

Shenzhen Xinhe Electronic Technology Co., Ltd.

**Quick operation manual for smart tablet camera with
temperature detection + face recognize**



Version: V4.0

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1 Product description

1.1 Product introduce

2MP temperature measurement face recognition smart panel machine series products, adopting LCD display screen, Embedded deep learning face recognition algorithm, Integrated high-precision thermal imaging temperature measurement chip, AI intelligent access control products with ISP image processing and other technologies. This product has powerful functions such as face detection, mask detection, face recognition comparison, body temperature detection, living body judgment etc. Accurately captures personal information (such as facial information, identity information, whether wearing a mask, etc.) through the camera's field of view, and body surface temperature. Can effectively help users manage access rights and monitor body temperature status, help prevent epidemics. Users can manage the access rights offline by loading the face database to the device. Can also be used with attendance software to achieve employee attendance management. Can be widely used in residential access control, barrier gate passage, office buildings and other scenarios!

1.2 Appearance



1.3 Device interface definition

Numb er	Interface name	Interface Description
1	Power interface	12VDC
2	Network interface	RJ45 interface
3	Relay interface	+: NO Normally open port

		-: COM common port
4	Wiegand interface	-: COM common port 1: 12VDC 2: Wigan protocol data portD1 3: Wigan protocol data portD0 4: Signal ground

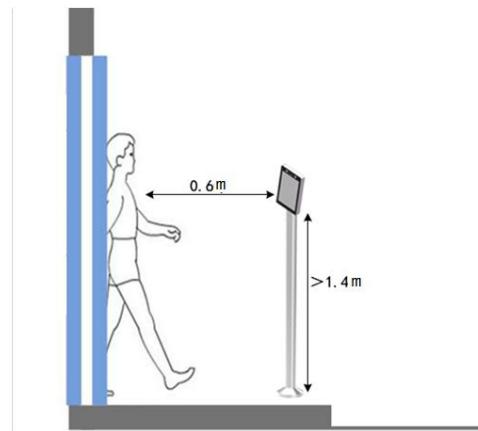
2 device installation

2. 1 Installation location selection

1. The camera is set directly in front of the channel, and the face is captured in front;
2. The recommended height h is about 1.4 meters to 1.6 meters; the recommended camera angle is 0 to 10 degrees;
3. In order to ensure the temperature detection effect, the distance of the device from the personnel collection point is 0.6 meters (range 0.4 ~ 0.7 meters), and the face pixel is not less than 1MP.

2. 2 Installation environment specifications

1. Illumination requirements: No backlight, no obvious reflection on the face, uniform light and no shadow. In addition, in order to ensure that the scene lighting is sufficient when capturing human faces, it is recommended that if the human face in the lens picture is not bright enough, additional lighting equipment needs to be added to fill the human face (generally 250 ~ 800 Lux).
2. Light and wind requirements: It is recommended that the device be installed indoors to ensure that there is no wind between the device and personnel, and no direct sunlight, and avoid the temperature measurement that is too low or too high caused by air cooling and direct sunlight.

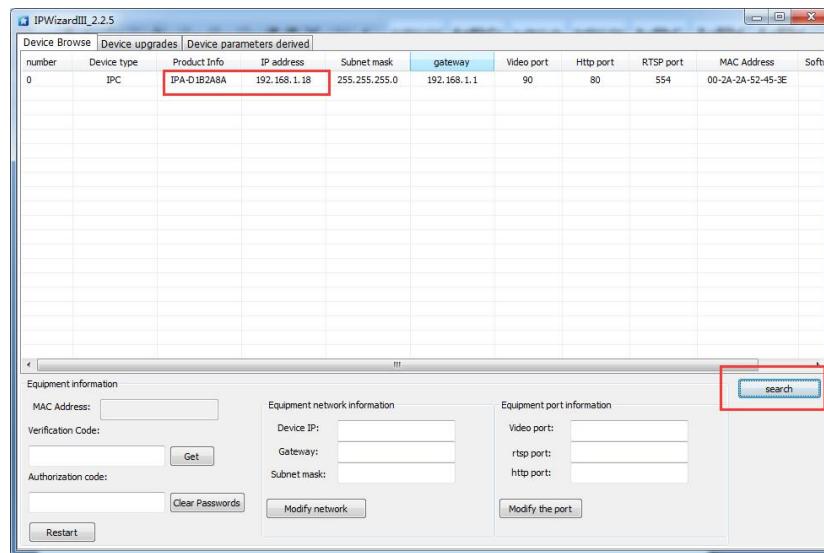


3. Quick instructions

3.1 Device connection

Connect the device to the PC through a network cable. After the device is powered on, open the search tool on the computer and search for the device IP address. At the same time, you can also modify the device IP address through the tool.

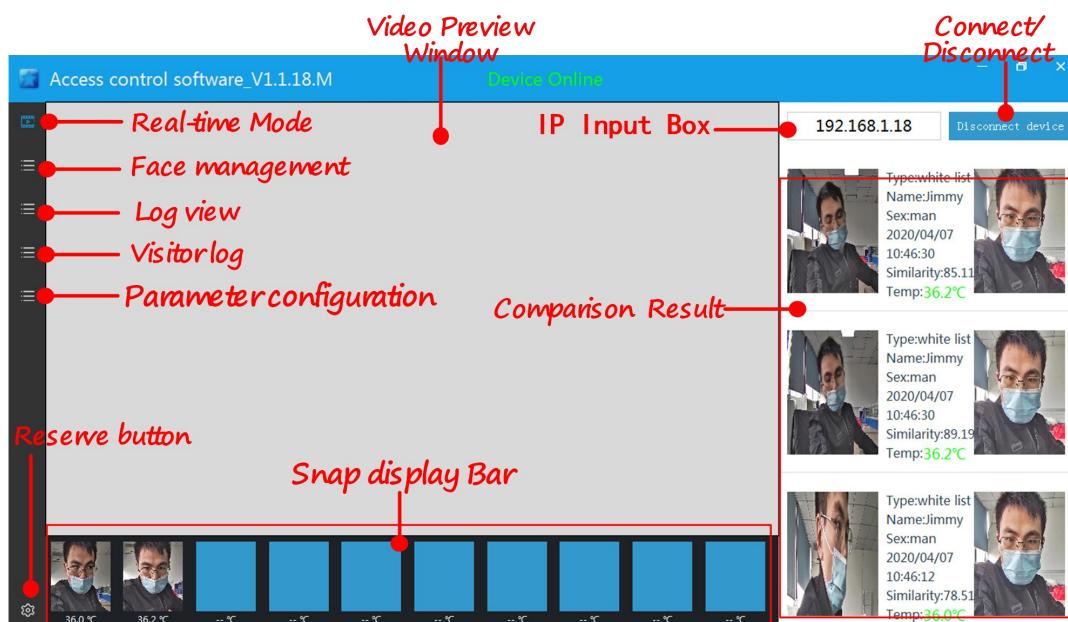
Note: The default factory IP address is 192.168.1.18



3.2 Intelligent access control management software operation

After the device is powered on, use the intelligent access control management software to set up the face database, preview real-time video, display real-time comparison results, read device logs, and configure device parameters.

3.2.1 Homepage introduce



【Video preview window】: After connecting the device, play live video from the camera.

【IP input box】: Enter the IP address of the device.

【Connect / disconnect device button】: Click [Connect Device] to connect to the device, you can view the preview real-time video, upload real-time snapshot pictures, display recognition results, etc.

Click [Disconnect Device] to disconnect and close the preview.

【Comparison result】: When the captured face matches the face database in the device, it will be displayed here, and basic information, similarity, temperature and other information of the face will be displayed. If the face database is not matched, it will not be displayed.

【Snap display bar】: In the video preview mode, the captured face picture of the current screen and the body surface temperature are displayed.

【Face management】: Click to enter the face database management interface, you can add, subtract, delete, check, change and other operations on the face database.

【Log view】: View and export the face recognition record information saved by the device, and generate a staff attendance record form.

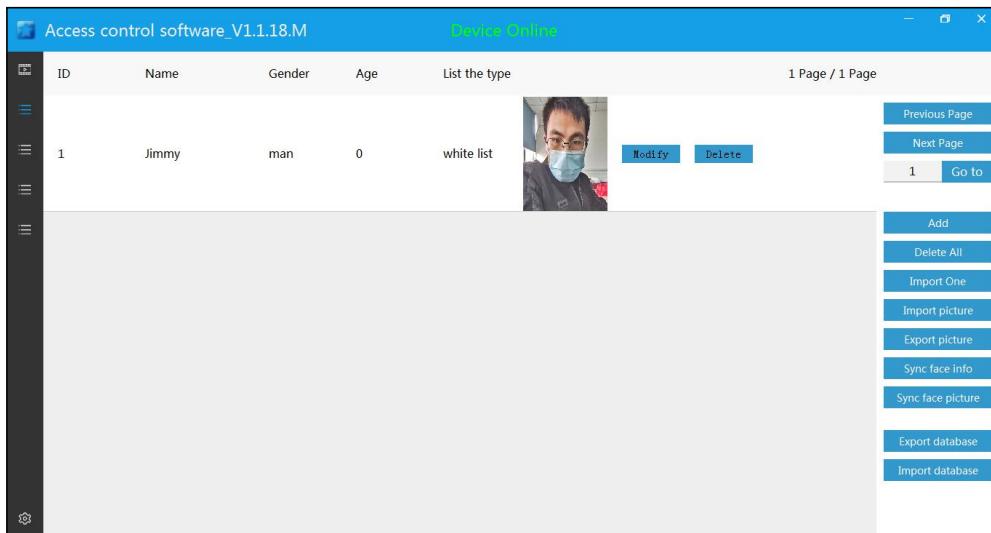
【Visitor Log】: View and export the visitor information saved by the device, and generate a staff attendance record form.

【Parameter configuration】: Device face recognition key parameter configuration interface, you can modify parameters in this interface.

【Reserve button】: Functions are not defined yet, software setting functions will be added later.

3.2.2 Face database management

Users can perform operations such as adding, subtracting, deleting, checking, modifying, importing and exporting the face database on this interface.



【Add】: Add face library to the device by snapshot

【Delete all】: Click the button to delete all face libraries in the device

【Import one】: Import a single picture to the device face library

【Import picture】: Batch import multiple photos to device face library

【Sync face info】: Click button to automatically upload the basic information of the device face database

【Sync face picture】: Device uploads face library picture to PC software

【Export database】: Export the face library to PC for backup from device

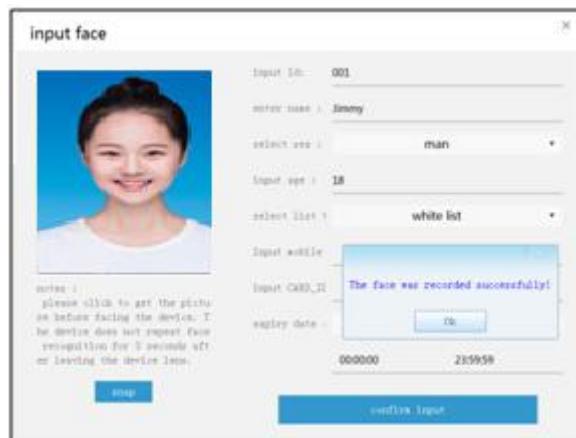
【Import database】: Import the backup face library to device

【modify】: Modify the personal attribute information of the current face

【delete】: Delete the current face database information from the device

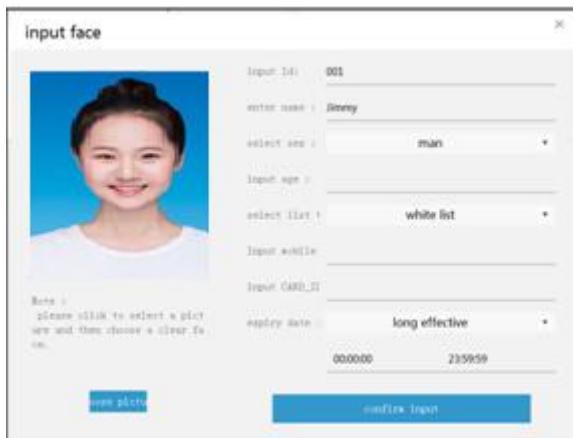
3.2.2.1 Add operation

Click the **[Add]** button to enter the interface. Face is directly facing the camera. Click the **[Capture Picture]** button to capture the face picture and enter the personnel information. Click the **[OK]** button to prompt the formal entry of the face successfully.



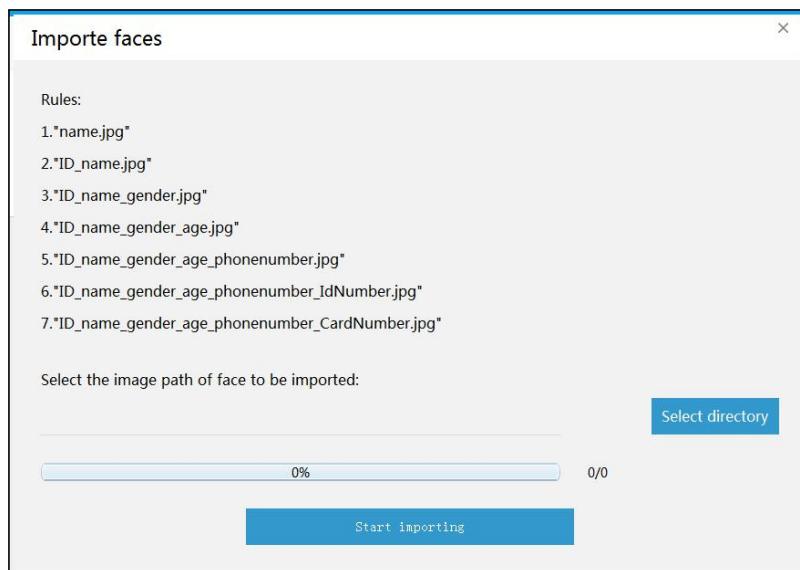
3.2.2.2 Import one face database operation

Click [Import one] to pop up the input face interface, click [Select Picture], select the facepicture file, enter the personnel information, and click [Enter] to complete the singleface import.



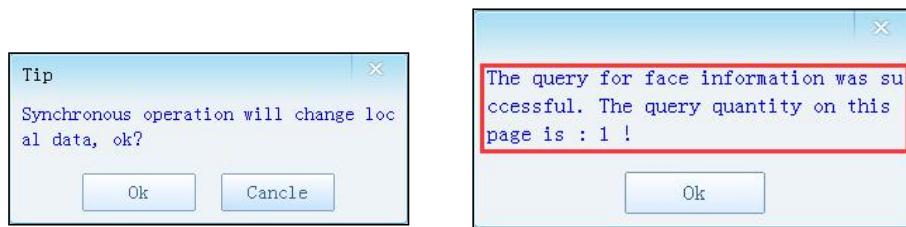
3.2.2.3 Import picture face database operation

Click [Import picture], pop-up interface, click [Choose Directory], select the face picture folder, and click [Start Importing]. The import progress bar will complete the batch import of faces.



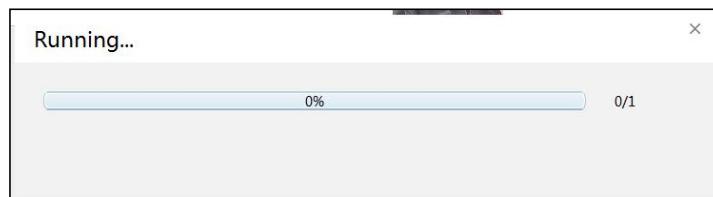
3.2.2.5 Sync face info operation

Click the [Sync face info] button to synchronize the basic information of the face database, and you can view the statistics of the number of entered faces.



3.2.2.6 Sync face picture operation

Upload the face database from the device to the management software. After replacing the new device, you must first manually sync the face database. Otherwise, the personnel information on the management software and the device's face database may be inconsistent, resulting in incorrect display of the identification comparison information.



3.2.2.7 Export database

Export the face library to PC for backup from device

3.2.2.8 Import database

Export the face library to PC for backup from device

3.2.3 Log View & Attendance Record

Click [Log View], enter the interface to select the search start and end time, and click the [?] button to search the log.

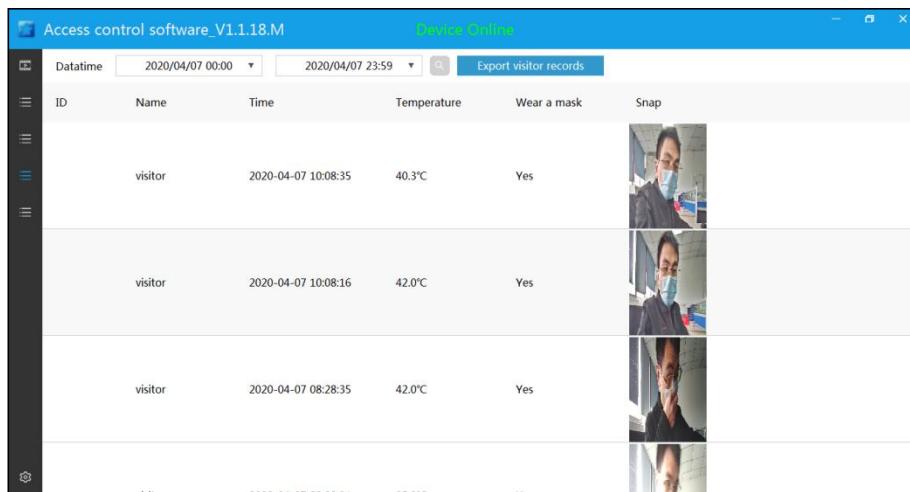
Access control software_V1.1.18.M						Device Online
Datetime		2020/04/07 00:00	2020/04/07 23:59	Export attendance record		
ID	Name	Time	Temperature	Wear a mask	Event description	
	Jimmy	2020-04-07 10:10:54	36.8°C	Yes	Recognized and Passed	
	Jimmy	2020-04-07 10:19:26	41.9°C	Yes	Recognized and Passed	

[Export Attendance Record]: Click the button to select the save path to automatically export the attendance record to save EXCEL.

	A	B	C	D	E	F	G
1	id	NAME	DATE	TIME	Temperature	MASK	Capture pictures
		visitor	2020-04-08	19:51:53	42.0	yes	
2							

3.2.4 Visitor log

Click [Visitor Log], enter the interface to select the search start and end time, and click the [] button to search the log.



ID	Name	Time	Temperature	Wear a mask	Snap
visitor		2020-04-07 10:08:35	40.3°C	Yes	
visitor		2020-04-07 10:08:16	42.0°C	Yes	
visitor		2020-04-07 08:28:35	42.0°C	Yes	

[Export visitor Record]: Click the button to select the save path to automatically export the visitor record to save EXCEL.

	A	B	C	D	E	F	G
1	id	NAME	DATE	TIME	Temperature	MASK	Capture pictures
		visitor	2020-04-08	19:51:53	42.0	yes	
2							

3.2.5 Parameter configuration

You can set the key parameters of face capture as shown below.



Capturing interval: Set the face capture interval to avoid repeated snapping of pictures in a short time.

Snap picture quality parameters: Set the quality of the captured picture. 0 is the worst and 1 is the best.

Blur parameter: Set the sharpness of the captured picture. The range is 0-1. The smaller the value, the clearer it will be..

Living-body threshold : Set the face recognition biometric threshold, 0-1. The larger the value, the stricter and more secure the biometric detection.

Face recognition: Set the threshold for face recognition matching, compare the captured face picture with the face database, and the similarity exceeds this threshold, that is, the same person is identified. The threshold is recommended to be set above 70. The greater the matching, the higher the similarity requirement , The safer.

Identified times: Set the number of times that the face is repeatedly recognized within the camera recognition range. After this number of times, the face is no longer recognized. You need to exit the camera's field of view and re-enter the screen to continue recognition.

Recognition distance threshold: Configure distance for start face recognition.

Face export threshold: Set the brightness of the face capture image, the default is 50.

Software version: The factory default configuration version number is displayed and cannot be revised.

TEMP compensation coefficient: In the harsh environment, increase the compensation temperature to improve the temperature measurement accuracy.

Switch delay time: The pulse time (unit: 100ms) of the switch output, The default is set as 2(200ms).

Normal TEMP threshold: Set the temperature alarm value. If the temperature is higher, it indicates that the temperature is abnormal. If the temperature is lower, the temperature is normal.

Black and white list comparison switch: Turn on or off the function of face comparison. If it is off, face comparison will not be performed.

Face recognition association relay: Config the relay action with the face recognition result. When turned on, the face comparison is successful and people is in white list, the relay would close.

Face recognition voice broadcast: Configure the speech broadcast mode of recognition results, including three modes: broadcast, no broadcast and only broadcast exceptions.

Broadcast: if the comparison result is a white list, please pass the voice broadcast. If the comparison result is not a list, then u and voice broadcast are not recognized;

No broadcast: do not broadcast the results of comparative recognition;

Broadcast exception only: When the temperature is higher than the normal value, the voice "abnormal temperature" will be broadcast.

TEMP detection switch: Turn on and off the temperature detection function.

TEMP related relay: Configure whether to associate relays. If the temperature is normal, the relay will close.

Temperature detection voice broadcast: Configure the voice broadcast mode of temperature test results to broadcast only abnormal, not broadcast, and broadcast temperature mode.

Broadcast exception only: if the temperature measurement value is higher than the high temperature threshold, voice broadcast "temperature abnormity" and normal do not broadcast temperature

No broadcasting: Do not broadcast any temperature measurement results

TEMP Broadcast: Broadcast the measured value of temperature, and broadcast "temperature

"XX °C, temperature abnormal" if it is higher than the high temperature threshold

Mask detection switch: Opening and closing the mask detection function.

Mask detection mode: It can be configured as epidemic mode and non epidemic mode.

Epidemic mode: in this mode, if it is detected that the mask is not worn, the voice will remind "please wear the mask";

Non epidemic mode: in this mode, if it is detected that a person wears a mask, the voice will remind "please remove the mask" to improve the recognition accuracy.

Mask associated relay: Turn on and off the relay associated with the mask test results. In epidemic mode, when the mask is properly worn, the relay will be controlled,

otherwise the relay will not be controlled.

Mask detection voice broadcast: Configure the mask reminder broadcast mode to broadcast exceptions only and not broadcast.

Only report exceptions: in epidemic mode, "please wear a mask" will be broadcast without wearing a mask, otherwise, **no warning will be broadcast**; in non epidemic mode, "please take off the mask" will be broadcast without wearing a mask.

Overlay time: On, the current time of the device is displayed on the screen; off, the device time is not displayed on the screen.

Temperature mode: Configure temperature units. It can be configured as two temperature units: Celsius and Fahrenheit.

Refresh: Click the button to obtain the configuration from device

Save: Click the button to send configuration information to the device and save

4. Device program upgrade

Users can use the browser or PC tools to upgrade the program;

Note: Browser upgrade package suffix is .ifu, PC tool upgrade package suffix is .bin

4. 1 Web upgrade program:

Note: The browser can only use IE browser, QQ browser and 360 secure browser. IE Edge browser and 360 fast browser cannot be used.

Step 1: Open the browser, enter the device IP address, and enter the username admin

and password admin.



Step 2: Click Settings-> System-> Maintenance in order to enter the upgrade interface.

Step 3: Click Browse to select the app.ifu upgrade package.

Step 4: Click the [Upload] button to start the upgrade. Wait for the upgrade to complete and the web page will refresh automatically.

