




**iR<sup>Analys</sup>er™ User Manual**  
**(v3.0.9.9)**

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# Installation

## 1.1 Environment configuration requirements

Windows operating system  
Disk space: Approx 200MB

## 1.2 Software installation

Click the installation file:

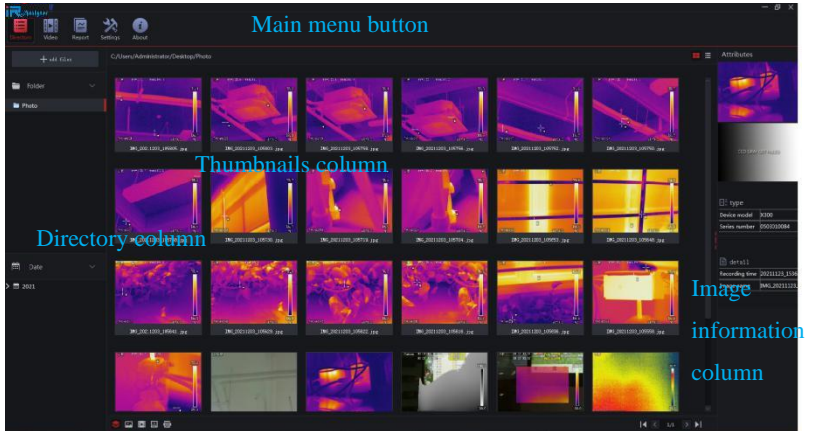


Click Next , and complete the interface installation according to the installation guide








# I. Menu Description

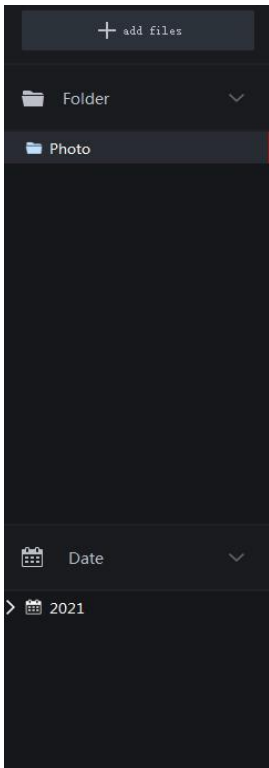
## 1.1 Main Menu



## 1.2 Menu Interface

Icons	Description
	Directory button. Displaying the thumbnail of the current directory
	Video button. Click it for video preview and playback
	Report button. Click for the related report settings
	Settings button. Click for the relevant settings
	About us button. Click for the related information about the software

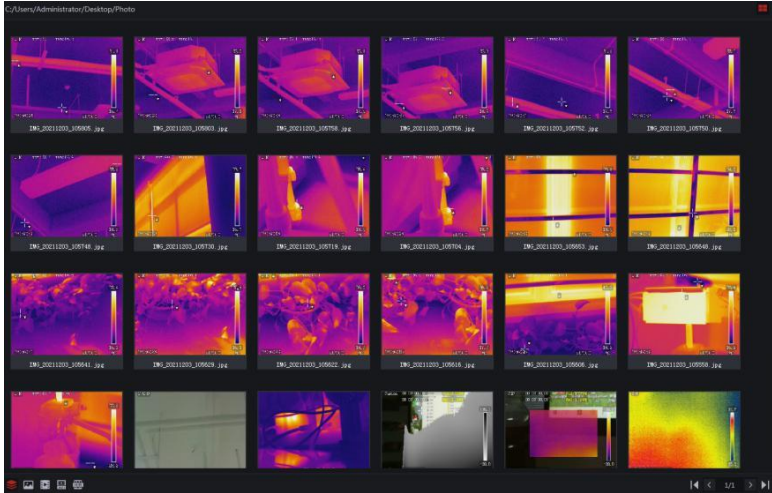
## 1.3 Directory Column



Select the directory for storing infrared images by clicking **Add pictures** in the directory column, the directory of this folder will appear on the left. If necessary, multiple directories are allowed to be added, the blue line on the right side of the directory indicates that this directory is currently opened.

Once a column is selected, the date distribution of all images in the current directory will be distributed automatically in the date column at the bottom, the displayed images can be subdivided by date again.

## 1.4 Thumbnail Display



The images and video thumbnail preview are displayed in the current directory  
The path of this directory is displayed on the top left. The arrangement display icon is on the upper right, with two displaying forms: thumbnail form and list form



Thumbnail display mode



List display mode (list mode is more convenient for text annotations viewing)



Display icons on the lower left.



All types



JPG image type



Video files



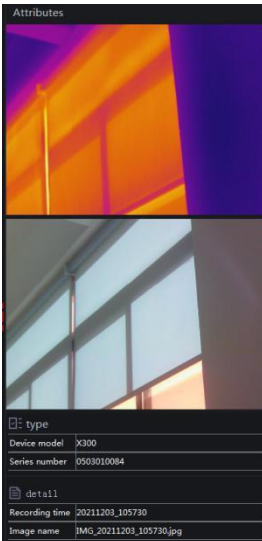
AVI video type



HIR video type

The page number column on the lower right corner, with 100 pictures or videos displayed on each page

## 1.5 Image information column



When selecting images in the thumbnail column, the information contained in this image such as the infrared image, visible light image, shooting time and the serial number of the camera will be displayed on the right side

## II. Image Analysis

### 2.1 Analysis Interface Display













In the directory interface, double-click the thumbnail to enter the image analysis interface

The analysis interface includes the **analysis button area, picture display area, and analysis information area**, etc.

The buttons for image analysis are distributed on the left side and the upper side.

The left side is mainly for analyzing items, while the upper side is for the five modes of image display

## 2.2 Analysis Button Description

Icons	Notes	Function	Icons	Notes	Function
	Cursor	Display the current temperature with the mouse		Palette Selection	Multiple color palettes
	Point temperature measurement (20)	Add point temperature measurement		Text annotations	Edit the text annotations of the picture
	Line temperature measurement (20)	Add line temperature measurement		Settings	Set the dotted line frame color
	Area temperature measurement (20)	Add area temperature measurement		Delete	Delete all analyses tools
	Zoom in/out	Zoom in/out the analysis picture		Temperature tracking	High and low temperature tracking of the full picture

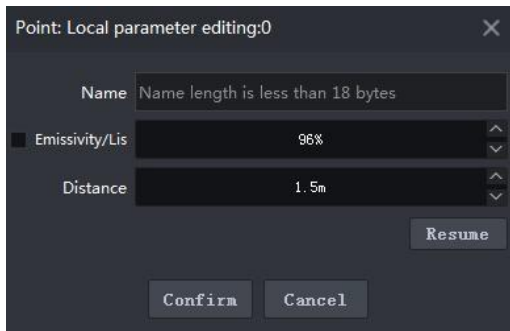
## 2.3 Temperature Analysis

Points, lines, area analysis can be added to the displayed IR image.

### Point Analysis



When selecting point analysis, you can move the mouse and click Add Temperature Points, you can add up to 20 temperature points. If an individual point needs to be edited, select it, then right-click the mouse, select Edit Option to adjust local parameters (different from global parameters), delete or set as reference temperature.



You can:

**Name the point;**

**Adjust its local emissivity;**

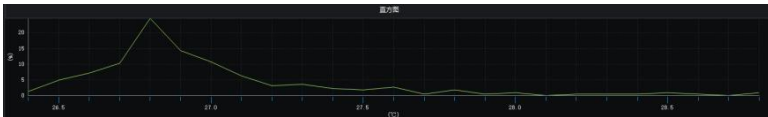
**Set distance correction.**

(This adjustment will not affect other analysis points, lines or areas.)

## Line Analysis

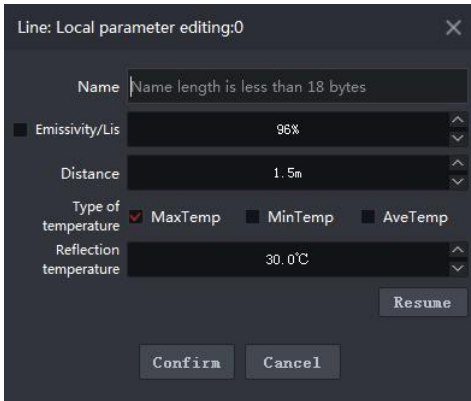


When selecting line analysis, you can move the mouse to click and drag where you want to add the temperature measuring points. You can add up to 20 temperature lines. By default, the point of maximum temperature on this line segment (small red arrow up) is displayed.



When any line segment is selected, the lower histogram area will show the temperature histogram distribution of this line segment. If the line segment is moved, the histogram will also change in real time.

If an individual line needs to be edited, select it, then right-click the mouse and select the Edit Option to adjust its local parameters (different from global parameters).



You can:  
**Name the line;**  
**Adjust its local emissivity;**  
**Set distance correction.**  
**Display the**  
**highest/lowest/average**  
**temperature at the same**  
**time or only one of them,**  
**Set reflection**  
**temperature correction**

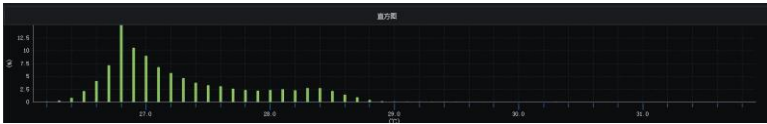
## Area Analysis



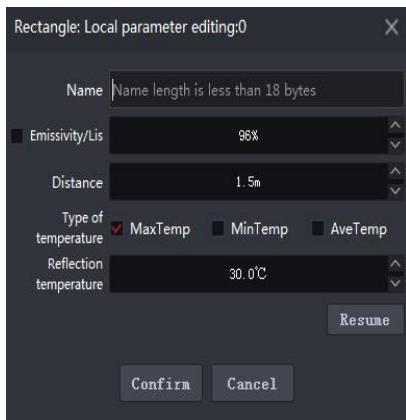
When selecting area analysis, you can move the mouse to click and drag where you want to add the temperature measurement area, and you can add up to 20 temperature measurement areas. The default display is the point of maximum temperature in this area (the little red arrow up).

When any area is selected, the histogram area below will show the temperature histogram distribution in this area.

The histogram changes in real-time if the area is moved



If the area box needs to be edited, select it, then right-click the mouse and select the edit option to adjust its local parameters (different from global parameters)



You can

**Name the area,**

**Adjust its local emissivity,**

**Set distance correction,**

**Display the**

**highest/lowest/average**

**temperature at the same time or**

**only one of them,**

**Set reflection temperature**

**correction**

## Palette Column



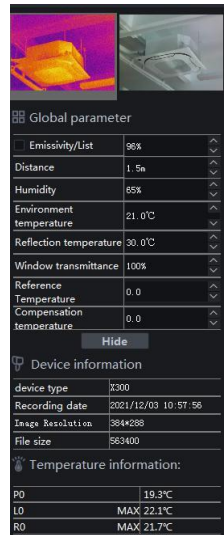
The palette bar displays the temperature value corresponding to the current image, histogram statistics of the full picture are displayed on the right

The button at the bottom, **Automatic color code**, is available to be switched between manual level and span and automatic level and span.

## Parameter Information

The information column on the right contains the infrared and visible information of the current image, the camera model, shooting date, and overall adjustable parameters, etc.

If analysis tools are added, the corresponding analysis information will be available below.





## 2.4 Display mode selection

The software provides five image display modes.

The five display modes are: **Infrared mode**, **Visible Light Mode**, **Multi-Waveband Fusion Imaging Mode**, **Picture-in-Picture Mode**, and **Thermal Superposition Mode**



**Infrared Mode**



**Visible Light Mode**



**Multi-Waveband Fusion Imaging Mode**



**Picture in Picture Mode**



**Thermal Superposition Mode**

Infrared mode



## Visible Light Mode

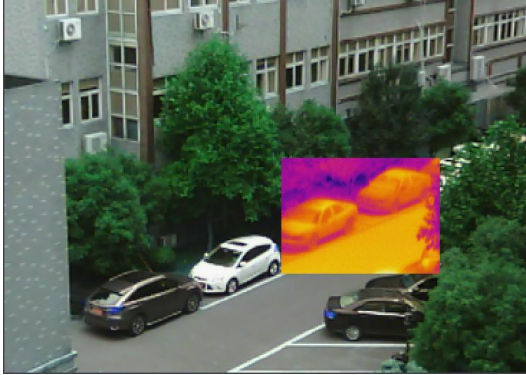


## Multi-Waveband Fusion Imaging



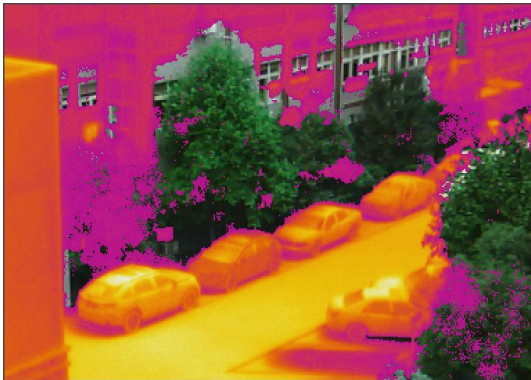
In this mode, the threshold of fusion degree can be adjusted

## Picture in Picture



In this mode, the position, area, and infrared transparency of picture-in-picture can be adjusted.

## Thermal Superposition



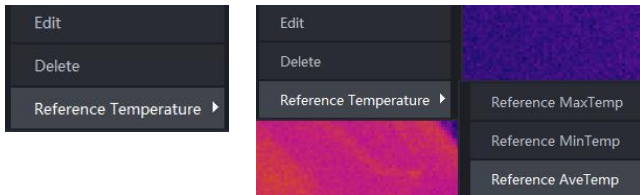
There are three superposition methods in this mode:

- Above XX °C;
- Below XX °C;
- Between XX °C;


## 2.5 Reference temperature

A fixed temperature value can be set as the reference temperature, and all the analyses added afterward are the differences with this fixed temperature


An analysis point, line, and area can also be set as the reference temperature that may change at any time.




## 2.6 View and Edited Text Annotation

If text annotations have been added to the image during image shooting an editable dialog frame will pop up showing the text annotation. By clicking the text annotation button . Annotations can be added if none were previously added.


## 2.7 Settings

Click the settings button  to set the normal color, hovering color, and selected color of the dotted line frame

## 2.8 Zoom In/Out

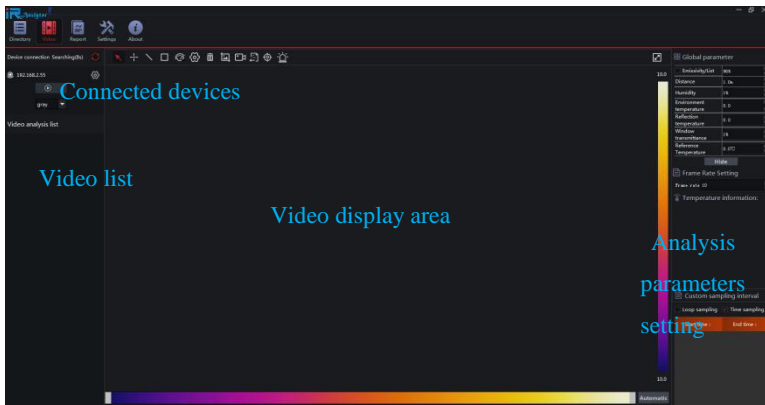
Click the to zoom in/out button  the pictures in the displayed picture area, and the original scale 1: 1 or the adaptive mode is selectable.

## 2.9 Temperature Tracking


Click  to track the highest and lowest temperature of the full image

# III. Video

## 3.1 Video interface



Enter the video interface mode.


The upper left corner is the device search area. Click  to refresh and search the currently connectable devices automatically. If there is a connectable device, the IP and connection button of that device will be displayed in the connection area.

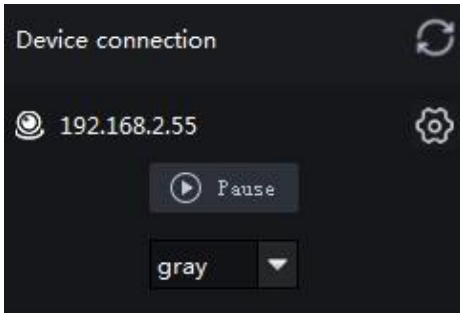
Below the connection area is a list of playable videos. If there are video files in the selected folder, they will be displayed here. Double-click to playback.

## 3.2. Real-time video

### 1. Connected via WIFI

Pull the switch to turn on the WIFI, use the computer wireless network to search for the serial number of the current device, and connect it. The password is 12345678.

Click the button  to refresh after the device is connected successfully, and the connected devices will be displayed below.



### 2. Connected via usb

Open the device Settings menu --> Instrument settings -->USB mode --> select video transmission, and then connect to the computer with USB cable.


If the automatic installation of the RNDIS driver is completed, the video

transmission can be viewed through PC software directly

If installation fail, please install the RNDIS driver manually:

1. Right-click My computer --> Properties --> Device manager
2. Select the option RDNIS with an exclamation mark and right-click Properties-> Update the driver
3. Select "browse the computer for drivers searching"

4. Select from the list
5. Select the network adapter
6. Drop down the manufacturer menu to find "Microsoft Corporation", and select  
"Remote DINS Compatible Device" from the right menu  
Ignore Compatibility warnings ---> Completion prompts

Click the button  to refresh after the device is connected successfully, and the connected devices will be displayed below.

The IP of the device can be changed through  setting button.

Video modes are divided into **direct transmission/preview** modes.

Direct transmission mode: The original video is displayed as data, which is allowed to be analyzed online in real-time

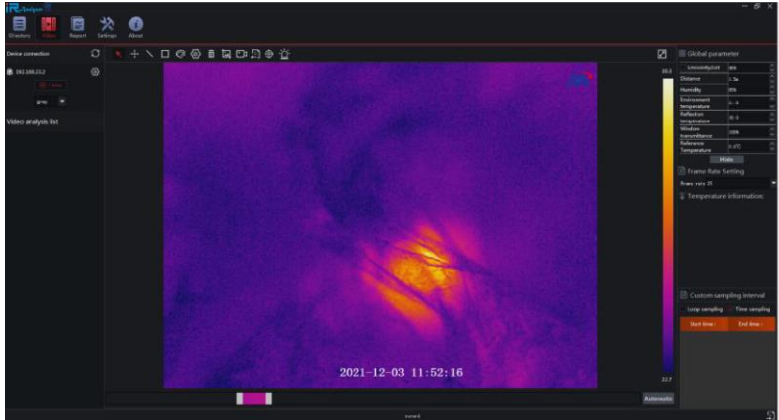
Preview mode: Video is displayed as a compressed version, which can be viewed only, and any analysis is prohibited

After selecting the mode, click **Play**





**! Note: The devices can be searched and connected only when the set IP and the computer IP are on the same network segment!**











## Direct transmission mode



When the direct transmission mode is turned on, the top of the window will display a visible analysis button, through which the real-time video can be analyzed. The real-time temperature changing trend of the analysis items is recorded in real-time below.

Icons	Notes	Functions	Icons	Notes	Functions
	Cursor	Display the current temperature with the mouse		Palette switching	Multiple Palettes available
	Point temperature measurement	Add point temperature measurement		Temperature tracking	High and low temperature tracking of

	(20)				the full image
	Line temperature measurement (20)	Add line temperature measurement		Screenshot	Take a screenshot of the video
	Area temperature measurement (20)	Add area temperature measurement		Video recording	Video recording of the online video
	Delete	Delete the analysis item		Export	Export analysis data
	Settings	Set the dotted line frame color		Alarm	Temperature alarm setting

The parameter settings on the right side are consistent with that of picture analysis.

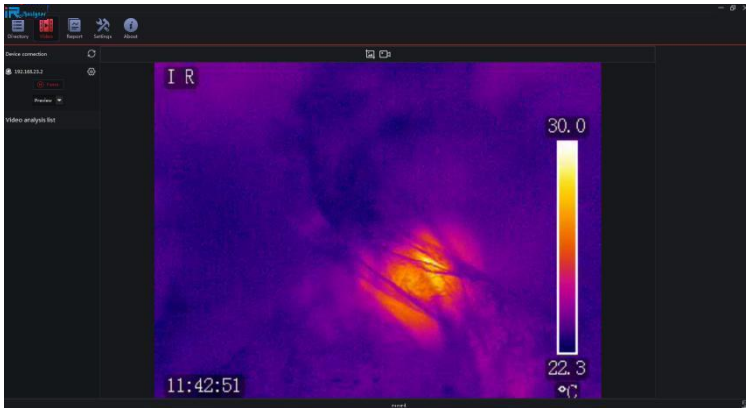
The video transmission rate can be set through the frame rate setting.

Custom sampling interval can be set.

The sampling methods: One is cyclic sampling or time sampling.

Secondary analysis can be carried out from the screenshots and recordings of direct videos.

## Preview mode



Preview mode can display real-time videos only, temperature analysis is prohibited. Only screenshotting and video recording are available. However, secondary analysis of the screenshots and recorded videos can't be conducted at this time.

### 3.3 Video playback


The videos added in the folder are displayed in the left video list. Double-click the video to playback.

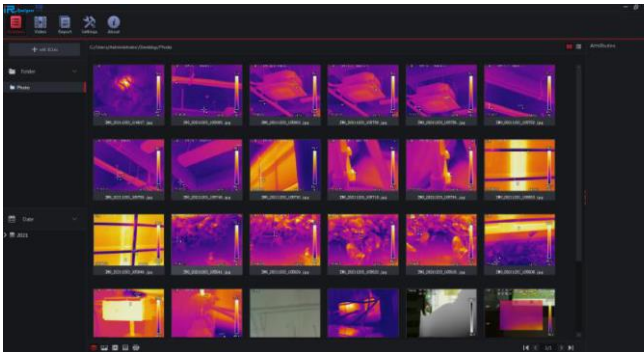
For ordinary **AVI format**, only playback, screenshots, and videos are available functions.

For **HIR format** containing temperature data, it supports secondary analysis during playback, and picture analysis for screenshots.

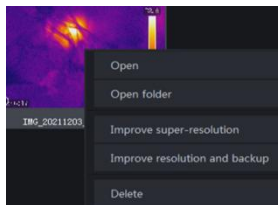
**! Only AVI format and HIR format playback is currently supported. AVI format is a common compressed video format, while HIR format, a video format with temperature data for secondary analysis, can be opened with the corresponding software only!**

## IV. Super-Resolution Photography

Pictures marked with  refers to the photos taken with enabled super-resolution photography function.

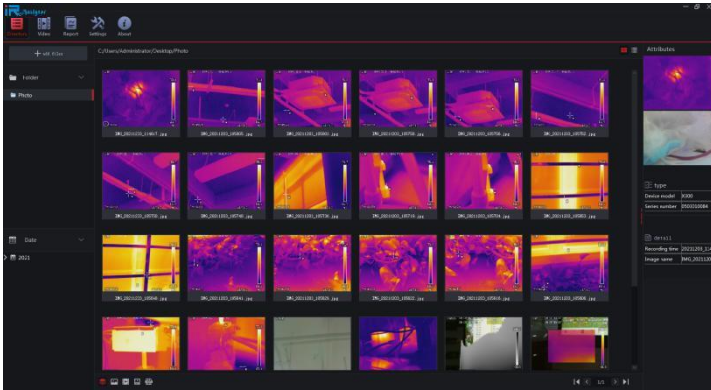


Right-click the super-resolution pictures and then click "Improve super-resolution". If "Conversion succeeded!" pops up, please click "OK". At this time, the picture has been converted into a high-resolution picture for performing picture analysis.

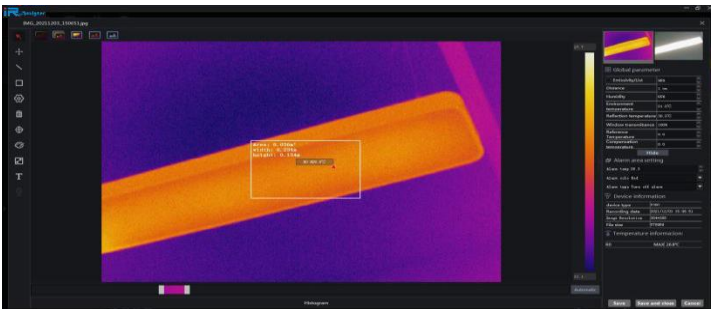


# V. Area Calculation

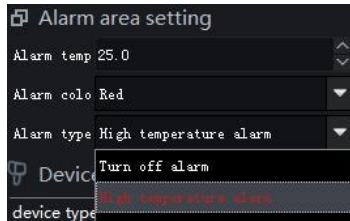
5.1 Double-click the picture to enter the analysis interface.



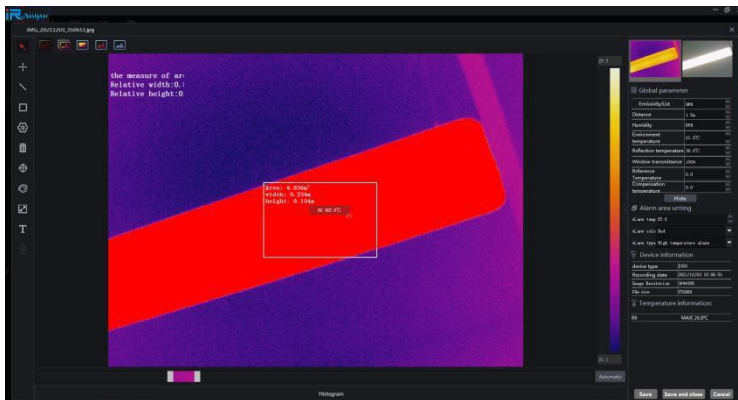
5.2 Add an area analysis frame or an existing area analysis frame during photographing, and the area calculation information is displayed in the upper left corner of the area analysis frame.



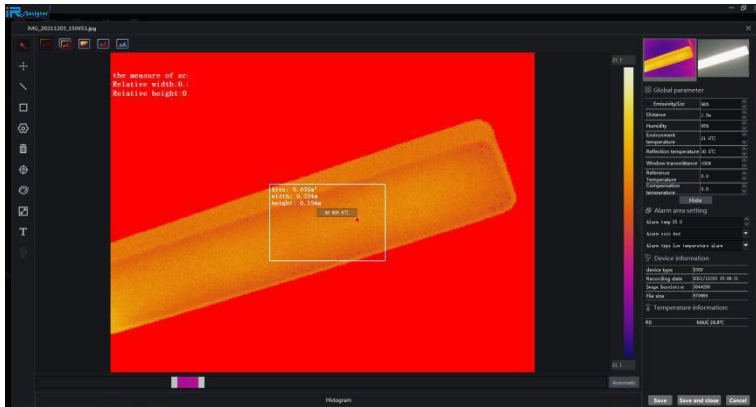
5.3 Select the "Area alarm setting" menu and click the small triangle on the right side of the "Alarm type" to drop down the menu.



5.4 Select "Maximum temperature alarm" to display the calculated values of all areas beyond the maximum temperature in the upper left corner of the picture.

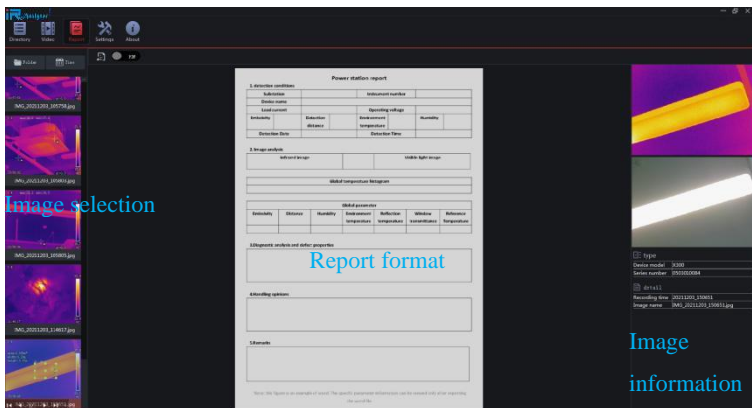


5.5 Select "Minimum temperature alarm" to display the calculated values of all areas below the minimum temperature in the upper left corner of the picture.



## VI. Report

### 6.1 Report Interface




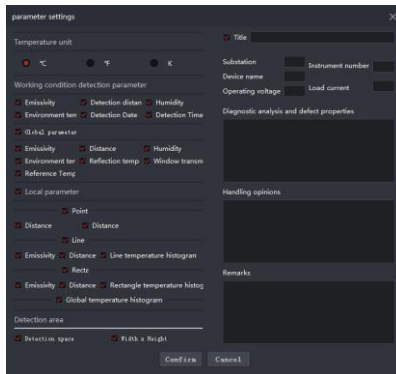
The **picture selection column** is on the left, the **report format** displays in the middle, the **picture information** of the selected image is in the right.

If there is any need to modify the analysis of the image, double-click the image to enter the image analysis function.

Above the report format, WORD or PDF format is available to be exported.

## 6.2 Export WORD report

Select the WORD format template and click  , an information dialog frame will pop up. Please fill in the corresponding information.





Settings of report parameters include: **Temperature units; detection parameters of the working environment; report title; information of the detected device, and suggestions on defect treatment.**

Without being ticked, the **detection parameters of the working condition** will not be displayed in the report.

After filling in all the parameters, please click OK to generate the report file.

**1. detection condition**

Substrate		Instrument number	
Device name			
Load current		Operating voltage	
Emisivity	96%	Environment temperature	21.0°C
Detection distance	1.5m	Humidity	65%
Detection area(μm²)	0.390	Detection width × detection height(m)	0.853x0.639
Detection Date	2023.12.03	Detection Time	15:06:51

**2. Image analysis**

Infrared image

Visible light image

Global temperature histogram

Global parameter					
Emisivity	Distance	Humidity	Environment temperature	Reflection temperature	Window Transmittance
96%	1.5m	65%	21.0°C	30.0°C	100%

Rectangle					
Index	Name	MaxTemp	MinTemp	AveTemp	Emisivity
0		26.8°C	21.8°C	25.8°C	96%

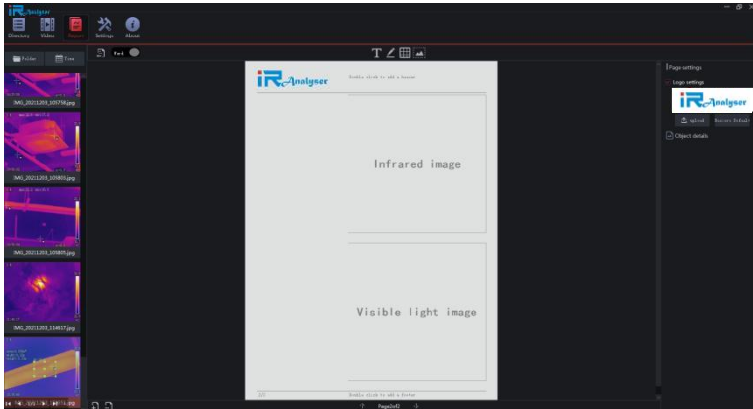
**3. Diagnostic analysis and defect properties**

**4. Handling opinions**

**5. Remarks**

## 6.3 Export PDF report

Select the PDF format template to enter the PDF free editing state.



Users can drag the image they want to generate the report into the infrared picture area of format column. The corresponding image and the analysis data will be generated automatically. The size, position, and shape of the picture can be changed. Users can add text frames for illustration through the text processing button above.

Multiple pictures are needed to be generated, users can click the **Add/Subtract page** button at the lower left to add more report pages. The page setting and logo settings, are in the right column.

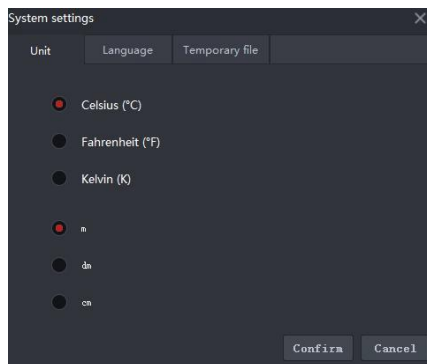
Click the button  to generate PDF reports.

If image analysis is required on the PDF report, double-click the image to enter the analysis interface, select the Area alarm setting—Alarm type—Maximum temperature alarm or the Minimum temperature alarm and save it, finally, drag the image into the infrared picture area of the format column to generate the report.



## VII. Settings

Enter the setup menu to set the **temperature units**, **languages**, and **temporary files**.



Temperature units can be switched between Celsius, Fahrenheit, and Kelvin.  
Length units can be switched between meters, decimeters, and centimeters.  
Simplified Chinese, traditional Chinese, and English are supported. Select the temporary files option to set the picture capturing and video recording path of videos, and clear the cache formed by pictures and video.

## VIII. About us

