FOTRIC

Infrared Systems

EasyIR User Manual

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1. Software Introduction

The EasyIR software includes features of thermal image file management, thermal image file analysis, and thermal image report creation.

2. Software installation

Step 1: Double-click the installation package and click "Run".

Step 2: Select the installation mode, choose the installation language and click "OK".

Step 3: Select the location where the software is to be installed or select the default installation location and click "Next".

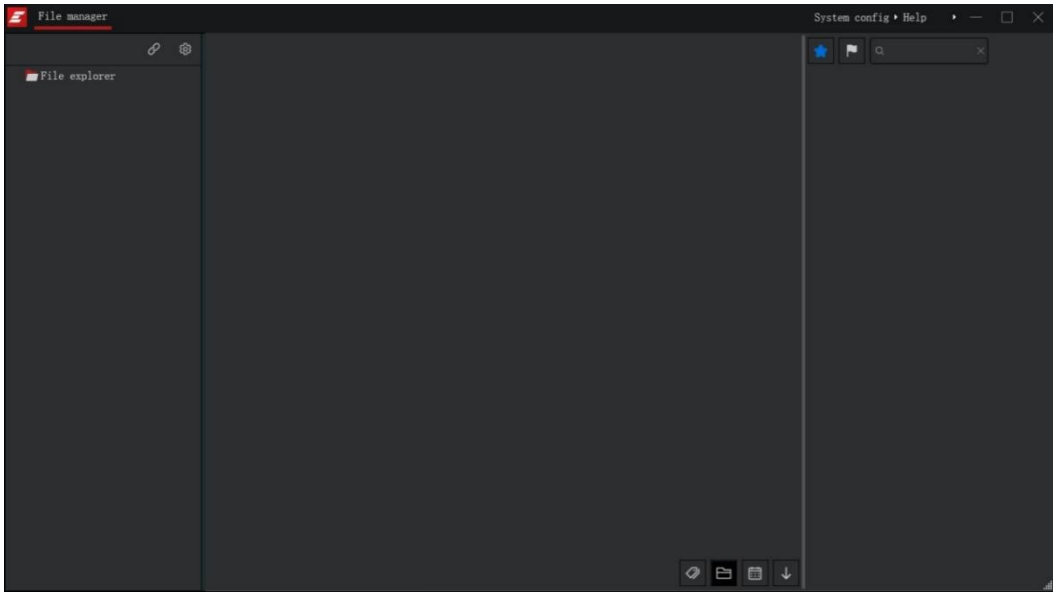
Step 4: Check or uncheck the box to create a desktop shortcut and click "Next".

Step 5: Then click "Install", and when the installation is finished, check or uncheck the “Run EasyIR” option and click "Finish".

3. Software operation

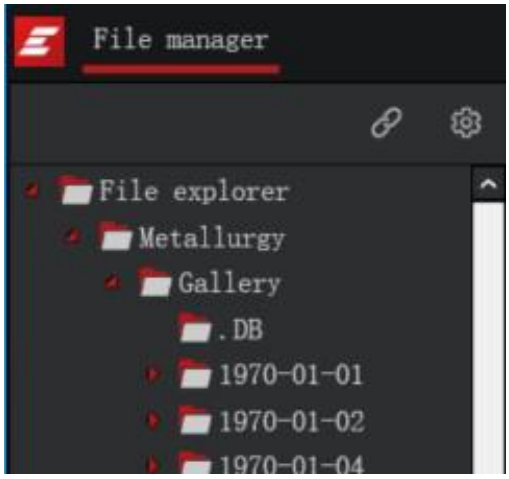
3.1 Main interface

After successfully logging into the software, you will reach the main interface. The main interface of the software includes four areas: file management area, file list browsing area, file information preview area, and filter and search area



3.1.1 File management section

On the left side of the main interface, there is a virtual root node: File Manager. All the folders manually connected by the user will be subfolders of this node. The viable operations in the file manager area include: Click Connected Folders, Click Manage Folders, Root Node Right-click Behavior, Parent Folder Right-click Behavior, Subfolder Right-click Behavior, and Selected Action.



Note: The file management area is displayed as a folder tree

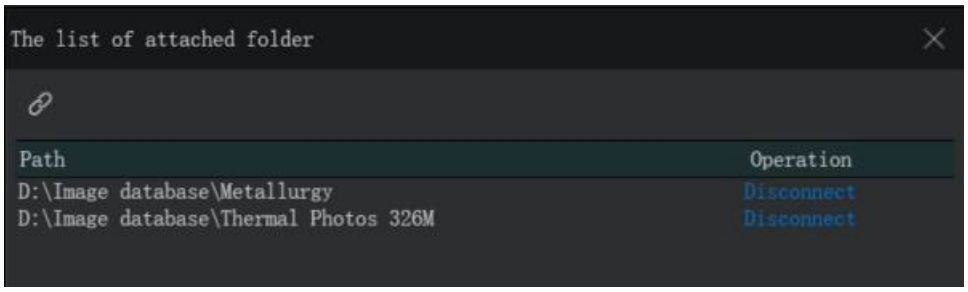
3.1.1.1 Connected folders

1. Click on the "Connected Folders" button to bring up the system's "Browse Folders" pop-up box.

2. Select an existing folder/new folder and click the "OK" button to update the folder tree, otherwise click the "Cancel" button to cancel the operation.

3.1.1.2 Managing folders

1. Click the "Manage Folders" button to bring up the "Connected Folders List" pop-up box.



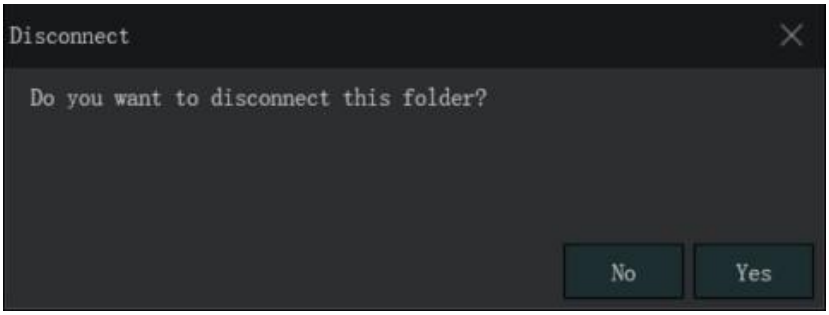
2. The pop-up box contains all the connected folders and the disconnect option.

3.1.1.2.1 Associated folders

The function is the same as 3.1.1.1 Associated Folders

3.1.1.2.2 Disconnection

1. Click the "Disconnect" button, the following dialog box will pop up.



2. If you are sure to cancel the connection, click "Yes" in the above pop-up window, otherwise click "No".

Note: "Disconnect" will not delete the real folder, but only the binding relationship with the software.

3.1.1.3 Root node right-click behavior

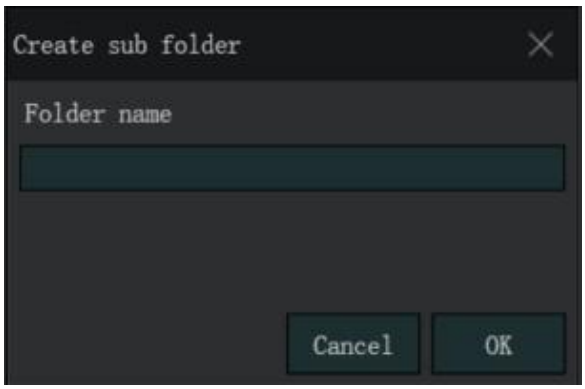
1. Connected folders: The function is the same as 3.1.1.1 Connected folders.

2. Manage folders: The function is the same as 3.1.1.2 Manage folders.

3.1.1.4 Parent folder right-click behavior

3.1.1.4.1 Creating subfolders

1. Right-click the parent folder and select the "Create Subfolder" button, the following pop-up window will appear.

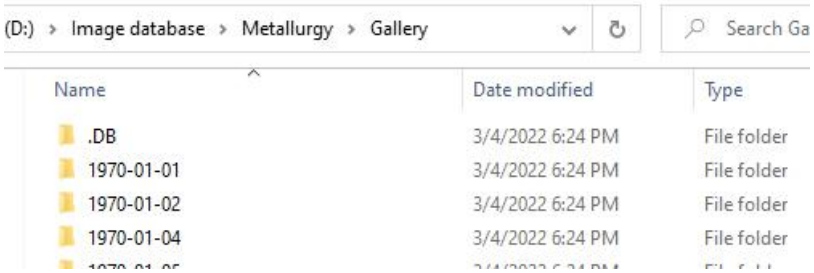


2. Enter the folder name and click the "OK" button to refresh the folder tree, and the subfolders in the specified directory will be created.

3. Enter the folder name, click the "Cancel" button, the folder tree is not refreshed, and the subfolders in the specified directory will not be created.

3.1.1.4.2 Open in Windows Explorer

Right-click on the parent folder and select the "Open in Windows Explorer" button to open the selected folder



3.1.1.5 Subfolder right-click behavior

3.1.1.5.1 Creating subfolders

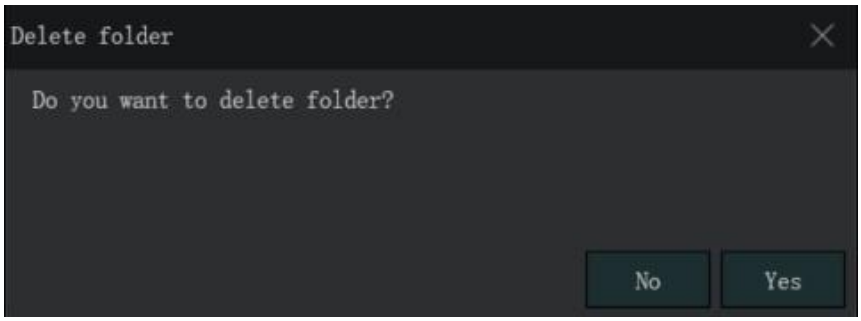
The function is the same as 3.1.1.4.1 Create subfolder.

3.1.1.5.2 Opening in the Windows Explorer

The function is the same as 3.1.1.4.2 Open this folder in the window

3.1.1.5.3 Deleting folders

1. Right-click on the parent folder and select the "Delete Folder" button, the following dialog box will pop up.



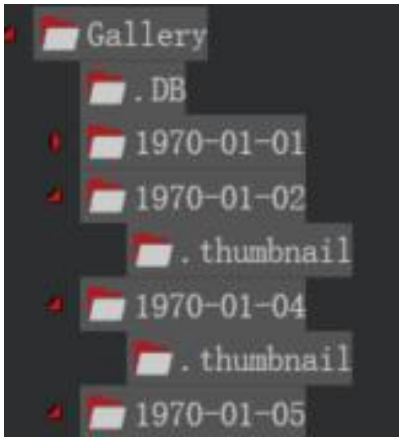
2. If you are sure to delete it, click "Yes" in the above pop-up window, otherwise click "No".

*Note: This operation **DO** delete the real folder and all subfiles and folders below it*

3.1.1.6 Selected operations

1. When a folder is selected, a checkbox will appear in the folder as follows.

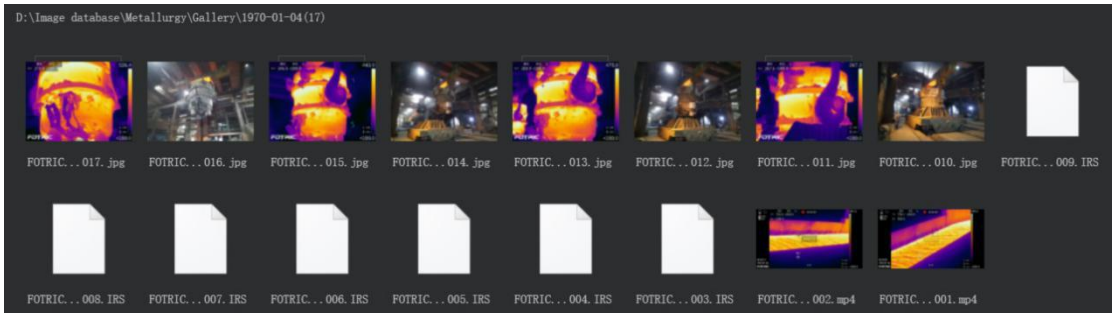
2. If a folder is not selected, click on the folder, itself and all its subfolders will be selected. Click on the folder again, only the current folder is selected and its subfolders are unselected.



3. When the system enters the file library page, by default the last selected folder will be selected.

3.1.2 File list browsing section

Located at the middle area of the main interface, it provides functions for managing images and videos



1. The files it manages include thermal image and video formats (jpg,irs), generic image and video formats (jpg, png, bmp, gif, jpeg, avi, mp4), report documents (Doc, Docx), which are displayed in the file list browsing area by their storage path or modified date.

2. Any other types of files will not be managed nor displayed in the software.

3. The file list section includes file information display and interactable buttons, which include: show or hide tags, group by folder, group by time, sort files in forward/reverse order, click action, right-click behavior for thermal image (rename file, favorite, add a text annotation, generate a report, open in Windows Explorer), non-radiometric image right-click behavior (open in Windows Explorer)

3.1.2.1 File information

1. Fotric thermal image files could contain the following information: (voice annotation ( ), text annotation ( ), tag ( ), set as 'favorite' ( )), and text information (file name, tag content).

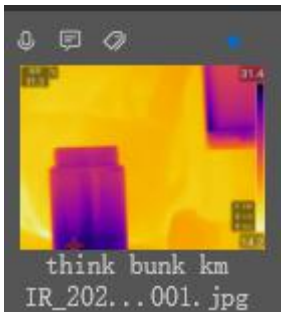
2. Voice annotation, text annotation, tag: If the file contains the attributes, the icon of the respective information will be listed in the upper left corner of the file, otherwise the corresponding icon will not be displayed.

3. Whether or not it is marked as favorite: If the thermal image file is set as favorite, the icon of a blue star is displayed in the upper right corner of the file, otherwise not.

4. The file name is always displayed directly below the file, and the label is not displayed by default, which can be switched by the Show/Hide Label button ( ) at the bottom of the file list browsing area.

3.1.2.2 Show or hide tags

1. Click the "Show or hide tags" button below the file list browsing area, the icon is highlighted, and the tags are displayed directly below the thermal image.

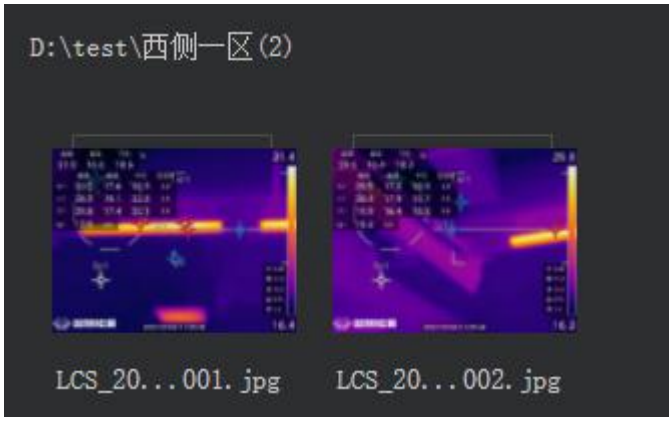


Note: tag is not shown by default

2. Click the "Show or hide tags" button again will make the tags hidden.

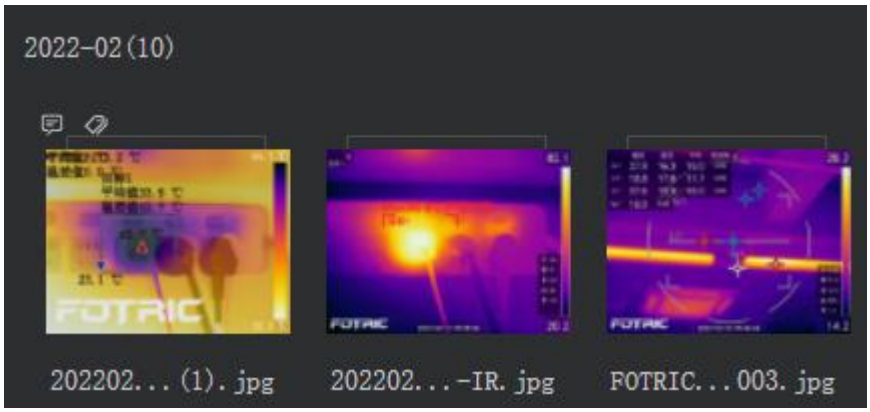
3.1.2.3 Grouping by folders

Click on the "Group by folder" button to display the files in groups arranged by their paths.



3.1.2.4 Grouping by time

Click on the "Group by Time" button to display the files in groups based on the date (yyyy-mm format) they were taken.



3.1.2.5 Sorting files in forwarding/reverse order

1. Click on the button, the icon changes to an upwards arrow , and the files are displayed in positive order.

2. Click the button again, the icon changes to downwards , and the files are displayed in reverse order.

3.1.2.6 Click operation

1. click: when you click on a file, the selected file will be cast on a layer of shadow, when you click on the name of the group where the file is located, regardless of what state the file in the group was in before, the file in the group will be in the selected state.

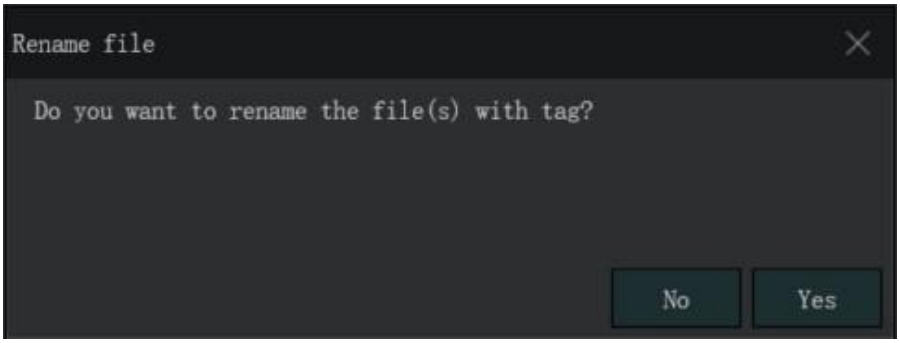
2. double-click: double-click the file, if the file is a picture that can be analyzed, the system enters the picture analysis page, if it is a non-analyzable picture, just display this picture, if it is a playable video, play the video.

3. Multi-selection: Users can multi-select by long-pressing the left mouse button for dragging, and long-pressing the Ctrl key for dragging other groups for multi-selection and clicking to select.

3.1.2.7 Thermal image right-click behavior

3.1.2.7.1 File renaming

1. Right-click the thermal image and select the "Rename File" option, the following dialog box will pop up.



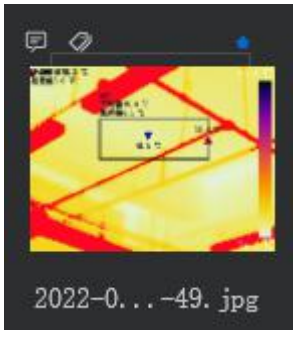
2. Click "Yes", to confirm the change (users can choose file renaming format in the system configuration)

3. Click "No" to cancel the operation

Note: "File Rename" function can be batch processed

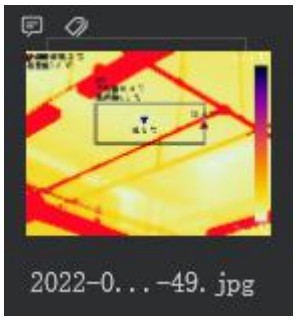
3.1.2.7.2 Collection

Right-click on the thermal image and select the "Favorite" option to highlight the thermal image for later filtering, and the icon of the favorite is displayed in the upper right corner of the file.



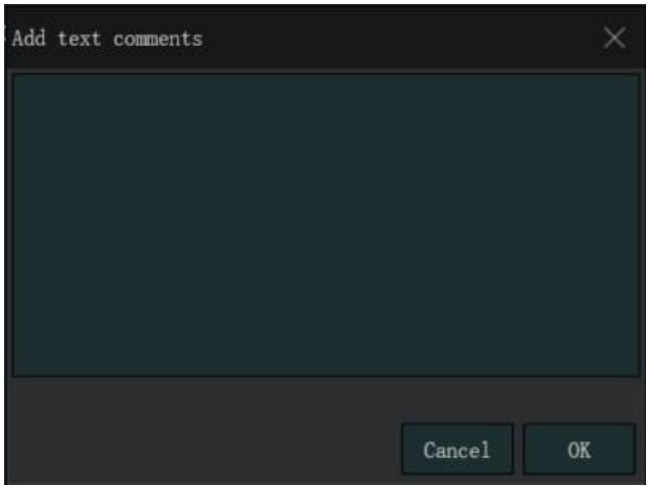
3.1.2.7.3 Cancel Favorites

The thermal image is no longer ‘Favorite’ and the icon of the favorite is not displayed in the upper right corner of the file.

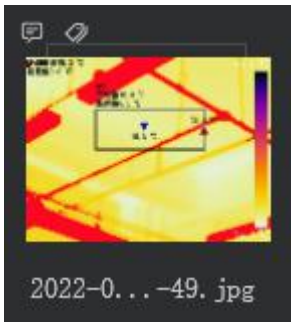


3.1.2.7.4 Adding text annotations

1. Right-click and select the "Add Text Annotation" button on the thermal image.



2. Enter the text annotation content, then click the "OK" button, the text annotation will be saved, and the text annotation icon is displayed in the upper left corner of the file.



3. Click the "Cancel" button to cancel the operation.

Note: Annotations can be added to all selected files in a uniform manner

3.1.2.7.4 Report generation

Right-click and select the "Generate Report" option on the thermal image to bring up the "Save Report Location" dialog box, select the path to save the report, enter the file name, click the "Save" button, and a report will be generated.

Note: This function supports batch report generation, either generating a word report for all selected files or one for each selected file.

3.1.2.7.5 Opening in Windows Explorer

The function is the same as 3.1.1.4.2 opened in Windows Explorer

Note: Batch open this folder in a window explorer is not supported

3.1.2.8 Non-thermal image right-click behavior

The function is the same as 3.1.1.4.2 opened in Windows Explorer

3.1.3 File preview and filter section

The file preview and filter section is located on the right side of the main interface of the software, as the following image indicates.

1. The section displays the thermal image and the corresponding visible-light image. The interactable interfaces in this section include Only display favorite file, Only display file containing comments and Search.

2. This section displays information contained in the thermal image, including:

1) Measurement parameters: reflected temperature, ambient temperature, distance, relative humidity, emissivity, external optical temperature, external optical transmittance

2) Annotation information: text notes, tag

3) Geographical location information: location (GPS information), direction (compass information)

4) Camera information: thermal camera model, thermal camera serial number, lens, thermal image resolution, shot time, modification time)

3.1.3.1 Only display favorite file

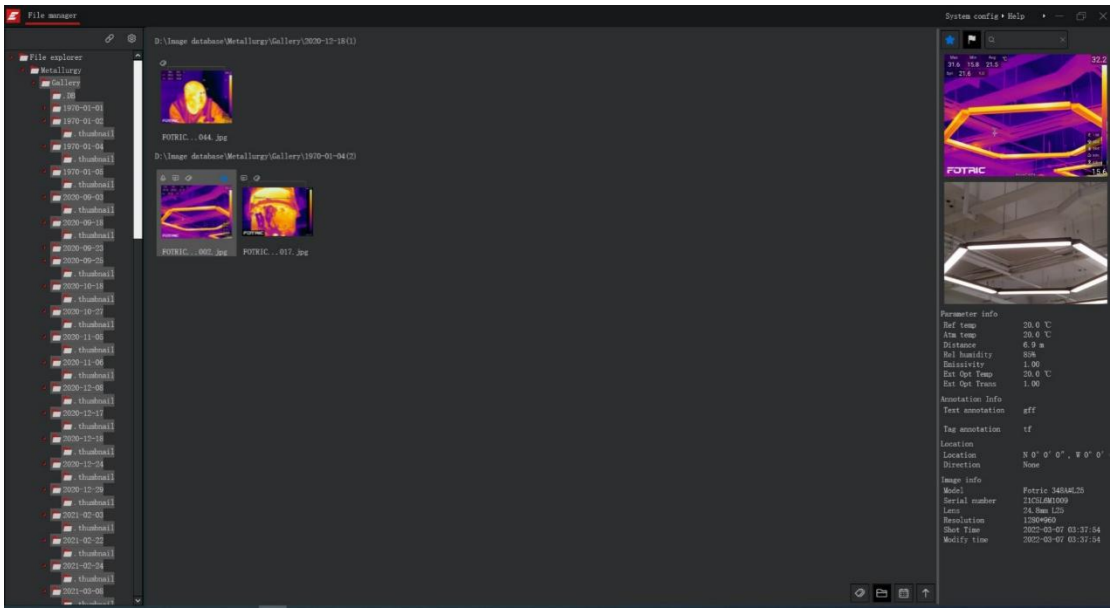
Toggling this button will make the file list view section show only pictures with ‘favorite’ mark or reverse the filtration.

Note: 1. Only for all files under the current folder

*2. The default is **NOT** displaying only the favorite files*

3.1.3.2 Display only documents containing comments

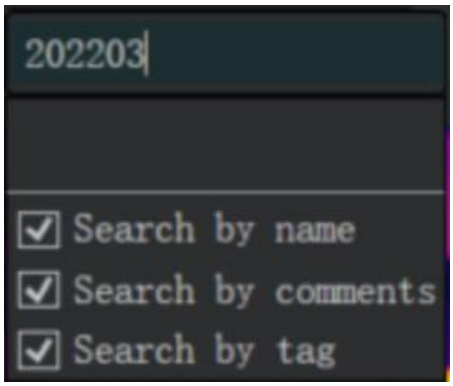
Toggling the button will make the file list browsing area shows all images under the current folder containing annotation and/or tag or reverse the filtration.



Note: 1. Only for all files under the currently selected folder

*2. The default is **NOT** displaying only the files containing comments*

3.1.3.3 Search



1. Click on the search box to insert your input, the searching domain is the current folder

2. There are three ways of searching: user inserted content, search history, and search methods

1) User inserted content: enter the content by keyboard, click enter to start the search

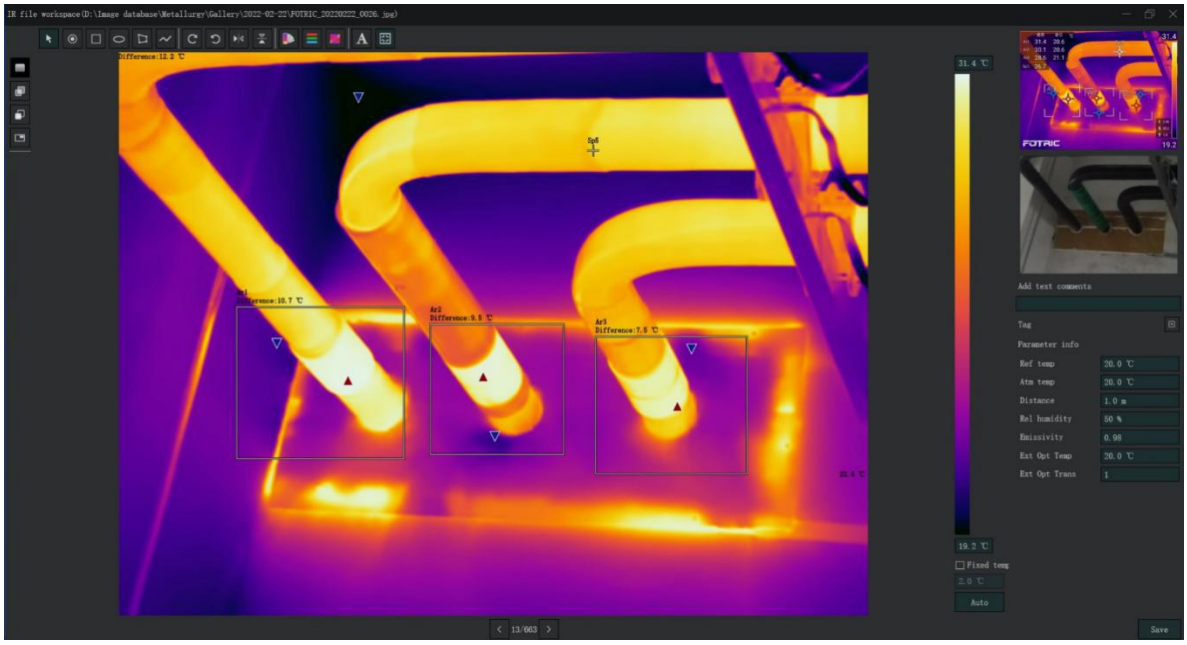
2) Search history: the searched records will be stored, up to five records, click the searched records, then the search operation will be performed again

3) Search methods: search by name, search by text annotations, search by tags

3. Click the ‘X’ on the right of the search input box to clear the search input box

3.2 Thermal image workspace

Double-click on the thermal image in the file list browse area to enter the thermal image workspace



3.2.1 Thermal image workspace toolbar

1. Pointer: Mouse pointer

2. Set the measurement point: click the "Set measurement point" button, then click on the thermal image will add a movable temperature measurement point on the thermal image

3. Set measurement rectangle: click on the "Set measurement rectangle" button, and then click on the thermal image will add a rectangular temperature measurement area on the thermal image that can be moved and adjusted in size.

4. Set measurement ellipse : click on the "Set measurement ellipse" button, and then click on the thermal image will add a movable and adjustable size ellipse temperature measurement area on the thermal image

5. Set measurement polygon : click the "Set measurement polygon" button, and then click the thermal image will add a movable, adjustable size and shape polygon temperature measurement area to the thermal image

6. Set the measurement line : click on the "Set measurement line" button, then click on the thermal image will add a movable, adjustable size and direction of the temperature measurement line on the thermal image.

7. Rotate 90° to the right : Click the "Rotate 90° to the right" icon, the thermal image will be rotated 90° to the right

8. Rotate 90° to the left : Click the "Rotate 90° to the left" icon, the thermal image will rotate 90° to the left

9. Horizontal flip : Click the "horizontal flip" icon, the thermal image will be flipped horizontally

10. Vertical flip : Click on the "vertical flip" icon, the thermal image will be flipped vertically

11. Palette : Click on the "palette" icon, a drop-down color menu will appear, with 16 built-in color palettes. Usually, warm colors correspond to high temperature and cool colors correspond to low temperature

12. Alarm : Click on the "Alarm" icon will summon a menu of “None”, “Above”, “Below”, “Between”, and “Outside” alarm options

1) Click "None", no operation

2) Click "Above"

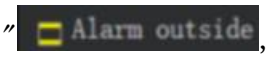
, the alarm threshold interface will appear on the right. Users may fill in the value of the highest temperature, the value of the lowest temperature will be grayed out. Regions, where the temperature is higher than the user-set threshold, will appear red.

3) Click "Below"

, the alarm threshold interface will appear on the right. Users may fill in the value of the lowest temperature, the value of the highest temperature will be grayed out. Regions, where the temperature is lower than the user-set threshold, will appear blue.

4) Click "Between"

, the alarm threshold interface will appear on the right. Users may fill in the minimum and maximum temperature threshold, Regions where the temperature is between the minimum and maximum temperature interval will appear yellow

5) Click "Outside" 

, the alarm threshold interface will appear on the right. Users may fill in the minimum and maximum temperature threshold, Regions where the temperature is NOT between the minimum and maximum temperature interval will appear yellow

13. Inverted palette : Click on the "Inverted Palette" icon, and the correspondence between the warm and cold colors and the temperature will be reversed, where warm colors correspond to low temperature, and cold colors correspond to high temperature

14. Set Font : Click "Set Font" to open the font setting interface, users may set font shape and size.

15. Fill the whole window : Click on the "Fill the whole window" icon to match the thermal image size with the workplace window

16. Thermal image mode : click the "thermal image mode" icon to switch to thermal image mode

17. Blend mode : Click the "Blend mode" function, the image mode of the thermal image will be switched to blend, where users can dictate on what temperature range will the thermal image replace the visual image display.

18. Fusion mode : Click the "Fusion mode" function, the image mode of the thermal image is switched to Fusion mode.

The sliding wheel under the image mode options can adjust the fusion transparency

19. Picture-in-picture mode : Click the "Picture-in-picture" function, the image mode of the thermal image will be switched to picture-in-picture mode. The "Lock picture-in-picture setting" will appear on the left side of the interface. At the locked state, the size and position of the thermal image area in picture-in-picture mode cannot be adjusted.

20. Ribbon section : displays the color of the current thermal image screen proportional to the temperature. You drag the ribbon up and down to adjust the maximum and minimum temperature values of the thermal image

1) The maximum and minimum temperature values of the image and the visual effect can be adjusted individually by modifying the value of the upper and lower limits of the ribbon

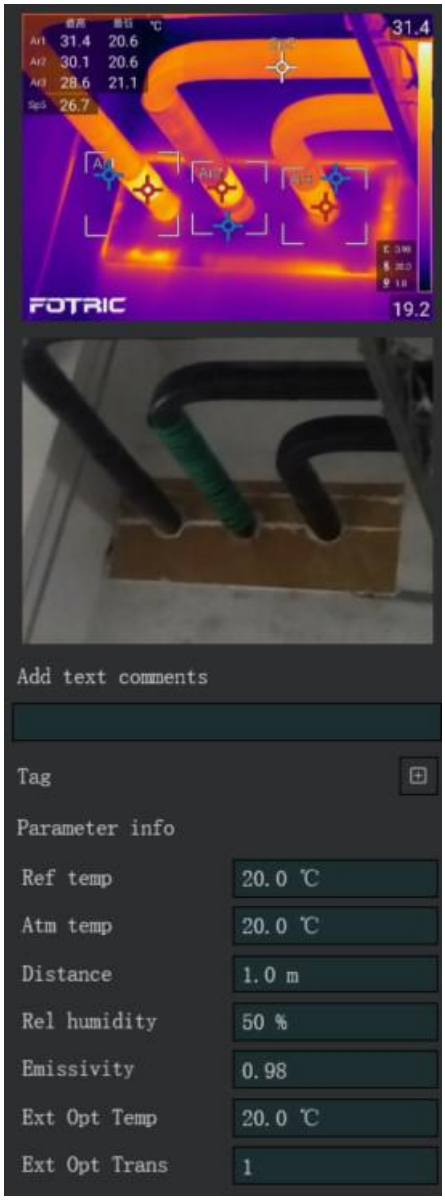
2) Manual temperature width mode (fixed temperature span): check the fixed temperature option below the ribbon, users can fill in the temperature limits to adjust the maximum and minimum temperature values of the image and the visual effect

3) Manual temperature width mode (maximum/minimum): uncheck the fixed temperature option below the ribbon, the temperature input field will turn gray and become uneditable

4) Automatic temperature width mode: click the "Auto" button to switch to automatic temperature width mode

3.2.2 File information preview section

Located on the right side of the file analysis interface



1. This area displays thermal and visible images above.

2. Below the image window are the image information and the ‘Save’ button

1）Annotation info: text annotation, tag

2) Image measurement parameter: reflected temperature, ambient temperature, distance, relative humidity, emissivity, external optical temperature, external optical transmittance

3.2.2.1 Remarks information setting

1. Text annotation: you can modify the text annotation in the text input field.

2. Tag: Click the button after the tag to summon a tag input box, and enter the tag info in the input field.

3.2.2.2 Measurement parameter setting

1. Reflected temperature: one may modify the reflected temperature in the parameter setting column.

2. Ambient temperature: one may modify the ambient temperature in the parameter setting column.

3. Distance: one may modify the distance parameter in the parameter setting column.

4. Relative humidity: one may modify the relative humidity in the parameter setting column.

5. Emissivity: one may modify the emissivity in the parameter setting column.

6. External optical temperature: one may modify the external optical temperature in the parameter setting column.

7. External optical transmittance: one may modify the ambient external optical transmittance in the parameter setting column.

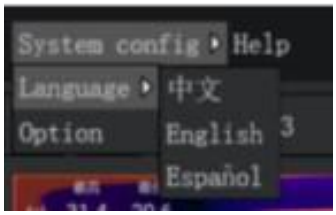
3.2.2.3 Save

Modify the information and settings of the thermal image workspace, and click "Save" to automatically update and save the current thermal image file.

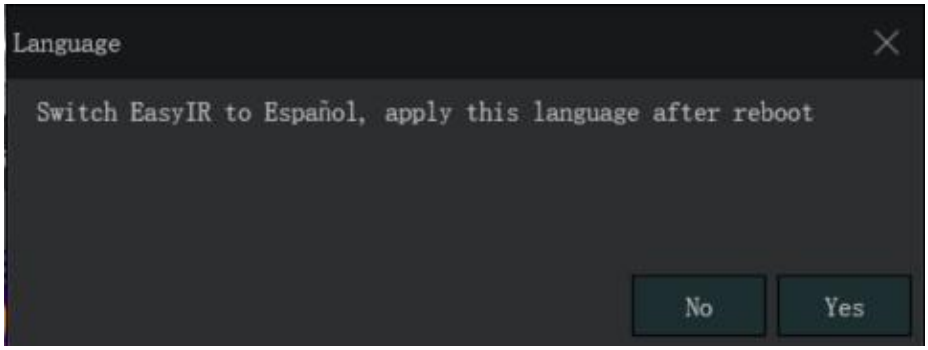
3.3 System configuration and help

3.3.1 Language

1. Configure the client language option, the language can be selected from Chinese, English, Spanish (The list may grow in the future).

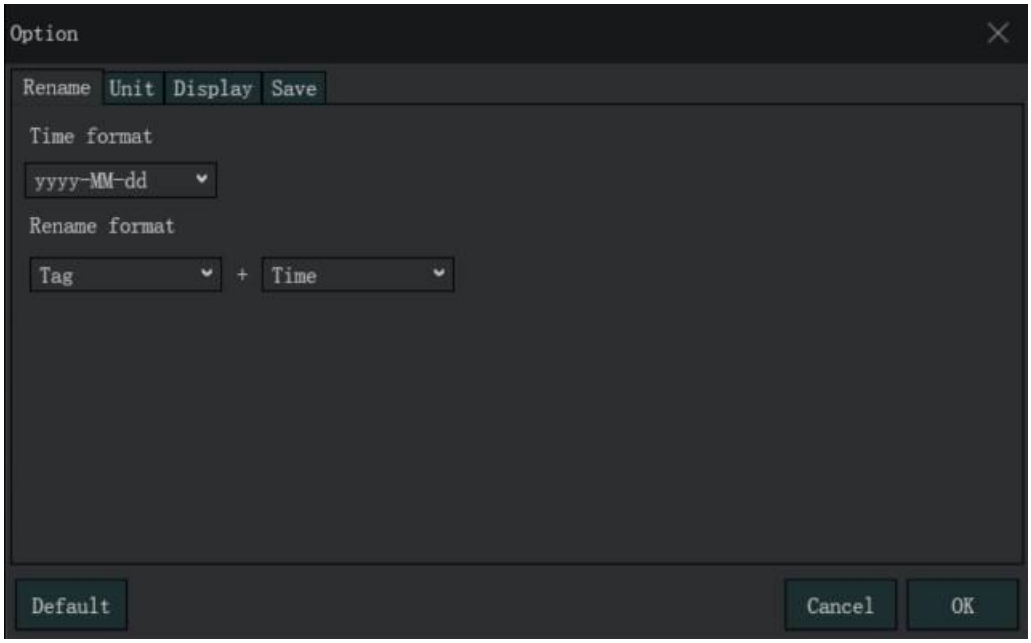


2. When users alter the language, the following prompt will show up



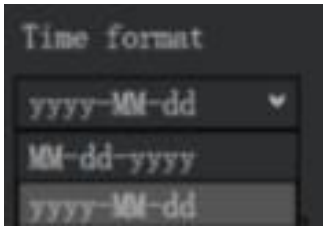
3.3.2 Options

Options include rename, units, display, and save.

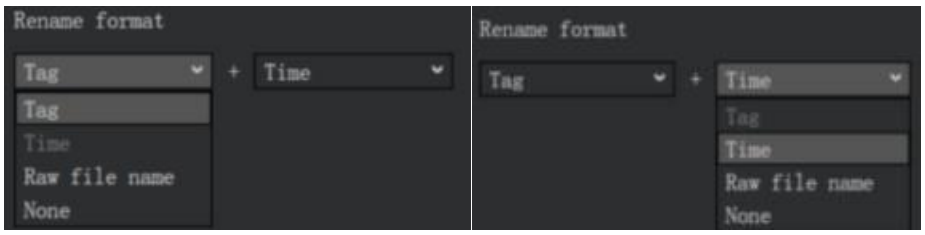


3.3.2.1 Renaming

1. The time format options are: MM-dd-yyyy, yyyy-MM-dd



2. File naming format options include: tag / time / original file name / none + time / original file name / none / tag



3. Operatable buttons: Default, Cancel, OK.

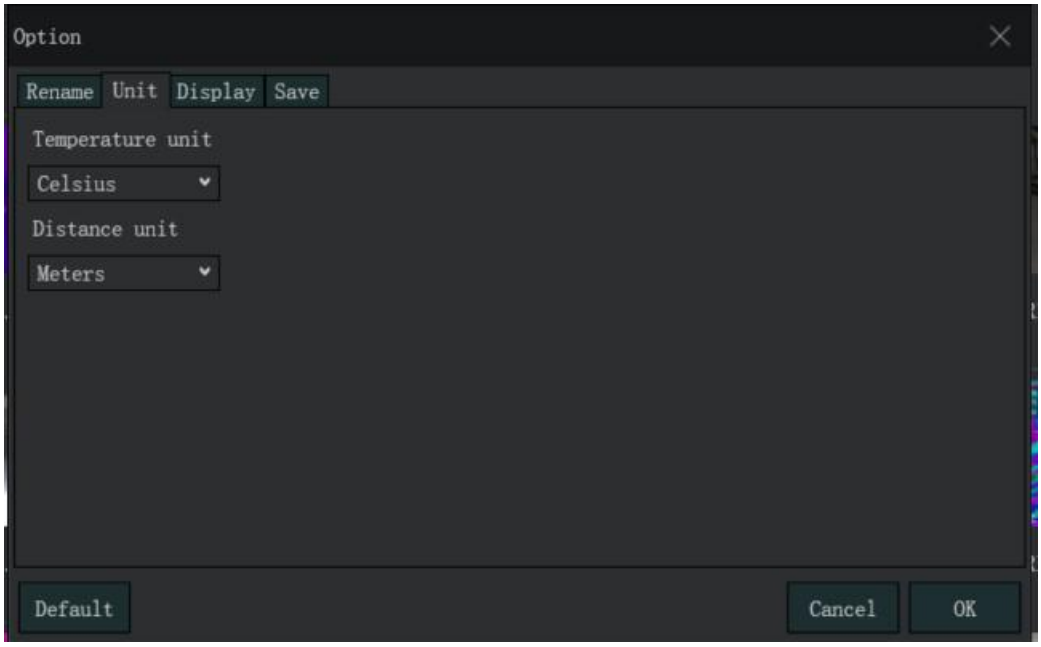
1) Default: Clicking on the default button to revert to the default renaming format.

2) Cancel: Clicking on the cancel button will ignore your previous alterations on the setting.

3) OK: Clicking on the OK function will save the formatting rules you set up.

3.3.2.2 Units

Configure units of measurement parameters



1. Temperature units include Celsius, Kelvin, Fahrenheit.

2. Distance units include meters, feet.

3. Operatable buttons: Default, Cancel, OK.

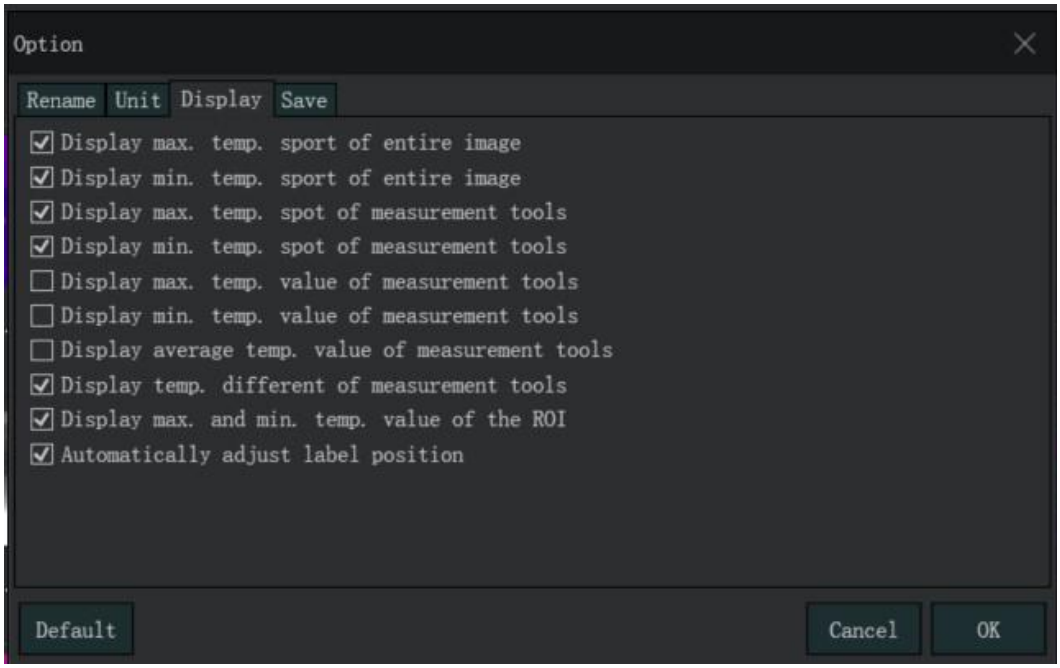
1）Default: use the default setting.

2) Cancel: Do not save the recent alteration.

3) OK: Save the current settings

3.3.2.3 Display

Configurate displaying parameters



1. Displaying the hottest point of the image: automatically capturing the position of the highest temperature point of the image.

2. Displaying the coldest point of the screen: automatically capturing the position of the lowest temperature point of the image.

3. Display the hottest point of the marker: automatically capture the position of the highest temperature point in the temperature measurement area.

4. Display the coldest point of the marker: automatic capture of the position of the lowest temperature point in the temperature measurement area.

5. Display marker's maximum temperature value: display the highest temperature point's value in the temperature measurement area.

6. Display marker's minimum temperature value: display the lowest temperature point's value in the temperature measurement area;

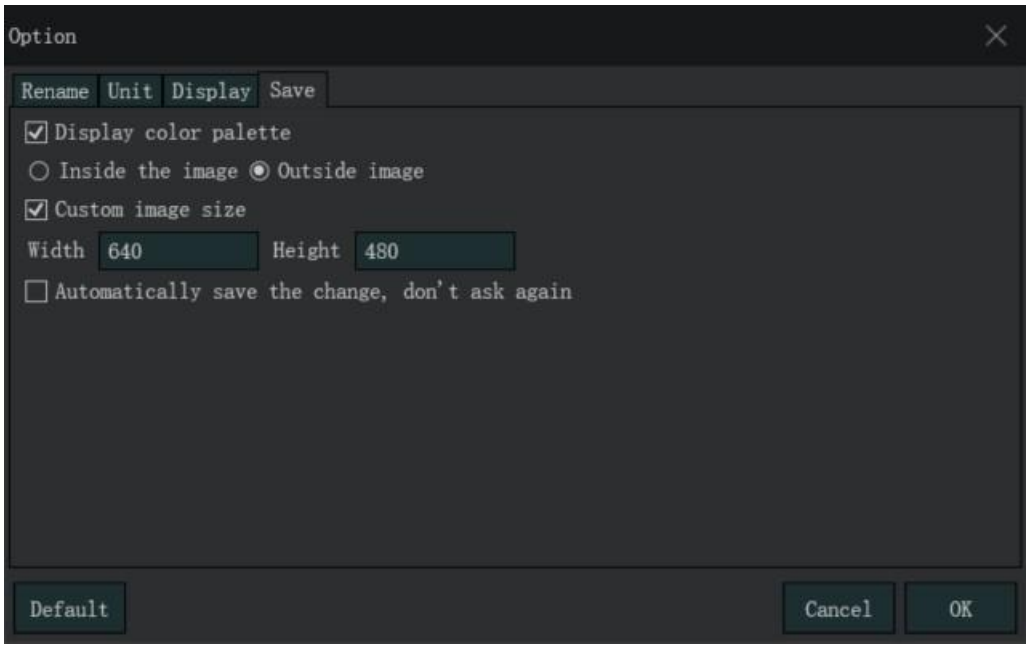
7. Display marker's average temperature value: display the average temperature in the temperature measurement area

8. Display of marker's maximum temperature difference: calculate the (highest temperature value - lowest temperature value) within the temperature measurement area and displays the value next to it

9. Display the highest and lowest temperature points' value on the image: the value will be next to the highest/lowest temperature point. If unchecked, the values will appear in the temperature measurement section.

10. Automatic adjustment of value display position: automatically adjust the temperature value position based on the location of the temperature point to avoid overlap, if not checked, the temperature value display will uniformly appear at the upper left corner of the temperature measurement area.

3.3.2.4 Save



1. Show palette: if checked, the thermal images will contain the palette ribbon.

(1) Inside: palette ribbons will appear translucent on the inside of the picture.

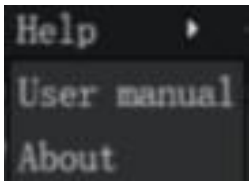
(2) Outside: the palette ribbon will appear on the outside of the image.

2. Custom image size: you can customize the image size when saving the image, the custom width and height of the pixels will only change the size of the image display, and will not affect the number of actual temperature recording points.

3. Automatically saves the file: If checked, the system will assume the user intends to save every change on every image, and will not summon the prompt asking whether to save the changes.

3.3.3 Help

Click "User's Manual" to open the EasyIR Professional Thermal Analysis Software operation manual, i.e. this operation manual



3.3.4 About

Click "About" to bring up the "About" dialog box, including software icon, software name, current software version number, and copyright owner information