Hik Thermal Android Mobile Client

User Manual

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
⚠ Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
⚠ Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
📖 Note	Provides additional information to emphasize or supplement important points of the main text.

Contents

Chapter 1 Introduction

Overview

Hik Thermal mobile client software, which allows you to log in to thermography devices and thermal imaging devices via Wi-Fi, 3G or 4G, can be used to remotely monitor the live videos devices, detect the variation of temperature, measure real-time temperature, measure temperatures of points and areas on captured pictures, as well as capture pictures and record video files.
The software also allows you to log in to thermographic automation cameras, thermographic cube cameras, and security thermal cameras and view live videos of the three types of devices (other functions are not supported for the three types of devices).

[i]**Note**

- Wi-Fi, 3G or 4G access service must be supported by the phone or tablet.
- Network traffic charges may be produced during the use of this client software. Please refer to the local ISP.

System Requirements

Android 5.0 or later versions

Conventions

To simplify description, we define "Hik Thermal mobile client software" as "software", and "thermography device, thermal imaging device, thermographic automation camera, and security thermal camera" as "device" in the following chapters.

Chapter 2 Log in to Device

The software provides two methods for searching for device(s), namely, searching for a device by manually entering its IP address, and automatically detecting device(s) in the same LAN with phone or tablet. After that, you can log in to the device and perform further operations such as temperature measurement and device firmware upgrade on the software.

2.1 Log in to Detected Online Device

The devices in the same Local Area Network (LAN) with your phone can be detected automatically and you can select one of them to log in to.

Steps

[i]**Note**

• For thermographic automation cameras, thermographic cube cameras, and security thermal cameras, you can only log in to them manually. See **_Manually Log in to Device_** for details.

1. Tap **Search and Log in** on the home page to enter the Device Connection Wizards page.

   Three methods for connecting device(s) and your phone to a same LAN will be displayed on the page as follows:

   • Method 1: Connecting device(s) to your phone's hotspot.
   • Method 2: Connecting your phone to the device's hotspot.
   • Method 3: Connecting device(s) and your phone to a same Wi-Fi.

2. Select a method and follow the wizards to connect your phone and device(s) to a same LAN.

3. Tap **Connected**.

   The software starts searching the device(s) in the same LAN with the phone's (or tablet's), and then the detected device(s) will be displayed.

4. Select a device.

5. Activate the device if it has not been activated.

   [i]**Note**

   • Skip this step if the device has been activated.
   • See **_Activate Device_** for details about how to activate a device.

6. Enter the device password on the pop-up window and then tap **Confirm** to log in to the device.

   [i]**Note**

   The device password is created when you activate it. See **_Activate Device_** for details.

2.2 Manually Log in to Device

If the software fails to detect device in the same LAN with your phone (or tablet), you can try manually logging in to the device.

Before You Start
Make sure the device and the phone (or tablet) are in the same LAN, or the device has been connected to the phone's hotspot.

Steps
1. Tap **Manual Login** on the home page to enter the Manual Login page.
2. Enter the IP address of the device.

   $\boxed{i}$**Note**

   You can go to **Settings → Device Information** on the device to check the device's IP address.

3. Enter the device password.

   $\boxed{i}$**Note**

   The initial password of the device is abcd1234.

   $\boxed{i}$**Note**

   We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you change your password regularly, especially in the high security system, changing the password monthly or weekly can better protect your product.

4. Tap **Confirm** to log in to the device.

   If the device has already been activated, you will log in to the device directly.

   If the device is inactivated, you should activate it first. For details about activating device, see *Activate Device* .

2.3 Activate Device

When you log in to a device, if the device has not been activated yet, a window will pop up to ask you to activate the device.

Steps

$\boxed{i}$**Note**
You must activate the device before you can access it.

1. Log in to the device. See ***Log in to Detected Online Device*** and ***Manually Log in to Device*** for details.
2. Tap **Activate** on the window to open the Activate Device window.
3. Create a password for the device and confirm the password.

⚠️**Caution**

The software will judge password strength automatically, and we highly recommend you to use a strong password to ensure your data security. A strong password ranges from 8 to 16 characters, and must contain at least two of the following categories: number, lowercase, uppercase and special character.

4. Tap **Activate** to activate the device.

2.4 Device Settings

On the Device Settings page, you can view device information, edit device name, and upgrade device firmware.

After logging in to a device, you can tap 🔧 to enter the Device Settings page.

View Device Information

You can view the device information including device model, serial number, and the current device firmware version.

Edit Device Name

You can customize the name of a device to distinguish it from other devices when searching online devices.

ℹ️**Note**

The device name should contain 1 to 16 characters.

Upgrade Device

When a new version of device firmware is available, **New Version** will be displayed in red in the **Device Upgrade** field.
You can tap **New Version** and then follow the prompts to download the upgrade package and then upgrade the device firmware.

ℹ️**Note**

- Downloading upgrade package is only available in the Wide Area Network (WAN). You should switch to the WAN first if your phone is not connected to the WAN.
- When upgrade completes, the device will be automatically rebooted. And during rebooting, the device will be temperately unavailable for logging in to.

Chapter 3 Live View

After logging in to the device, the live video of the device will play automatically. You can perform operations such as palettes configuration, temperature measurement, and capture and recording.

3.1 Switch Thermal/Optical View

You can switch the image mode among thermal mode, optical mode, PIP mode, and combined mode.

Tap the following icons in the toolbar to switch the image mode.

Table 3-1 Image Mode Descriptions

Icon	Name	Description
▧	Thermal Mode	In thermal mode, the device displays thermal view.
▢	PIP Mode	In PIP (Picture in Picture) mode, the device displays thermal view inside optical view.
▨	Optical Mode	In optical mode, the device displays optical view.
▣	Combined Mode	In combined mode, the device displays the combined view of thermal channel and optical channel.

3.2 Set Thermometry Parameters

Before temperature measurement, you should set thermometry parameters including emissivity, background temperature, and background temperature, etc. Inappropriate thermometry parameters will affect the accuracy of temperature measurement.

Steps
1. Swipe to the left on the toolbar to view all the icons on it.
2. Tap ▦ and then tap the appearing icons to set thermometry parameters.

    🖳   Set the value to the emissivity of the target material.

📖**Note**

The emissivity of the surface of a material is its effectiveness in emitting energy as thermal radiation. See ***Common Material Emissivity Reference*** for emissivity of common materials.

◈ Set the straight-line distance (unit: m) between the target and the device.

🌡 Set the average temperature (unit: ° C) of the environment.

🌡 Set temperature unit. You can select Celsius, Fahrenheit, or Kelvin.

3.3 Measure Spot's Temperature in Live View

The software can locates the spot with the highest temperature, the spot with the lowest temperature, and the center spot on the live video image. You can view the above-mentioned spots' real-time temperatures during live view.

📖**Note**

- If you have started live view for a long time, you should tap ⊕ to calibrate the device first to ensure the accuracy of the temperature measurement.
- During live view, you can check the device's remaining power based on the battery icon on the lower-left.

Center Spot Thermometry

Tap ⌧ → ✛ to display the real-time temperature of the center spot of the live video image as

Cen:28.4 . And tap the icon again to hide the temperature.

Hot Spot Thermometry

Tap ⌧ → ⤒ to display the spot with the highest temperature as ✛ and its real-time temperature

as **Max:304.0** on the image. And tap the icon again to hide the spot and its temperature.

Cold Spot Thermometry

Tap ⌧ → ⤓ to display the spot with the lowest temperature as ✛ and its real-time temperature as

Min:301.4 on the image. And tap the icon again to hide the spot and its temperature.

3.4 Measure Frame's Temperature in Live View

You can set frames on the live video image and the software will measure the highest temperature, lowest temperature, and average temperature in the frame.

Steps

□i Note

- If you have started live view for a long time, you should swipe the toolbar to the right and then tap 🞉 to calibrate the device first to ensure the accuracy of the temperature measurement.
- During live view, you can check the device's remaining power based on the battery icon on the lower-left.
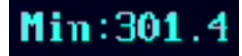
1. Tap ▨ → ▣ on the toolbar to set a frame on the live video image.

   □i Note

   You can set up to 3 frames on the live video image.

2. **Optional:** Edit the frame.

Move Frame	Drag the frame to move it.
Delete Frame	Tap **Delete** above the frame to delete it.
Adjust Shape and Size	Drag a vertex of the frame to adjust the frame's shape and size. You can also spread fingers apart and pinch them together inside the frame to adjust its shape and size.

3. Tap areas outside of the frame on the image to confirm the frame settings.

   The the highest temperature, lowest temperature, and average temperature in the frame will be displayed.
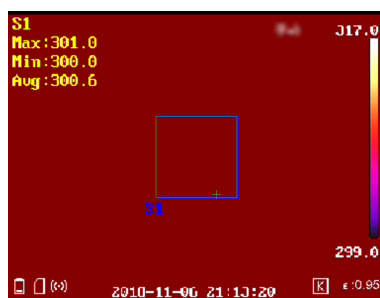
Figure 3-1 Frame's Temperature

4. **Optional:** Tap the image and then tap the frame to edit the frame again.

3.5 Set Palettes for Live Video Image

The palette is the color scheme used to display a thermal image. You can select different palettes modes, including white hot, black hot, fusion, rainbow, ironbow, red hot, and rain.

□i Note

In optical mode, palettes settings is not supported. See **Switch Thermal/Optical View** for details.

Tap ⬡ and then select a palettes mode.

White Hot

The hot part is light-colored in view.

Black Hot

The hot part is black-colored in view.

Rainbow

The target displays multiple colors, it's suitable for scene without obvious temperature difference.

Ironbow

If the color is close to yellow, the temperature is high. If the color is close to purple, the temperature is low. In this mode, the target object's outline is clear and the hotspot is easy to find. This mode is usually applied to the power industry.

Red Hot

The hot part is red-colored in view.

Fusion

The hot part is yellow-colored and the cold part is purple-colored in view.

Rain

The hot part in the image are colored, and the else is blue.

3.6 Manually Record Video and Capture Pictures

You can record video manually and capture pictures during live view.

Steps
1. Log in to the device.

   ⬚**Note**

   See *Log in to Device* for details.

2. Record video or capture pictures.

Capture Picture	Tap **Picture → ◯** to capture a picture.
Record Video	Tap **Video → 🔴** to start recording the live video and then tap ⬛ to stop.
	⬚**Note** • Make sure there are at least 512 MB available storage space on your phone. • The valid recording duration is from 2 seconds to 2 minutes.

The recorded videos and captured pictures can be viewed and managed in the Picture & Video Management page. For details, refer to **_Picture and Video Management_** .

3.7 Start Two-way Audio

Two-way audio enables the voice talk between the Software and the device, allowing you (the Software user) and the device user to communicate mutually in real time. This is useful in various usage scenarios. For example, assume that you need to instruct the installation of thermography devices at the entries and exits of a company in a city where a pandemic outbreaks, you can do remote instruction by two-way audio instead of instruction on site to avoid the risk of infection.

After log in to a device on the Software, tap 🎤 to start two-way audio.

⌴**Note**

If you receive phone call or exit the Software during two-way audio, two-way audio will be ended.

Chapter 4 Picture and Video Management

In Picture and Video Management module, you can view and manage the recorded video files and the captured pictures. For the captured pictures, you can measure the temperatures of the spots and frames on the picture, set alarm temperature to highlight temperature exceptions, as well as set different palette modes for thermal analysis.

4.1 View Pictures

You can view the captured pictures in the Picture and Video Management page.

Steps
1. Enter the Picture and Video Management page.
   - If you haven't logged in to a device, tap **Picture & Video Management** on the home page of the Mobile Client.
   - If you have logged in to a device, tap the thumbnail of the captured picture or recorded video (displayed on the lower-left of the Live View page) to enter the Picture and Video Management page.
2. Tap a specific picture to view the larger picture.
3. **Optional:** Tap [icon] → [icon] to edit the picture.

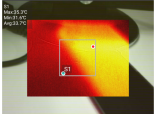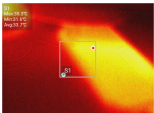|	
Set Contrast	Tap **Contrast** to set the range of temperature for thermal analysis so as to filter out unnecessary colors on the picture.
	Auto
	The temperature range will be from the lowest temperature to the highest temperature on the original image.
	Manual
	Drag the red line on the temperature bar to set the temperature range.
Set Remark	Tap **Remark** to add a remark for the picture.
View Device Information	Tap **Device Info** to view the device model and the device serial number.

4. **Optional:** If you have set contrast or remark in the previous step, save the settings.
   - Tap **Save → Save as** to save it as a new picture.
   - Tap **Save → Overwrite** to overwrite the original picture.

4.2 Switch Thermal/Optical View for Captured Picture

You can switch the image mode among thermal mode, optical mode, PIP mode, and combined mode for the captured picture.

Tap ✎ and then tap ▣ / ▢ / 🖼 / ▣ to switch image mode.

Table 4-1 Image Mode Descriptions

Icon	Name	Description
▣	Thermal Mode	In thermal mode, the device displays thermal view.
▢	PIP Mode	In PIP (Picture in Picture) mode, the device displays thermal view inside optical view. **Figure 4-1 PIP Mode**
🖼	Optical Mode	In optical mode, the device displays optical view.
▣	Combined Mode	In combined mode, the device displays the combined view of thermal channel and optical channel. **Figure 4-2 Combined Mode**

4.3 Set Thermometry Parameters for Captured Picture

Before temperature measurement on a captured picture, you should set thermometry parameters such as emissivity and environment temperature. Inappropriate thermomety parameters will affect the accuracy of temperature measurement.

On the Picture and Video Management page, tap a picture and then tap ✎ → ⚏ to set thermometry parameters. After setting the parameters, you can tap **Save** to overwrite the original picture or save the picture as a new picture.

Emissivity

Set the value to the emissivity of the target material. The default value is 0.97.

[i]**Note**

The emissivity of the surface of a material is its effectiveness in emitting energy as thermal radiation. See **Common Material Emissivity Reference** for emissivity of common materials.

Distance

Set the straight-line distance (unit: m) between the to-be-measured object and the device. The default value is 2 m.

Background Temp

Set the average temperature (unit: ° C) of the environment where the device locates in.

4.4 Measure Spot's Temperature for Captured Picture

You can view the spot with the highest temperature, the spot with the lowest temperature, the center spot, as well as the temperature on any other spot on the captured picture.

On the Picture and Video Management page, tap a picture, and then tap ⬚ → ✛ to show the toolbar for measuring temperature.

Center Spot

Display the center spot of the picture and its temperature on the picture.

Hot Spot

Display the spot with the highest temperature on the picture and the spot's temperature.

Cold Spot

Display the spot with the lowest temperature on the picture and the spot's temperature.

Custom

Display a movable spot and its temperature on the picture. You can drag the spot and its temperature will change accordingly.

[i]**Note**

You can customize up to 3 spots for temperature measurement.

[i]**Note**

You can tap **Clear** to clear all the spots on the picture.

4.5 Measure Frame's Temperature for Captured Picture

You can set frames on the captured picture and the software can measure the highest temperature, lowest temperature, and average temperature in the frame.

Steps

[i] **Note**

You can set up to 3 frames on the captured picture.

1. On the Picture and Video Management page, tap a picture, and then tap [✎] to enter the editing mode.
2. Tap [✛] → [■] on the toolbar to set a frame on the captured picture.
3. **Optional:** Edit the frame.

Move Frame	Drag the frame to move it.
Delete Frame	Tap **Delete** above the frame to delete it.
Adjust Shape and Size	Drag a vertex of the frame to adjust the frame's shape and size.
	You can also spread fingers apart and pinch them together inside the frame to adjust its shape and size.

4. Tap areas outside of the frame on the picture to confirm the frame settings.

   The the highest temperature, lowest temperature, and average temperature in the frame will be displayed. The blue point represents the spot with the lowest temperature, and the red point the spot with the highest temperature.
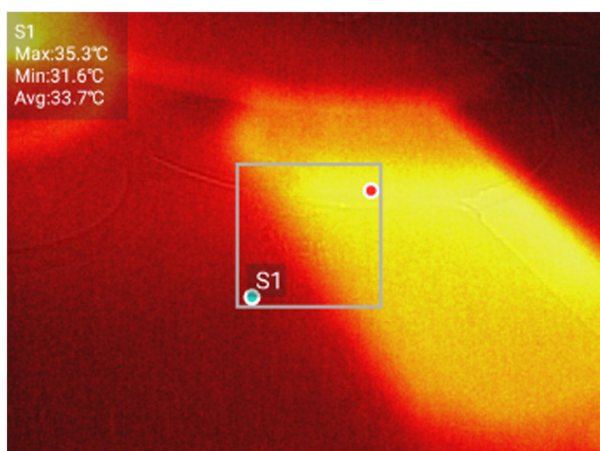

Figure 4-3 Frame's Temperature

4.6 Set Alarm Temperature for Captured Picture

Alarm temperatures are the threshold temperatures for highlighting the parts with temperature exceptions in a captured picture. The temperature exceptions occur when there are temperatures higher/lower than the threshold temperatures, or when there are temperatures within or beyond an temperature interval. The parts with temperature exceptions will be marked with different colors. The function can be used in various thermal analysis scenarios, such as detecting the ill livestock whose body temperature is abnormal during quarantine inspection.

On the Picture and Video Management page, tap a picture and then tap 📝 → 🔲 to set alarm temperature. After setting the alarm temperature, you can tap **Save** to overwrite the original picture or save the picture as a new picture.

High

If the temperature of a part in the picture is higher than the configured one, the part will be displayed in red.

The settings can be used in scenarios such as determining if components running exceptions exist in power station.

Low

If the temperature of a part in the picture is lower than the configured one, the part will be displayed in blue.

The settings can be used in scenarios such as determining if components running exceptions exist in power station.

Interval

If the temperature of a part in the picture is within the configured interval, the part will be displayed in yellow. The settings can be used in scenarios such as detecting humans or other homeothermic animals at night.

Insulation

The part in the picture with a temperature higher than the configured maximum temperature will be displayed in purple; Lower than the configured minimum temperature will be green. Within the configured temperature interval will be black.

The settings can be used in scenarios such as detecting livestock with abnormal body temperature during quarantine inspection.

4.7 Set Palettes for Captured Picture

The palette is the color scheme used to display a thermal image. You can select different palettes modes, such as White Hot and Ironbow, for the captured picture.

Tap a picture, and than tap 📝 to enter the editing mode.

You can tap and then select the palette mode. After setting palette mode, you can tap **Save** to overwrite the original picture or save the picture as a new picture.

White Hot

The hot part is light-colored in view.

Black Hot

The hot part is black-colored in view.

Rainbow

The target displays multiple colors, it's suitable for scene without obvious temperature difference.

Ironbow

If the color is close to yellow, the temperature is high. If the color is close to purple, the temperature is low. In this mode, the target object's outline is clear and the hotspot is easy to find. This mode is usually applied to the power industry.

Red Hot

The hot part is red-colored in view.

Fusion

The hot part is yellow-colored and the cold part is purple-colored in view.

Rain

The hot part in the image are colored, and the else is blue.

Ice Fire

The hot part is eye-catching red-colored in view, and the cold part is eye-catching blue-colored in view.

Green Hot

The hot part is green-colored.

Color

Colors are opposites in the color wheel with less contrast.

Sepia

The hot part is yellow-colored and the cold part is brown-colored.

Dark Blue

The cold part is blue-colored, the warm part is green-colored, and the hot part is white-colored.

4.8 View Videos

You can view the recorded video files and capture pictures.

Steps
1. Enter the Picture and Video Management page.

- If you haven't logged in to a device, tap **Picture & Video Management** on the home page of the software.
- If you have logged in to a device, tap the thumbnail of the captured picture or recorded video (displayed on the lower-left of the Live View page) to enter the Picture and Video Management page.
2. Tap a video file and tap ▶ to play the video file.
3. **Optional:** Tap ⏸ to pause.

4.9 Share Pictures and Videos

You can share the captured pictures and recorded (or clipped) video files to other applications such as Message and Twitter.

Steps
1. Enter the Picture and Video Management page.
   - If you haven't logged in to a device, tap **Picture & Video Management** on the home page of the Mobile Client.
   - If you have logged in to a device, tap the thumbnail of the captured picture or recorded video (displayed on the lower-left of the Live View page) to enter the Picture and Video Management page.
2. Share a specific picture or video, or share the pictures and video files in a batch.
   - Tap a specific picture or video and tap 🖉 , and then select an application to share it to the selected application.
   - Tap **Select** and select pictures or video files, and then tap 🖉 and select an application to share the pictures or video files to the selected application.

4.10 Delete Pictures and Videos

You can delete the pictures you captured or the videos you recorded.

Steps
1. Enter the Picture and Video Management page.
   - If you haven't logged in to a device, tap **Picture & Video Management** on the home page of the Mobile Client.
   - If you have logged in to a device, tap the thumbnail of the captured picture or recorded video (displayed on the lower-left of the Live View page) to enter the Picture and Video Management page.
2. Delete pictures and videos.
   - Select a specific picture or video and tap 🗑 to delete the picture or video.
   - Tap **Select** and select pictures or videos, and then tap 🗑 to delete the selected pictures and videos.

Chapter 5 Local Settings

You can configure local settings for the software, including auto login settings, sending feedback, checking and updating software version, etc.

Tap ⚙ on the Login page to enter the Settings page. You can configure or view the following parameters.

Auto Log in to the First Found Device

When enabled, the first one of the found devices in the same LAN with the phone or tablet will be automatically logged in to without the inconvenience of entering its password.

Note

The device should have been activated and logged in to via the software before.

Clear Cache

Clear the caches (including the downloaded device upgrade package) of the software.

Feedback

Scan the QR code to send us any comments and suggestions for improving this software. We are constantly working on ensuring the usability of the software.

Note

Currently only WeChat is supported for scanning the QR code.

About

View and update software version, view the Help for operation guidance, and view the Open Source License, and Software License Agreement.

Note

When there's a new version available, a red dot will appear on **About**, you can tap **About →Update Software Version** and then tap **Download** on the pop-up window to download the upgrade package and update the software version.
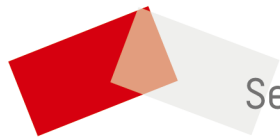
Appendix A. Common Material Emissivity Reference

The following table shows the emissivity value of some common materials.

Table A-1 Common Material Emissivity

Material	Emissivity
Human Skin	0.98
PCB	0.91
Cement Concrete	0.95
Ceramics	0.92
Rubber	0.95
Paint	0.93
Wood	0.85
Asphalt	0.96
Brick	0.95
Sand	0.9
Soil	0.92
Cotton	0.98
Cardboard	0.9
White Paper	0.9
Water	0.96

See Far, Go Further