

FEATURES

- Access Control & Attendance for Company
- Equipped with Attendance & Access Control Management Platform Software for Company.
- Access Control & Attendance for School
- Equipped with Attendance & Access Control Management Platform for School
- Quick Temperature
 Check Equipped
 with Temperature
 Cloud APP to
 monitor abnormal
 data and snapshot
 (Only temperature
 detection for scenes
 that do not require
 face recognition)

RS PRO Thermal Imaging Camera

RS Stock No.: 202-0774



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.



Product Description

The Face Recognition Scanner effectively combines traditional infrared temperature measurement with AI face recognition. It only requires the user to stand in front of the device to quickly complete user identification and temperature measurement. Once the temperature exceeds the normal value, it will alarm and prohibit passage. In order to be suitable for more scenarios, this device supports 3 usage modes, and is equipped with different platform software for more powerful functions.

General Specifications

Temperature measurement module parameters					
Measuring range	32°C~45°C/89.6°F~113°F				
Measurement accuracy	±0.5°C/±0.9°F				
Measuring distance	20~50cm				
Measure time	0.5\$				
System hardware parameters					
Processor	4-core A7				
Operating system	Android 8.1				
Memory size	1GB LPDDR3				
Storage size	16GB EMMC				
Camera parameters					
Resolution	solution Color 200W (1920 * 1080) Infrared 130W (1280 * 960)				
Imaging device	Color AR0230 Infrared AR0130				
Lens	2.9mm				
Recognize height	1m ~ 2m				
Recognition distance	0.3m ~ 1.2m				
Angle of view	Horizontal: 89 ° Vertical: 57 ° Diagonal: 98 °				
Face angle	± 30 °				
Minimum illumination	Color ≥0.01LUX at F1.2 Infrared: ≥0.01LUX at F1.2				
Signal to noise ratio	Color ≥41dB Infrared: ≥44dB				
Wide dynamic range	Color≤105dB Infrared: ≤83.5dB				



General Specifications

nterface parameters	
Network interface	1 RJ45 10M / 100M adaptive Ethernet port
USB interface	1 USB interface
Wireless connection	WIFI + BLE4.0
RS485 interface	1 RS485 interface
Relay interface	1 relay interface
Fire alarm door check button	1 fire alarm door check button
10 reserved	1 11pin terminal
Power supply	DV12V / 3A
Smart functions	
Face recognition capacity	50000 people
Offline record	100000
Recognition accuracy	99.83%
Face liveness detection	Support binocular near infrared live detection
Face detection	1080P @ 25fps, support face detection tracking, optimization
Face recognition speed	About 200ms
Face liveness detection speed	About 400ms
Occlusion adaptation	Supports wearing glasses, wigs, makeup, etc., wearing masks
Basic parameters	
Screen size	7 inch
Product size (length * width * height)	268 * 135 * 45 (mm)
Operation humidity	10%~90%
Operation temperature	10~40°C/50~104°F

Electrical Specifications

Power Source	Adapter input & output to camera (V)
Battery Type	NO
Battery Life	
Battery Charging Time	

Mechanical Specifications

Dimensions	268mm x 135mm x 45mm
Width	135
Length	268
Height	45
Weight	1.3kg
Housing Material	PC – ABS



Operation Environment Specifications

Operating Temperature Range	10~40°C/50~104°F
Storage Temperature Range	
Drop Test	2m
Shock Resistance	25g (IEC60068-2-29)
Vibration Resistance	2g,(IEC60068-2-6)
Humidity (Operating and Storage)	10%~90%

Protection Category

IP Rating	IP54

Approvals

Compliance/Certifications	CE, RED, FCC, CA65
Declarations	CE Declaration of Conformity
Hazardous Area Certification	

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Instruction Manual

RS AI-321

Stock No: 202-0774

Face Recognition Camera











The Face Recognition Scanner supports 3 usage modes, and is equipped with different platform software for more powerful functions.

- 1. Access Control & Attendance for Company | Equipped with Attendance & Access Control Management Platform Software for Company.
- 2. Access Control & Attendance for School | Equipped with Attendance & Access Control Management Platform for School.
- 3. Quick Screening | Used for quick temperature screening.

Notice:

- During installation and use, all electrical safety regulations of the country and the region of use must be strictly observed.
- When wiring, disassembling and other operations, please be sure to disconnect the power supply, do not operate with electricity.
- If the device emits smoke, produces unusual odors, or makes noises, immediately turn off the power and unplug it, and contact the dealer or service center in time.
- If the equipment is not working properly, please contact customer service, do not disassemble or modify the equipment in any way. (The company does not assume any responsibility for problems caused by unauthorized modification or maintenance)
- Do not drop objects on the device or vibrate the device vigorously to keep the device away from magnetic interference.
- Avoid installing the device where the surface vibrates or is vulnerable to shock.
- Avoid installing the device at the air outlet of the air conditioner or in a place with large airflow fluctuations.
- Try to ensure that the equipment is installed vertically.
- Please do not use the device in high temperature, low temperature or high humidity environment.
- Please do not aim the lens of the device at strong light objects such as the sun, incandescent lamp, etc., otherwise it will cause lens damage.
- Avoid placing the device in direct sunlight, poorly ventilated locations, or heat source accessories such as heaters or heaters.
- Biometric products cannot be 100% suitable for any anti-counterfeiting environment. High security level places, please use combination authentication.



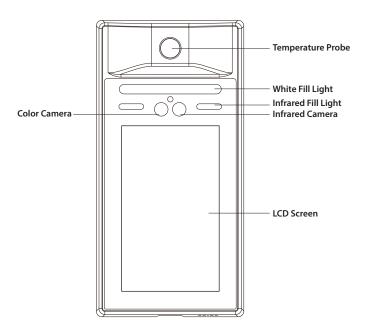


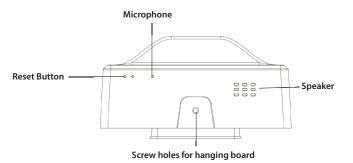
Face Recognition Camera

- Do not touch the temperature probe with your fingers or blow the probe.
- Please make sure no hair, sweat, or hat cover your forehead before measuring temperature.
- If the forehead is cold, wait for the forehead to become warm before taking the temperature measurement. Such as: after washing the face, after applying ice, after entering the room from the outside in winter.

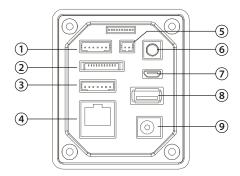
1. Product Appearance

2





2. Interface Instruction



1. 6PIN Door Button, Door Sensor, Alarm Interface

1	2	3	4	5	6
5V	GND	NC	Door Button	Door Sensor	Alarm

2. 11PIN Reserved IO

1	2	3	4	5	6	7	8	9	10	11
	PWRON	107	GND	3.3V	106	105	104	IO3	102	IO1





3. 7PIN 12V Power Supply, Relay Interface

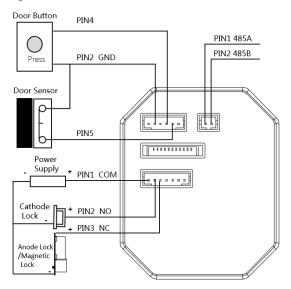
1	2	3	4	5	6	7
COM	NO	NC	GND	GND	12V	12V

- 4. Ethernet port
- 5. 2PIN 485 Interface

1	2
485A	485B

- 6. Tamper key
- 7. Micro USB Port
- 8. USB-A Port
- 9. 12V Power Adapter Socket

3. Wiring Instruction





4. Technical Specifications

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Temperature measureme	•			
Measuring range	32°C~45°C/ 89.6°F~113°F			
Measurement accuracy	± 0.5 °C/ ± 0.9 °F			
Measuring diatance	20~50cm			
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System hardware parame	eters			
Processor	4-core A7			
Operating system	Android 8.1			
Memory size	1GB LPDDR3			
Storage size	16G EMMC			
Cameera Parameters				
Resolution	Color 200W (1920*1080) Infrared 130W (1280*960)			
Imaging device	Color AR0230 Infrared AR0130			
Lens	2.9mm			
Recognize height	1m~2m			
Recognition distance	0.3m~1.2m			
Angle of view	Horizontal: 89° Vertical: 57° Diagonal: 98°			
Face angle	±30°			
Minimum illumination	Color ≥0.01LUX at F1.2, Infrared:≥0.01LUX at F1.2			
signal to noise ratio	Color ≥4dB, Infrared:≥44dB			
Wide dynamic range	Color ≥105dB, Infrared:≥83.5dB			
Interface parameters				
Network interface	1 RJ45 10M/ 100M adaptive Ethernet port			
USB interface	1 USB interface			
Wireless connection	WiFi+BLE4.0			
RS485 interface	1 RS485 interface			
Relay interface	1 relay interface			
Fire alarm door check button	1 fire alarm door check button			
IO reserved	1 11pin terminal			
Power supply	DC12V/ 3A			

R5	
PRO	

Smart functions				
Face recognition capacity	50000 people			
Offline record	100000			
Recongition accuracy	99.83%			
Face liveness detection	Support binocular near infrared live detection			
Face recognition speed	1080P @ 25fps, support face detection tracking, optimization			
Face liveness detection speed	About 200ms			
Occlusion adaptation	About 400ms			
Basic parameters				
Screen size	7 inch			
Product size	268*135*45 (length*width*height)			
Operation humidity	10%~90%			
Operation temperature	10~40°C/ 50~140°F			

5. Access Control & Attendance for Company

At this mode, User need to login to the Attendance & Access Control Management Platform Software for Company to add the device ID, import employees' information and their face photos and configure this device as an attendance device for employees. After the configuration is complete, the user can use the device to synchronize data. After synchronization is complete, face recognition/temperature measurement/access control/attendance can be started.

For detailed instructions, please refer to the guidance of the Face Recognition Temperature Monitor and the instructions of the Attendance & Access Control Management Platform Software for Company.

6. Access Control & Attendance for School

At this mode, User need to login to the Attendance & Access Control Management Platform Software for School to add the device ID, import students and teachers' information and their face photos and configure this device as an attendance device for them. After the configuration is complete, the user can use the device to synchronize data. After synchronization is complete, face recognition/temperature measurement/ access control/attendance can be started.

For detailed instructions, please refer to the guidance of the Face Recognition Temperature Monitor and the instructions of the Attendance & Access Control Management Platform Software for School.

7. Quick Screening

At this mode, fast temperature screening and automatic recording of data and face photos can be performed. User need to download the Temperature Cloud APP to add the device ID. Scan the QR code as follow to download the APP.

Face Recognition Camera



Temperature Cloud APP

8. Scan the QR code as follow to get the guidance of Face Recognition Scanner and the instructions of the Attendance & Access Control Management Platform Software.

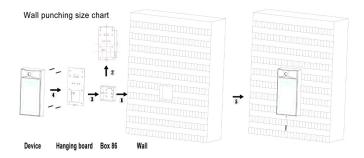




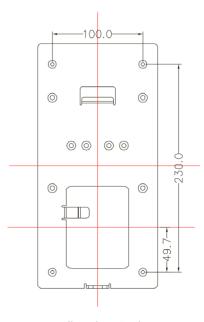
9. Install Instruction

Box 86 for Wall-Mounted Installation

- 1. Install stickers on the wall, and make holes in the wall according to the height and position of the stickers to install Box 86.
- 2. Align the outlet of the hanging board with the center of the Box 86, punch four mounting holes on the wall according to the punching size diagram, and insert four wall plugs.
- 3. Use four KA 4*25 screwsto fix the hanging board to the wall. Connect the cable of the external device to the cable, arrange the cables, and determine the cable outlet method.
- 4. Hook the device from top to bottom on the mounting plate, and make sure that the upper part of the hanging plate is inserted into the groove on the back of the device.
- 5. Fix the device and the hanging plate from the bottom with a screw.





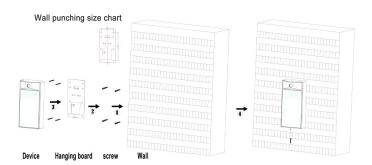


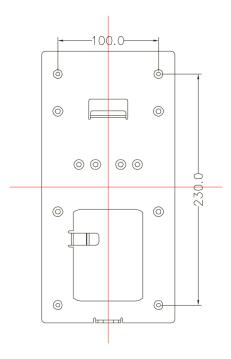
Wall punching size chart



Wall-Mounted Installation

- 1. Attach an installation sticker to the wall, make holes in the wall according to the height and position of the sticker, insert a wall plug, and install 4 hex screws.
- 2. Fix the hanging board on the wall with four KM 4* 10 screws.
- 3. Hook the device from top to bottom on the hanging board, and make sure that the upper part of the hanging board is inserted into the groove on the back of the device.
- 4. Use a screw to fix the device and the hanging plate from the bottom.





Wall punching size chart



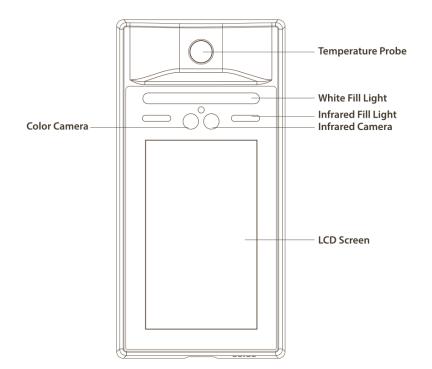


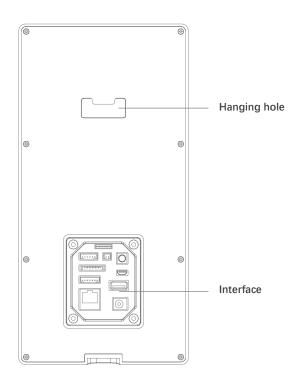
Quick Start Guide

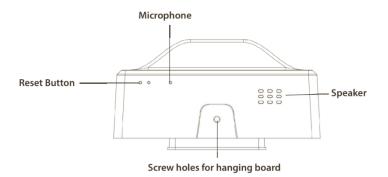
FACE RECOGNITION SCANNER

RS AI-321

1 Product Appearance



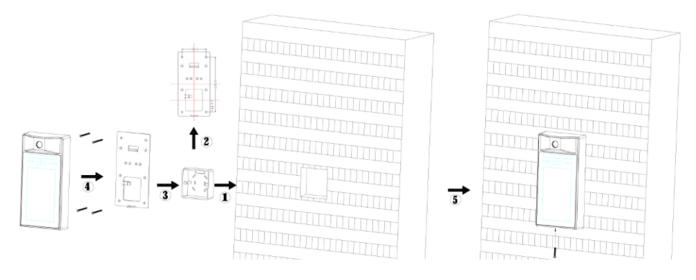




2 Install Instruction

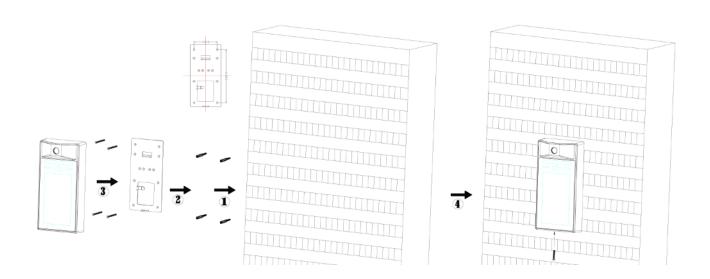
Box 86 for Wall-Mounted Installation

- 1. Install stickers on the wall, and make holes in the wall according to the height andposition of the stickers to install Box 86
- 2. Align the outlet of the hanging board with the center of the Box 86, punch four mounting holes on the wall according to the punching size diagram, and insert four wall plugs.
- 3. Use four KA4 * 25 screws to fix the hanging board to the wall. Connect the cable of the external device to the cable, arrange the cables, and determine the cable outlet method.
- 4. Hook the device from top to bottom on the mounting plate, and make sure that the upper part of the hanging plate is inserted into the groove on the back of the device.
- 5. Fix the device and the hanging plate from the bottom with a screw.

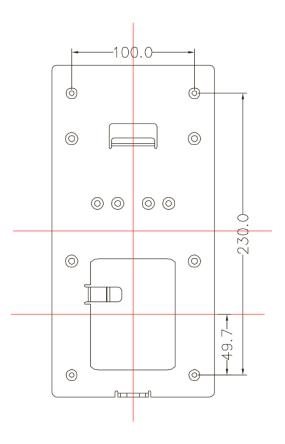


Wall-Mounted Installation

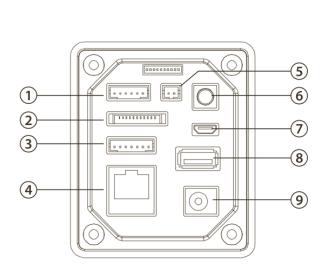
- 1. Attach an installation sticker to the wall, make holes in the wall according to the height and position of the sticker, insert a wall plug, and install 4 hex screws.
- 2. Fix the hanging board on the wall with four KM4 * 10 screws.
- 3. Hook the device from top to bottom on the hanging board, and make sure that the upper part of the hanging board is inserted into the groove on the back of the device.
- 4. Use a screw to fix the device and the hanging plate from the bottom.

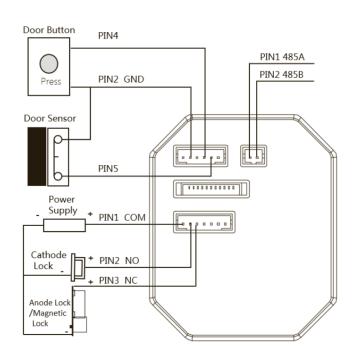


Wall punching size chart



3 Interface Instruction





1 6PIN Door Button, Door Sensor, Alarm Interface

1	2	3	4	5	6
5V	GND	NC	Door Button	Door Sensor	Alarm

2 11PIN Reserved IO

1	2	3	4	5	6	7	8	9	10	11
	PWRON	IO7	GND	3.3V	IO6	IO5	IO4	IO3	IO2	IO1

3 7PIN 12V Power Supply, Relay Interface

1	2	3	4	5	6	7
СОМ	NO	NC	GND	GND	12V	12V

4 Ethernet port

⑤ 2PIN 485

1	2		
485A	485B		

- 6 Tamper key
- 7 Micro USB Port
- 8 USB-A Port
- 9 12V Power Adapter Socket

4 Product Function Overview

This device provides 3 usage modes: Attendance for Company, Attendance for School and Quick screening. Users can choose the appropriate application mode according to their needs.



1. Attendance for Company

This mode can perform temperature detection and identification of company employees, and complete temperature measurement, attendance and access control at the same time. This mode needs to be used in conjunction with Attendance Management Software for Company.

2. Attendance for School

This mode can perform temperature detection and identification of students, and complete temperature measurement, attendance and access control at the same time. This mode needs to be used in conjunction with Attendance Management Software for School.

3. Quick Screening

This mode only performs temperature detection, which can realize temperature measurement and access control functions. Users can view data through Temperature Cloud APP at this mode.

5 Attendance for Company

1. Log in to the attendance management software to complete the following operations:

- Add device ID.
- Set attendance rules.
- Import employee information.
- Import employee face photos.
- Configure attendance device and attendance rules for employee.

For the specific operation method, please refer to the instructions of Attendance Management Software for Company.

2. Configure device networking

Click the network button in the upper right corner of the interface to make the following settings:

• Set the domain name of the device



Users who directly use the attendance management cloud service provided by our company can directly omit this step.

Users who need to deploy attendance management service locally need to modify the domain name address to the actual server IP address.

For specific operations, see the **Local Service Deployment** instructions.

Network Settings

Users can choose WIFI or Ethernet to configure device networking.

Users who directly use the access control attendance management cloud service provided by the company only need to configure the device to connect to the external network.

Users who use the local server need to configure the device to be able to access the local server.

Connect Server Successfully

Users who have successfully connected the device to the server and have completed the operations described at 1 point can see that the text prompt in the upper left corner of the main interface of the device disappears and becomes a menu



3. Set operate code and synchronize data

Clicking the menu button will first ask to set the operation code.

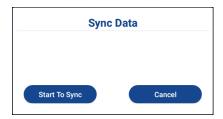


The user can set an operation code by himself, and after clicking the menu icon, the operation code set by the user is required to view the menu item.

If you forget the operation code, you can log in to the attendance management software to enter the device management page to view.

Sync Data

After setting the operation code, the interface will automatically pop up the Sync Data window. Click the **Start To Sync** button to sync the employee information and photos imported by the attendance management software to the device. After synchronization, the device can be used for employee temperature measurement and attendance.





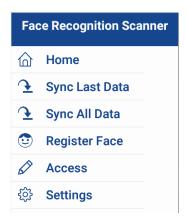
Note: If there are a lot of faces synchronized at one time, the synchronization time will take a long time, please wait patiently

4. Temperature Measurement and Attendance

- Please align your front face with the contour line and keep your forehead unobstructed.
- Keep the distance from the device 30~50cm.



5. Main menu item description



The menu icon is hidden in the main interface, you need to double-click the screen to display it, click the menu icon to pop up the Operate Code interface, and the menu item pops up after the operation code is correctly input.

1) Home

Click to return to the homepage.

2) Sync Last Data

The device only sync the last modified or added user data and face photos.

3) Sync All Data

The device will clear the local cached data, and re-sync all user data and face photos, which takes a long time.

4) Register Face

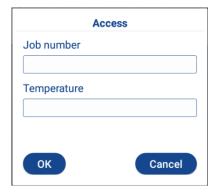
The device needs to synchronize the employee information first, and the employee can register the face after being able to query his information.

You can enter "Name/Job number/Registered/Unregistered" to perform a fuzzy search. After finding the corresponding employee information, select the **REGISTER FACE** or **RE-REGISTER** button to enter the face photo.

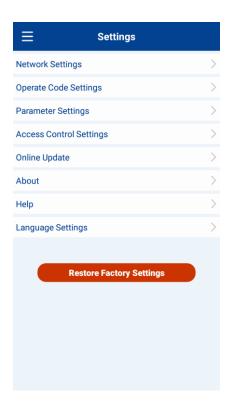


5) Access

If the face cannot be recognized, you can choose Access to verify.



6) Settings



Network Settings

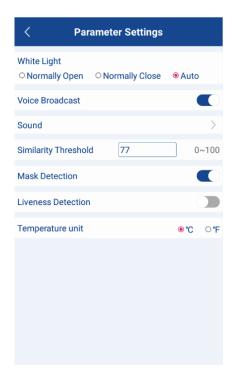
Users can choose WIFI or Ethernet to configure device networking.

Users who use the local server need to configure the device to be able to access the local server.

• Operate Code Settings

To reset the operation code, the device must be connected to the Internet to set it successfully.

Parameter Settings



White Light

The white light can be set to normally open / normally closed / auto. When set to automatic, it will automatically adjust on and off according to whether there is face detection or not.

Voice Broadcast

Control the opening and closing of voice announcements.

Sound

Click to enter the volume adjustment interface.

Similarity Threshold

The threshold adjustment will affect the pass rate and false detection rate of face recognition. If the face similarity threshold is set higher, the comparison will be stricter and the pass rate will be relatively reduced. Mask recognition, if the threshold is set higher, it may lead to unrecognizable. If the threshold is set lower, the false detection rate will increase. For example, if the original person is not entered, then because the threshold is set lower, it may be identified as an employee in the photo library that is similar to the person.

Mask Detection

When mask detection is enabled, if someone is detected not wearing mask, an alarm will be issued, and only wear mask can pass.

Liveness Detection

When the liveness detection is enabled, the live detection infrared fill light will be performed after recognition. It can be set to normally open / normally closed / auto. When set to automatic, it will automatically adjust on and off according to whether there is face detection. Only pass the liveness detection to enter.

Temperature Unit

°C and °F are optional.

• Access Control Settings

Door sensor type

Normally Open and Normally Close are optional.

Door Action Time

The door will automatically close after the set time.

Door Sensor alarm

If the door is not opened or closed normally, the alarm will be triggered.

Online Update

Online update requires that the device must be connected to the internet. If there is a new version, it will automatically update the latest version.

About

Check device software version information

Help

View instructions

Language Settings

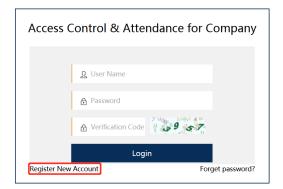
Change the system language.

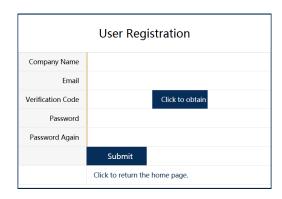
Restore Factory Settings

If you choose to restore the factory settings, the device will clear all data and restore to the state of initial use, please be careful.

6 Attendance Management Software for Company

- 1. Login the Attendance Management Software
- Users who directly use the attendance management cloud service provided by our company can directly
 open the website with a browser: http://attendance-company-cloud.business.cloud.meterbox.com:30091



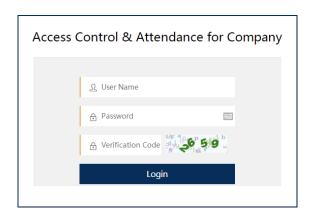


To use it for the first time, you need to click the **Register New Account** to register.

Note: In some countries, it will take a long time for the email to receive the verification code when registering by email. Please wait patiently

• Users who deploy attendance management service to the local server can install and run local deployment tools to access the attendance management software.

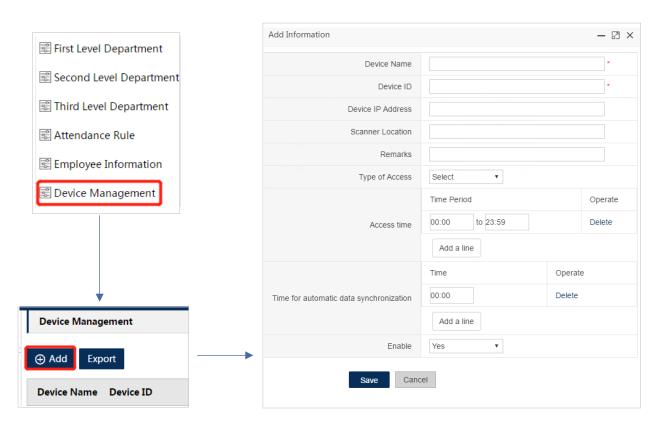
Please refer to the Local Service Deployment Instructions for how to deploy services locally.



No registration is required to access the local attendance management software. The default user name is: **admin** and the initial password is: **123456**. User can modify the password after logging in.

2. Add Device

Click [Device Management] > [Add] to add device to the software.



Device name and device ID are required.

The device name can be set by the user, and the device ID must be consistent with the ID number displayed on the upper left corner of the main interface of the device. After the input is complete, click the save button to complete the device addition

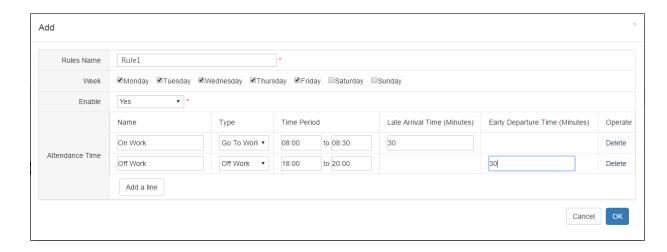
Note: The device can only control the door to open within the "access time" range, and the door will not open if it exceeds the access time range.

Automatic data synchronization time: the time when the device automatically synchronizes the latest data of the management software.

3. Configure Attendance Rule

Click [Attendance Rule] > [Add] to add an attendance rule.





Interpretation of attendance time setting:

Set the type Go to Work, the attendance time is 8:00-8:30, and the late time is 30 minutes, then: Check-in from 8:00-8:30 is considered normal, and check-in from 8:31-9:00 is considered late.

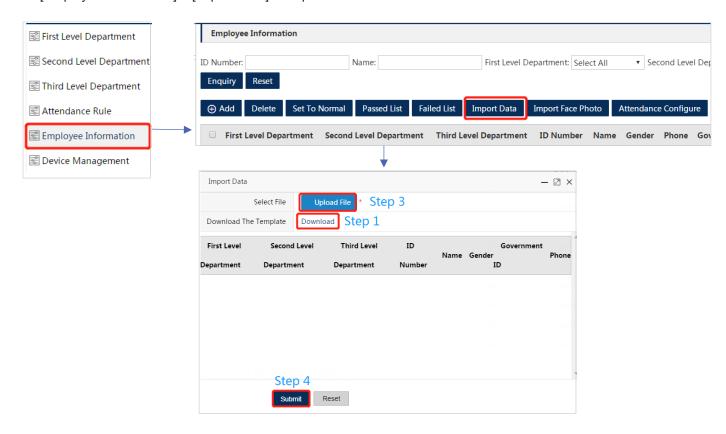
The setting type is Off Work, the attendance time is 18:00-20:00, and the early departure time is 30 minutes, then: Checkin at 18:00-20:00 is regarded as normal, check-in at 17:30-17:59 is regarded as early departure.

Checking in at other times will be regarded as not within the attendance time period.

4. Enter employee basic information and employee face photos

Import employee information in bulk

Click [Employee Information] > [Import Data] to import data.



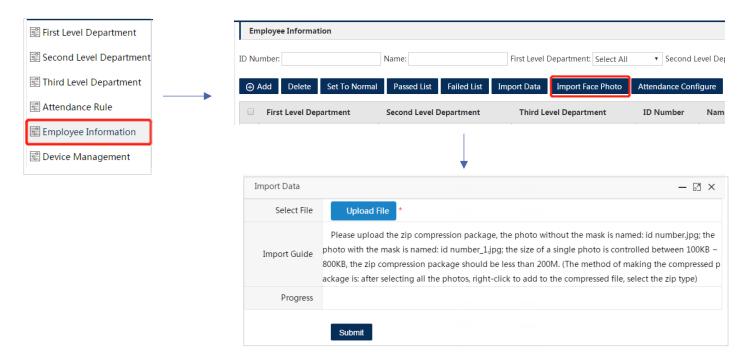


In the data import interface, click **Download** to download the EXCEL template and save it to the specified location.

Fill in the data in the EXCEL template style and save it. Click **Upload File** to find the file and click Open. After the data is loaded, the interface will display the data list. Click **Submit** to complete the batch import of employee information.

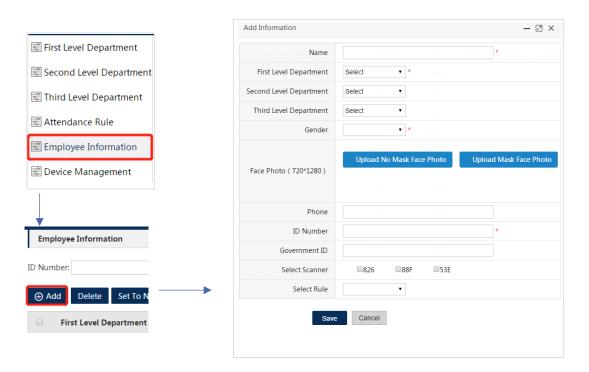
Import employee face photos in bulk

Click [Employee Information] > [Import Face Photo] to import face photo.



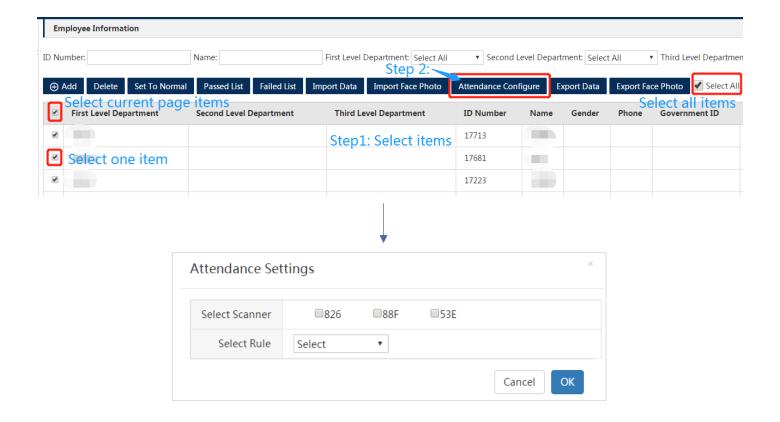
Note: Please operate according to the interface import guide requirements. After the progress reaches 100%, it means that the photos have been loaded then click "Submit" to complete the batch import of photos.

Enter employee information and employee face photos individually



Note: The items marked with an asterisk are mandatory. If there is no first-level department, you need to add a department. After selecting the scanner and attendance rules, the selected scanner can be synchronized to the employee's information.

5. Configure attendance devices and attendance rules for employee



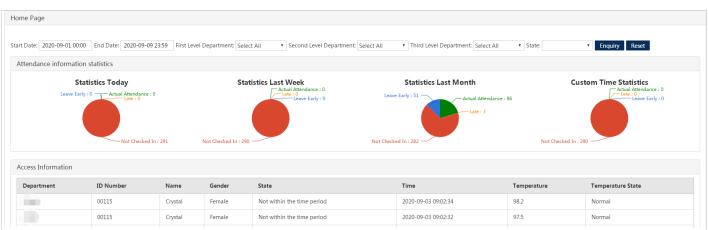
You can configure different attendance devices for different employees by querying and checking. Attendance device can be synchronized to the corresponding employee information.

Note: If no employee is assigned to the attendance device, the attendance device will not synchronize any data.

6. Home Page

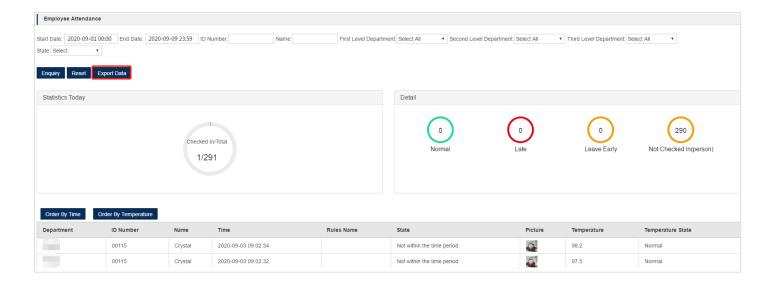
Display attendance statistics and access information.

After the device is connected to the server, it will automatically upload employee temperature measurement records and attendance records at real-time.



7. Employee Attendance Record

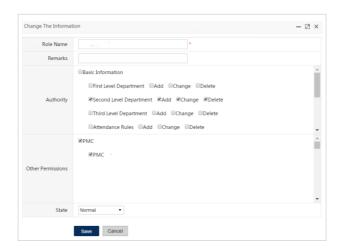
You can view or export detail employee attendance record at this page.



8. System

Role Management

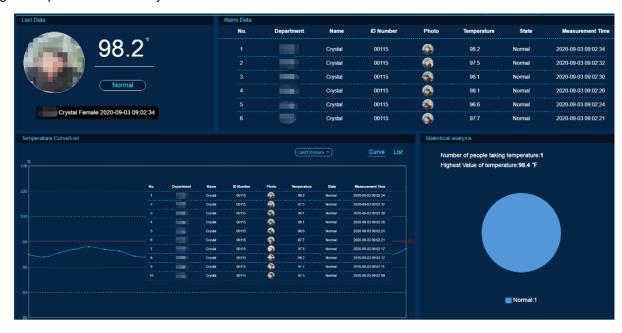
The administrator has the authority to add multiple user roles and assign different permissions to different roles, such as to view records only one of the departments; add, modify or delete one department...



9. Temperature Analysis

Dashboard

You can view the latest employee temperature data curve, data list, temperature alarm data and temperature statistics. The page will update automatically.



History

You can inquire the history data.



7 Local Sever Deployment

1. Installation

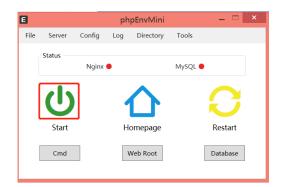
Select a computer as the local server and install the Environment Configuration software in the computer.

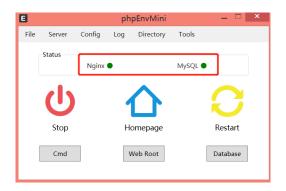
Double click Attendance_E.Setup.exe to install the software. Please install the software in a non-system disk directory, The default directory is "D:\attendance".

After successful installation, the shortcut icon \cite{L} will be generated on the desktop.

2. Configure the operating environment

Double-click the icon to run the software. Click the "Start" icon to start MySQL and Nginx. If the Nginx and MySQL start successfully, the icon will turn green.

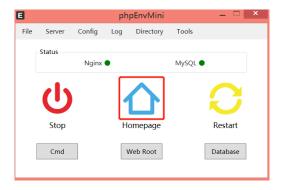




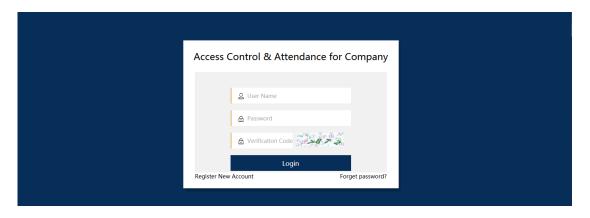
Note: Please keep the two items (Nginx and MySQL) on, otherwise the terminal device will not be able to access the server to upload data or sync data or other communications.

3 . Run the access control and attendance management platform software

Click the "HomePage" button, and the interface shown below will appear, indicating successful operation. (Chrome is recommended for browsers)



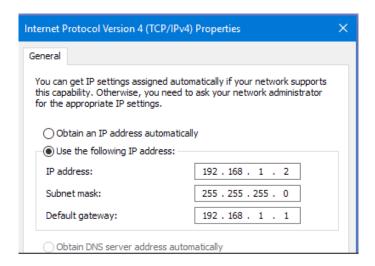
The default User Name is Admin. Default Password is 123456.



4 . Face Recognition Scanner Configuration



For example, the IP address of the local server is as shown below:



Then modify the domain name of the terminal to: http://192.168.1.2:30091/



Note: Make sure that the server firewall opens the "30091" port.

If the access control attendance management platform service was previously deployed in another location, and you have logged in to the management platform and added the device, you need to log in to the previously deployed management platform to delete the device, and then enter the device "Menu / Settings / Restore Factory Settings".