



Infrared Thermal Imaging Detection Device User Manual



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S240 S320 S384

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Foreword

Respected users:

How are you! Thank you for purchasing our instrument. In order to use it in a better manner, we remind you to read the user manual carefully before use and keep it properly so as to look up in the future use.

Limited warranty and limited responsibility

Xintai Instruments and Apparatus Co., Ltd guarantees that the product enjoys warranty service from the purchase date.

But the warranty is not applicable to the damage caused by improper operation, accidents, negligence, misuse, remodeling, pollution and abnormal condition of the operation environment. The distributor has no right to provide any warranty in the name of Xintai Instruments and Apparatus Co., Ltd.

Xintai Instruments and Apparatus Co., Ltd authorizes the retail dealers to provide new products or unused products to final customers but does not authorize them to provide guarantee with wider scope or different content.

Only the products that are purchased through distributors authorized by Xintai Instruments and Apparatus Co., Ltd or products that the purchaser paid according to proper international price can enjoy the warranty support of our company. When the product bought in a country is sent to another country for repair, Xintai Instruments and Apparatus Co., Ltd reserves the right to charge the import fees for

the parts and components to be repaired or replaced from the purchasers.

When warranty service is required, please contact the service center authorized by Xintai Instruments and Apparatus Co., Ltd to obtain the authorization information for return. Then post the product together with problem description to the service center with postage and insurance expenses prepaid. Our company will not undertake any responsibility for any damage occurred during the process of transportation. The product will be posted to the purchaser after repair with the transportation expenses paid by the purchasers. If the product failure is verified by negligence, misuse, pollution, change, accidents, improper operation or handling after inspection, including the over voltage failure caused by use without following the rated value stipulated by the product or daily service wear of the parts, our company will estimate the repair expenses and carry out repair after obtaining the consent of the purchasers. The product will be posted to the purchasers after repair with the transportation expenses paid by the purchasers.

The guarantee is the only compensation that users can be obtained and does not include other express or implied guarantees. Xintai Instruments and Apparatus Co., Ltd will not undertake any responsibility for any special, indirect, accidental or subsequent damage or loss, including any data loss caused by any reasons or inference. As some countries or states don't permit to impose limitation on implied warranty, exclude or limit the accidents or limitation on

warranty of subsequent damages, the above responsibility limit and provisions may not be suitable for every purchaser.

The users shall make promise that they familiarize with the application field and occasion of the product. The purchase indicates that the users are deemed to know the suitability for the products.

Safety instruction

Please ensure that you have read and understood the safety precautions described in the following text before using the product so that you can use it correctly.

The safety precautions described in the following text guide users to operate the product and its accessories correctly and safely to avoid loss to you, other people and the device.

Please read the user manual carefully in order to use the product correctly.



Considerations

Note: don't aim it at the sun or other intense light sources directly. Otherwise, the product detector may be damaged. Don't measure the body temperature in the environment with strong sunlight or reflect light. The product will click slightly when working. This is the normal phenomenon that the lens captures the image.

1. The condition of omitted inspection may take place for human detection. The possibility of omitted inspection may be increased in the case of wearing mask.

2. When the thermal imager is used, it is suggested to use after the startup image appears for 15 minutes to achieve better stability.
3. The product belongs to precision electronic and sensitive optical devices. Don't impact and drop it to avoid damage.
4. Don't dismantle and remodel the product without permission. Repair of the product should be made by technical personnel designated by the manufacturer.
5. The CPU used on the computer is required to be the fourth generation i3 or above with AVX2 instruction set. Otherwise, the visible camera of the product cannot be identified.
6. The computer is required to be equipped with USB3.0 interface. Otherwise, you cannot use the product normally.
7. The infrared body temperature detection instrument is used to screen out the possible fever persons, which does not serve as medical basis. It does not equal to mercury thermometer. If the abnormal body temperature is found, please use medical thermometer for further measurement.

Product introduction

The product performs infrared image observation and infrared temperature measurement function by using application software of infrared thermal imaging by connecting it with a computer. Select the body temperature mode. Carry out temperature measurement for human body through non contact manner to screen out the possible fever persons.

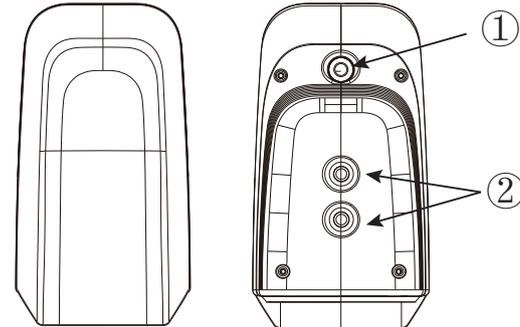
Application site: railway stations, airports, subways, quays and key

traffic transportation junctions as well as department stores, office buildings, schools and other sites.

Product characteristic

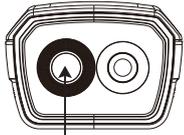
- Easy installation of the product;
- Equipped with special APP
- May set many types of parameters;
- Selection of many types of color palette
- Non-contact quick temperature measurement;
- Equipped with infrared and visible light cameras;
- Having photographing, videoing, alarm and other functions.

Instruction to the structure



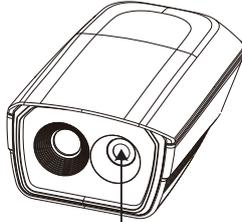
① Data transmission line

② Rack mounting Hole for fixing nuts



③

③ Infrared camera

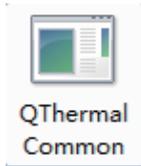


④

④ Visible light camera

Basic operation

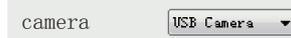
1. Connect the USB line of the product with a computer.
2. The application software of the product is installed without charge. It only needs to decompress the application software on the computer and find it and run "QThermal Common". Make double clicks to open it.



3. Open the thermal imaging camera.

Click "start" button to open the thermal imaging camera.

4. Open the visible light camera.



Select "USB Camera" and click "open the camera" button.

5. Imaging modes

Click the imaging mode setting column, and select the thermal imaging, visible light, picture in picture, double screens four imaging modes.

6. Photographing

Click the photographing button to make photos. The images will be saved in Image Snap folder automatically. The file type is jpg.

7. Videoing

Check the videoing box to start videoing. Click again to end videoing. The recorded video files are saved in Videotap folder automatically with file type h264. You may use one type of player to open it.

As some players cannot play the recorded videos normally, the users are suggested to use pot player or VLC media player.

8. Use black body to calibrate the temperature

The users do not need to calibrate the temperature usually. If they have black body equipment and want to get more accurate temperature measuring result, they may use the function to make calibration.

The operation method is as follows:

Place one 35 °C black body before the infrared body temperature detection instrument with the distance as that for body temperature measurement. Ensure that the black body can be displayed in the picture. Click the “setting position” first and find the 35 °C area of the black body in the image. Click it with a mouse and the image displays the temperature result after calibration immediately. If you want to cancel the calibration, click to cancel. This kind of calibration is temporary. The calibration should be made again when the software is opened next time.

Black Body Set Pos

Temp 35.0 set

After the button is clicked, use the mouse to click the black body in the picture. If you want to stop calibration, click to cancel.

Click “setting” after filling in the temperature value of the black body.

Human body temperature measurement

Before human temperature measurement, it is necessary to adjust the visible light image to overlap with the infrared image with the concrete operation as follows:

1. Click “unlock” button;
2. Move the mouse pointer to the visible light image. Hold down the left mouse button to drag the visible light image and make it overlap with the infrared image.
3. If the infrared image is found not consistent with the visible light image, the size of visible light image may be adjusted.
 - a) Roll the mouse wheel in the middle of the mouse to stretch the visible light image in longitudinal direction.

b) Hold down the shift key on the keyboard without releasing it, roll the wheel in the middle of the mouse to stretch the visible light image in longitudinal direction.

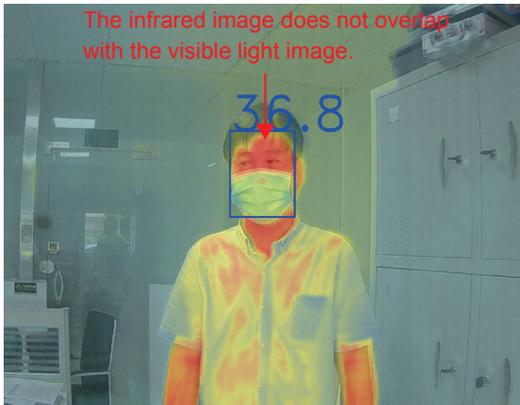
4. After the image overlaps after adjusting, click “lock” button.

5. Check body temperature mode:

Note: if the image offsets, it will affect the temperature measurement effect or there is no method to measure the body temperature.



The image does not overlap. Unable to recognize human face and display the temperature.



The infrared image does not overlap with the visible light image.

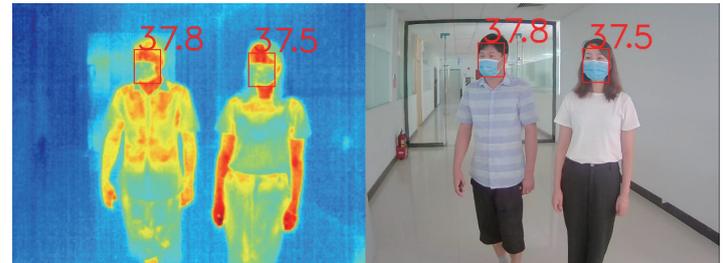
The image overlaps. The human face is recognized successfully and temperature is displayed.

6. If the forehead temperature measurement is checked, the instrument only measures the forehead.

7. When the abnormal temperature is measured (the temperature reaches the rated alarm value), the box for human face recognition becomes red, and the system makes photos and save automatically with sound alarm.



The blue temperature value and blue box indicate that the body temperature is normal.



The red temperature value and red box indicate that the body temperature is abnormal.

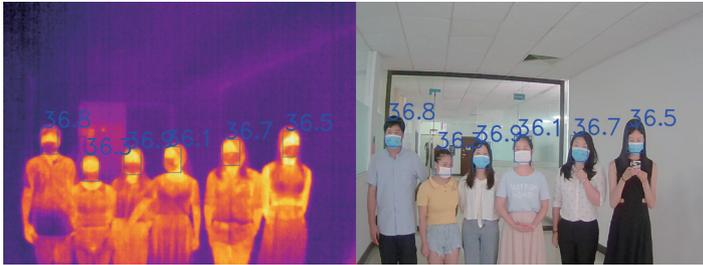
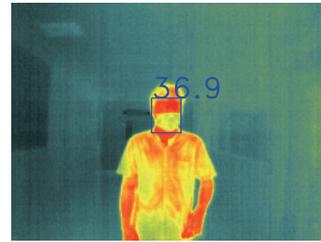


Image mode-dual screen detection mode

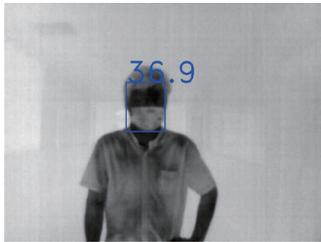


Rainbow with high contrast

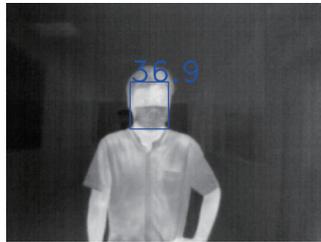


Visible light images

Color palette



Black heat



White heat



Iron red



Rainbow

Setting function

1. Full screen: click the button and the work interface will be displayed in full screen. Press ESC key on the computer keyboard to exit full screen display.
Designated area for detection: hold down the left mouse key and drag the mouse box to select the certain region. The temperature of the selected area is detected.
2. Color palette: five types of color palettes such as white heat, black heat, rainbow, and iron red and high contrast rainbow are available for selection of users. (The selection of proper color palette can show the details of target object in a better manner.) The rainbow, iron red and high contrast rainbow color palette focuses on display of color. The color palettes are very suitable for the condition of high heat contrast and are used to increase the color contrast between high temperature and low temperature. But the white heat and black heat color palettes provides even linear color.)

3. Automatic display of temperature scope: after the column “automatic display of temperature scope” is checked, the software will adjust the picture according to the highest temperature and lowest temperature of the current image.
4. Display of temperature scope: input certain temperature scope in the column manually and click “change” button. The software will adjust picture display according to temperature scope. The area with temperature higher or lower than the temperature scope is displayed black.
5. Alarm temperature scope: input certain alarm scope in the column manually and click “change” button. If the human face temperature in the picture is within the temperature scope, the thermal imaging picture will become red and the software will alarm.
6. Open/close the alarm: click the button to open and close the alarm.
7. Change: after setting “display temperature scope” and “alarm temperature scope”, click the button and save.
8. Temperature measurement: check “temperature measurement” column, the picture displays the cursor at the central point and the temperature value.
9. Body temperature mode: check “body temperature mode” column to use to measure human body temperature.
10. Forehead temperature measurement: only measure the temperature of the forehead.
11. Smooth mode: correct the human body temperature automatically.
11. Emissivity: the emissivity of target object.(It is set as 0.98

when human body is measured and set as 0.95 when objects are measured).

12. Humidity: The atmospheric humidity of the target object;
13. Distance: the distance between the instrument and measured object.
14. Temperature correction value: correct the temperature error.
15. Reflective temperature: the temperature reflected on the target objects by surrounding objects.
16. Environmental temperature: current environmental temperature with the unit of degree centigrade.

Note: when the parameters from item 11 to 16 are changed, please click the save button.

FAQ

1. Why is not my facial temperature displayed?
 - a) Please check whether the visible light is open or not. There is no method to carry out human facial detection in the mode of single heat imaging.
 - b) Please check whether the visible light overlaps with the thermal imaging picture. If it does not overlap, there is no method to carry out temperature measurement with thermal imaging.
 - c) Please check whether the thermal imaging temperature has error. Check the temperature of picture center by opening the temperature measurement. Measure the temperature of the reference object. Carry out calibration for thermal imaging temperature through the parameter at bottom left corner.

2. How many human faces can be selected?

All faces displayed on the screen can be selected.

Product maintenance

Clean the enclosure and lens

Please use damp cloth or weak soap to clean the enclosure of the device. Don't use abrasant, isopropanol to clean.

Special optical lens cleaner is used to clean the lens and screen.

Don't use excessive force when wiping to avoid damage.

Product specification

Type:	S240	S320	S384
Infrared image resolution:	240x18	320x240	384x288
Field angle:	56°x 42°	34.4°x 25.8°	28.2°x 21.3°
Work waveband:	8μm -14μm	7.8μm -14μm	8μm-14μm
Thermal sensitivity:	0.05°C	0.07°C	0.06°C
Image frame frequency:	25Hz	9Hz	25Hz
Visible light resolution:	1920x1080		
Detector type	Uncooled infrared focal plane detection		

Product Characteristics:	Temperature measurement for more than one persons at the same time/human face tracking/high temperature automatic alarm/capture record of pedestrian
Temperature measurement range	32°C-42°C
Temperature measurement precision of human body:	±0.5°C
Focusing mode:	Fixed
Temperature correction:	Manual
Image correction	Manual
Color palette	white heat, black heat, rainbow, iron red, high contrast rainbow.
Requirements for computer CPU	The fourth generation i3 or above
Videoing/photographing:	Support
Range of working temperature:	10°C -- 35°C
Storage temperature scope:	-20°C -- 60°C
Interface type:	USB 3.0
The length of USB line:	About 2.8 meters
Supply voltage:	5V DC
Weight:	450g

The content of the instruction is subject to change without prior notice!

After-sale Service of the Product

Respected customers:

Thank you for purchasing the product of our company. The product carries a warranty period from the date of sale.

During the warranty period of the product, if installation and use is made according to the user manual at normal environment and conditions, users may enjoy free repair service by warranty voucher for faulty product caused by raw materials and manufacturing process. The warranty voucher should be kept properly by the users and will not be reissued if lost.

In order to avoid problems during the use process, our company

suggests that you familiarize with the user manual of the product first before the product is used.

The following conditions are not within the warranty scope:

1. Unable to show the original of effective warranty voucher.
2. The product installation does not comply with product requirements and relevant specification, which causes damage;
3. The damage is caused due to that users use and store it improperly or dismantle and repair it without permission and other reasons;
4. Damage caused by natural disasters (earthquake, flood and lightning stroke) and external disasters;
5. Exceed the warranty period.

Considerations:

1. If the product malfunction, repair or replacement with new or good product is made according to the condition after the product is inspected.
2. For product exceeding the warranty period, determine whether to repair or replace the part after inspection for the product is performed. Relevant expense will be charged for all types of repair and replacement of parts and components according to actual condition.

1. The product enjoys warranty service within one year from the purchase date if it is used normally and not dismantled and is confirmed by warranty personnel for product quality problem. Repair will be provided at any condition.			
2. The warranty voucher should be filled at the time of purchase. It should be carried for product maintenance.			
Customer's name	Purchase date	Product type	Distributor
Warranty record:			