



## Features:

### 1. Product Overview

Jingyan's JTM05 multi-person face recognition thermal imaging measurement module integrates high-precision thermal imaging temperature sensor, built-in intelligent face capture algorithm, with powerful functions such as face detection and temperature detection. With the thermal imaging screening system software, it can accurately capture the forehead temperature of the personnel through the camera vision. It can effectively help users to monitor the temperature status of the entry and exit personnel, and help prevent the epidemic situation. It is widely used in school, office building, station and other entrance scenes. Jingyan's JTM05 temperature measurement module protocol is open with complete documents, which can support the secondary development of Android APK and engineers to develop further application.

### 2. Product features:

- Industrial appearance and metal case, with a wide dynamic color camera, stable and reliable quality;
- Non-contact temperature measurement, automatic face recognition, forehead temperature capture in 100ms;
- 0.3 to 1.5 meters ultra-far temperature detection, 0.1°C resolution and <0.5 °C error
- Support up to five people to test at the same time and multiple people to test;
- Automatic recognition of face forehead, only capturing the temperature of forehead area, more accurate and reliable;
- Support accurate face recognition when wearing masks;
- White LED with auto environment weak light detection;
- Red, Blue and green programmable LED can show different status of under testing person;
- Support facial expression shielding, automatically shield face information for private;

- Two operation mode, fast screening mode and precision measurement mode;
- Thermal imaging 4800 points (80x60 pixels) multi-point temperature detection;
- It has its own environment temperature detection, adapts to the high / low temperature environment, automatically corrects and compensates forehead temperature in different environment;
- Intelligent optimization algorithm, reduces the influence of the distance between the personnel and the camera;
- Complete relevant documents, support the secondary development of Android APK, android APK is open-sourced in GITHUB;

## Specification:

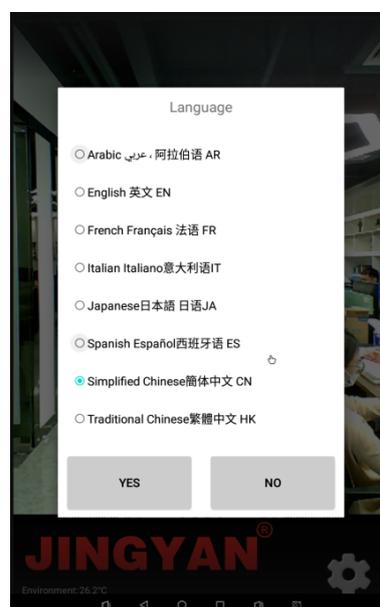
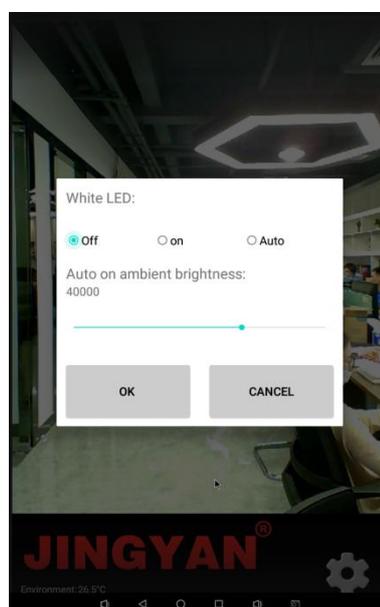
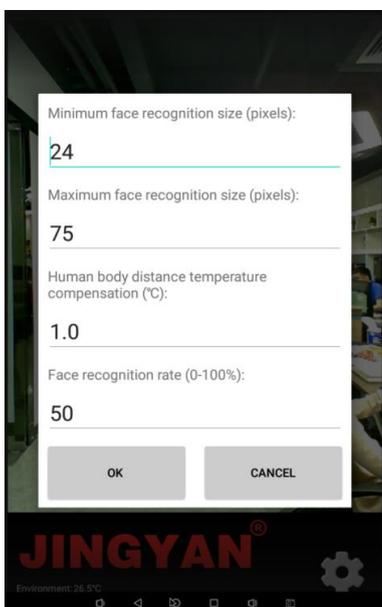
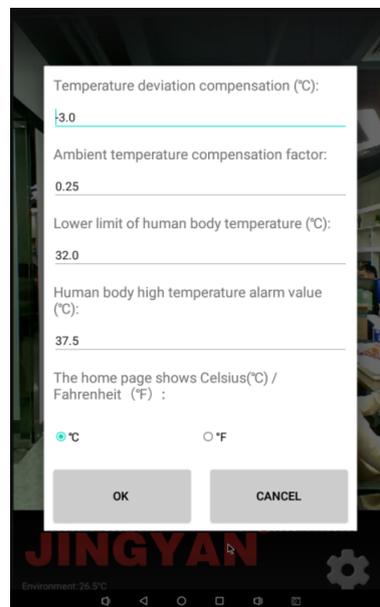
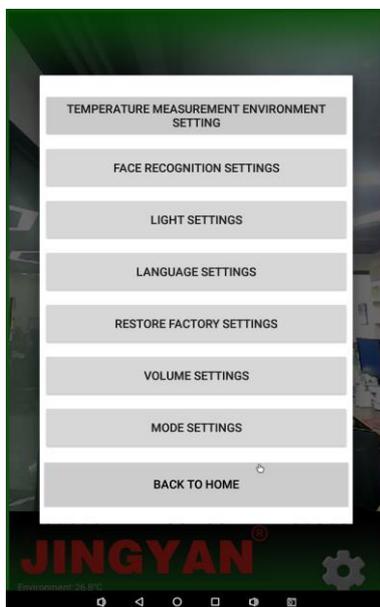
Model No.	JTM05	
<b>Color Camera Parameters</b>	Resolution	100W Pixel
	Type	Single Len Wide Dynamic Camera
	Focus Length	50-150cm
	White Balance	Auto
<b>Light</b>	White LED for Lighting, Red, Green and Blue for status LED	
<b>Calibration Parameters</b>	Environment Temperature Measurement	-20°C~100°C, +/-0.5°C
	Black-Body Temperature Control	30°C~50°C, +/-0.1°C
<b>Thermal Camera Parameters</b>	Infrared Thermal Measurement Range	0°C~60°C
	IR Thermal View Angle	90°
	IR Temperature accuracy	≤ 0.5°C, (After Calibration: ≤0.2°C)
	Protection Class	Standard room or outdoor usage
	Working Temperature	0°C~50°C (Recommended Temperature 15°C~40°C)
	Storage Temperature	-10°C~60°C
	Power Supply	USB 2.0, 5V, 500mA
	Connection	USB 2.0 CDC
	Installation	1/4 inch screw nut
	JTM05 Module Size	100*60*35 (mm)
	Weight	400g

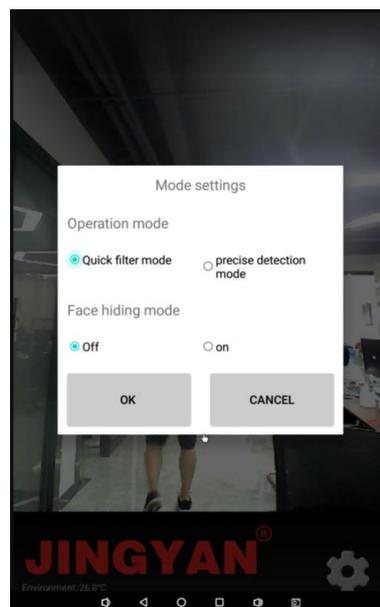
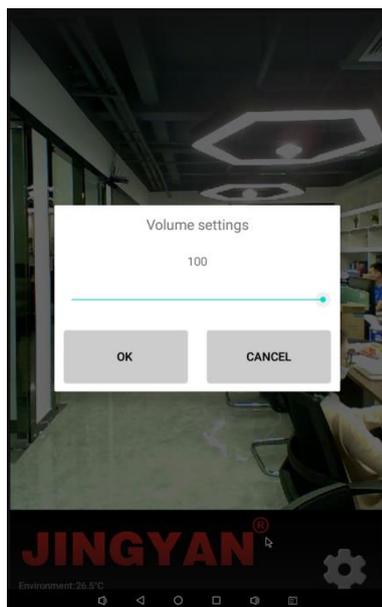
## APP User Interface Control Instruction:

(Below user must have JTM805 or JTM05 + android board)

### Menu interface:

Click the Gear on the main page and enter the setting menu page:





## Temperature Measurement Environment Setting:

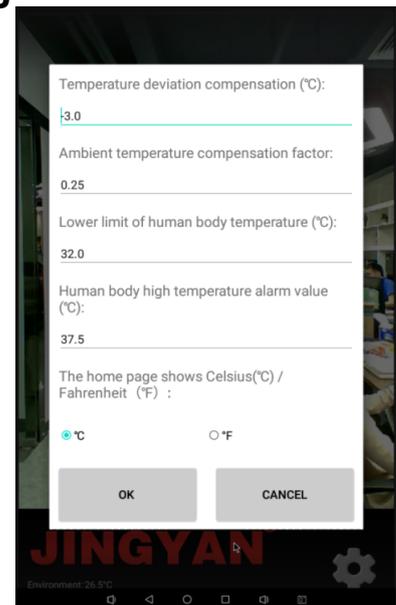
### 1) Temperature deviation compensation:

Set the offset of the temperature, if you find out that the measured value is 5.5 degree Celsius larger, then you can enter -5.5 to compensate the error.

### 2) Ambient temperature compensation factor:

This is the factor to control the environment temperature affect the heat loss of human forehead. For example in a 10 °C environment, forehead's skin temperature may be drop to around 32°C.

But in 38°C environment, forehead's skin temperature will be 37°C. So we have build in formula to compensate the environment effect. Usually user will keep the 0.25 as default



### 3) Lower limit of human body temperature:

This is the calculated human temperature that we recognize it is a human's face. Such as you have a printed face on a paper, the paper temperature is 25°C. And we set this value to 34°C, then the program will not recognize this photo as real human face.

### 4) Human body high temperature alarm value:

We will have a fever alarm with Sound and the screen color will have RED alert. This is the value of fever temperature.

### 5) The home page shows Celsius / Fahrenheit:

Switch the home page temperature to Celsius / Fahrenheit

## Face Recognition Setting

### Minimum face recognition size (pixels):

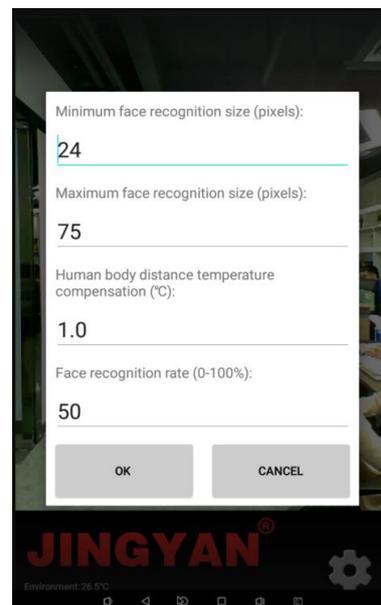
This is the minimum face width pixel to be recognized as a face.  
For example 30 pixel is around at 1.5m from the camera.

### Maximum face recognition size (pixels):

This is the maximum face width pixel to be recognized as a face.  
For example 100 pixel is around at 30cm from the camera.

### Human body distance temperature compensation (°C):

Because the distance between camera will cause the infrared Distortion and become less value than closer position.  
If we set it to 1°C, at minimum face position will compensate 1°C.  
If you find out that at far distance's reading is too large, and then you can set this value to smaller value.



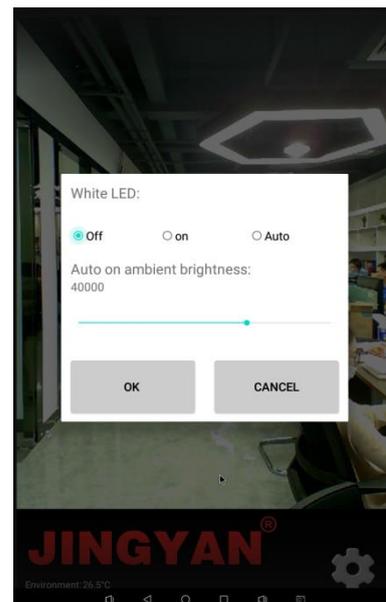
### Face recognition rate (0-100%):

This is the score that our system recognize an object is a face. If we set to 100%, then system must 100% it is a face then show you, the smaller score will have larger error, but can recognize face with mask, hat or wearing special glasses.

## Light Setting

White LED:

We will set the white LED always off/ on or Auto in Auto mode, we will use color camera to detect the environment light level, you can set the light level to trigger the white LED on or off automatically.



## Language

We can set to 8 different language, and change word and notice sound to below language:

If we found out that the body temperature is normal:

We will play “ PLEASE PASS”

Or we will play “HIGH TEMPERATURE”

Arabic 阿拉伯语 AR

English 英语 EN

French Français 法语 FR

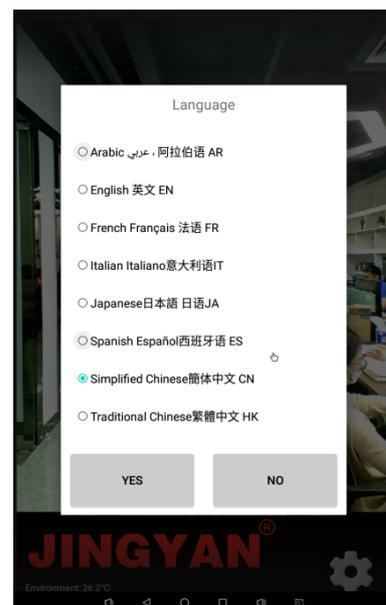
Italian Italiano 意大利语 IT

Japanese 日本語 日语 JA

Spanish Español 西班牙语 ES

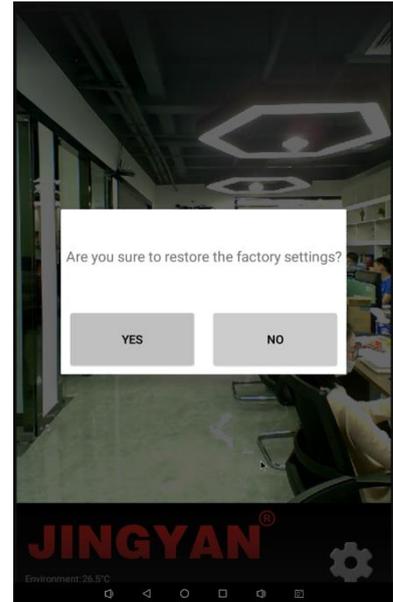
Simplified Chinese 简体中文 CN

Traditional Chinese 繁体中文 HK



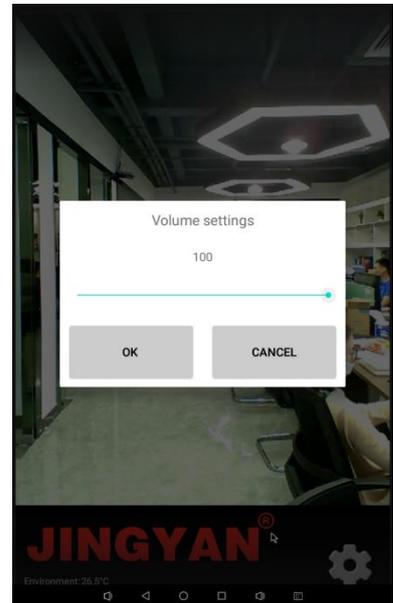
## Restore Factory Setting:

Restore all settings value to factory setting if you confirm to “YES”



## Volume Settings:

We will set the media sound level in the app, but user must also check the android system's sound level setting.



## Mode Settings:

We have two operation mode:

### Quick filter mode:

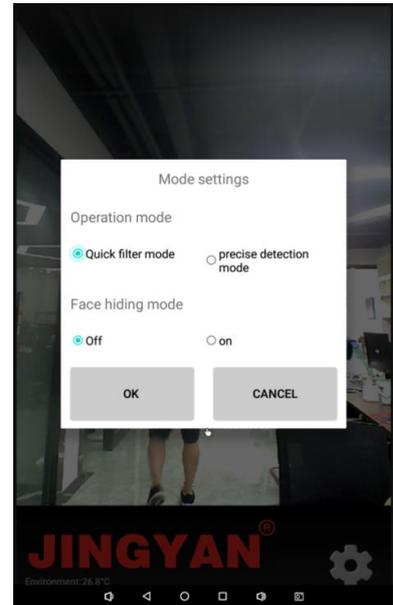
It is for the scene with lot of people and fast filtering, under testing people can just keep walking through the front of camera without stop.

### Precise detection mode:

In the precise mode, we will detect people in 1 second or more to have a precise value of temperature.

### Face hiding mode:

It is for private design that we will use emoji to shield the face.



## Camera Installation:

Please follow the below instruction to install the camera, or the result of reading may be not accurate:

How to place the environment temperature sensor:



This sensor is to check the environment temperature that under testing people fore head is staying.

- 1) Prevent fan or wind is directly flow through the temperature sensor.
- 2) If people before testing are at a higher temperature environment than the camera's environment, you can extend the environment temperature sensor out of the door.

For example: Camera is placed inside the lobby, and customer is coming from outdoor with sunshine.

Then we will suggest two solutions:

- 1) Customer line up and stay at lobby more than 15s before testing
- 2) Place the environment temperature sensor close to the door with similar environment temperature that customer is staying before.
- 3) Suggest people stay claim and in controlled environment temperature for more than 15s before testing.
- 4) The sensing part must be far away and not touching the metal part of heat source
- 5) There is a cooling fan inside the JTM05 or JTM805, please keep the distance of the camera to the wall, make sure that the cooling is good enough.

## Normal Operation:

Fast filtering:

Normal Temperature:



High Temperature:



Precise Mode:

Testing Please Wait:



Normal Temperature:



High Temperature:

