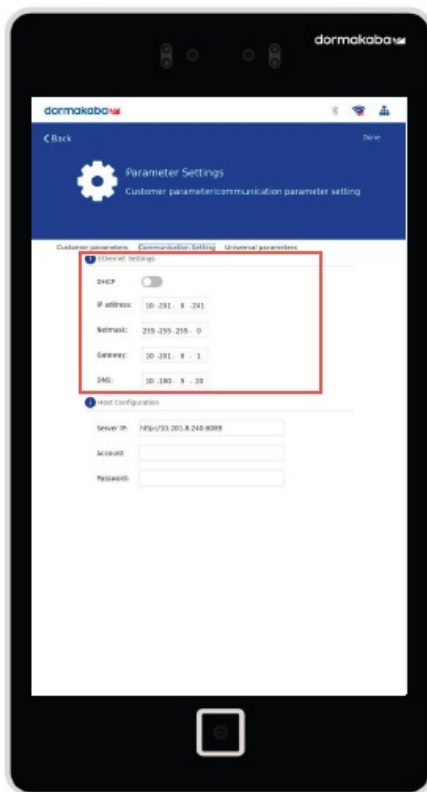
Ethernet Settings:

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

1.Ethernet Settings

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
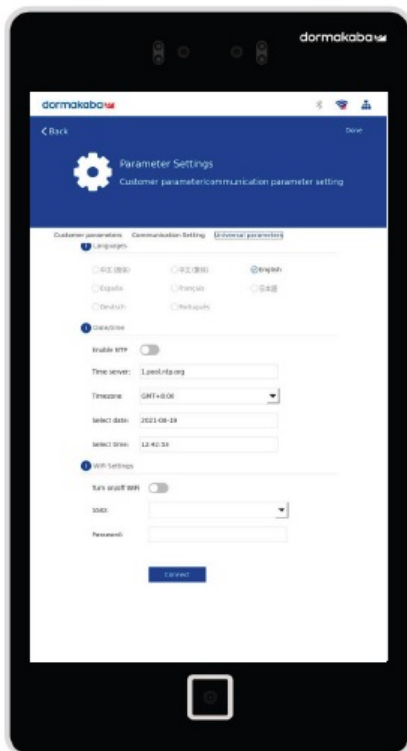
Languages and Data/time settings:

Languages

中文(简体)   中文(繁体)   ☑ English
España   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

1.Languages and Data/Time settings

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
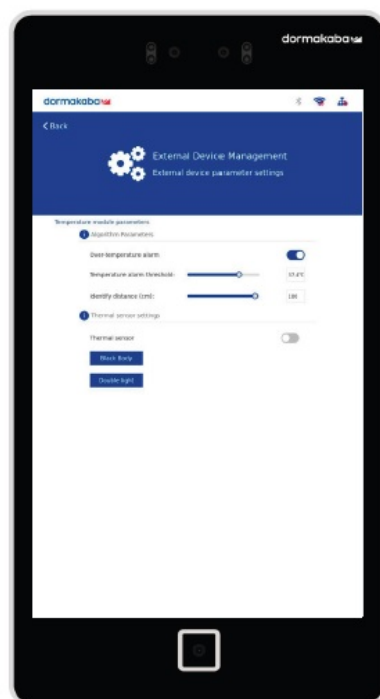
Algorithm Parameters:

Over-temperature alarm

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

Temperature alarm threshold: 37.4℃

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 caliration 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

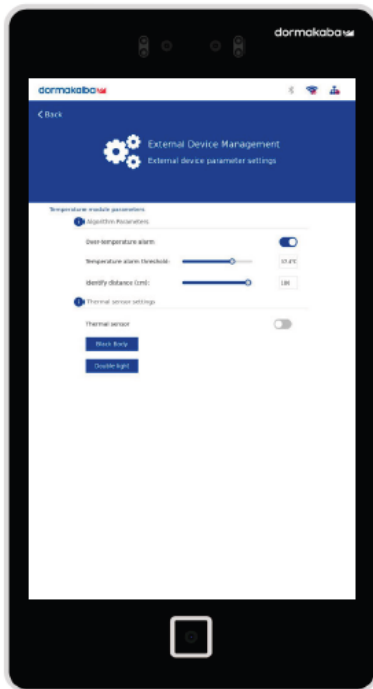Warning:The double light caliration procedure is only for professionals to operate. Wrong operation will cause inaccurate body temperature measurement.

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.
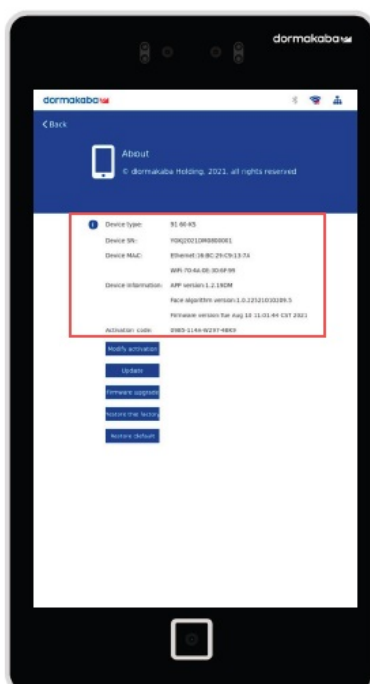
Basic Device Information:

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 activa

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)
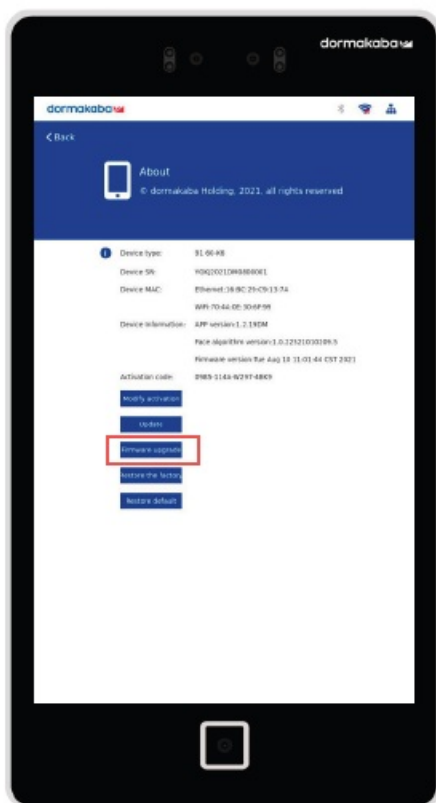5. About–Update

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
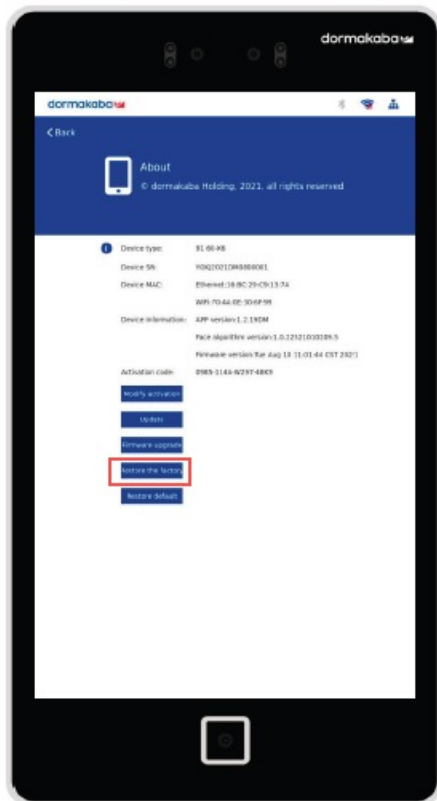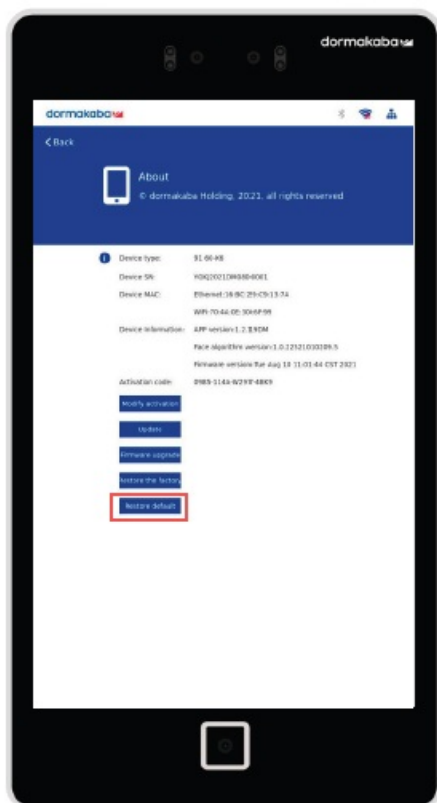
1. Restore the factory

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.

1.Restore default

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

4. 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).

Specifications

- **System:** Linux:

  gcc-arm-8.3-2019.03-x86_64-arm-linux-gnueabihf
- **Operating Mode:** Connect Discern Software for online or standalone
- **RFID/Temperature Measurement:** Included
- **Power Supply:** Not specified
- **Inputs/Outputs:** Not specified
- **Ambient Conditions:** Not specified
- **Dimensions:** Details available in the user manual

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 requirment. 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.

FAQ

Q: What should I do if the terminal does not recognize my face?

A: If the terminal does not recognize your face, ensure that you are positioned correctly in front of the camera and that there is adequate lighting. You may also need to re-enroll your face in the system.

Documents / Resources

dormakaba 9160-K5 Face Recognition Terminal [pdf] User Manual
9160-K5 Face Recognition Terminal, 9160-K5, Face Recognition Terminal, Recognition Terminal
, Terminal

References

- **User Manual**