

How to configure temperature measurement for thermal camera

Preparation

1. login the device via web browser
2. Enter **Configuration>System>Maintenance>VCA Resource Type**
Select **Temperature Measurement + Behavior Analysis** as VCA Resource Configuration.

Note:

Steps:

1. Enter **Local**, then enable **Display Temperature Info** and **Display Temperature Info. on Capture**.

The screenshot shows the Hikvision web interface configuration page for the 'Local' live view. The 'Configuration' tab is selected. The left sidebar shows the navigation menu with 'Local' selected. The main content area is divided into several sections:

- Live View Parameters:**
 - Protocol: TCP, UDP, MULTICAST, HTTP
 - Play Performance: Shortest Delay, Balanced, Fluent
 - Rules: Enable, Disable
 - Auto Start Live View: Yes, No
 - Image Format: JPEG, BMP
 - Display Temperature Info: Yes, No
 - Display Temperature Info...: Yes, No
- Record File Settings:**
 - Record File Size: 256M, 512M, 1G
 - Save record files to: C:\Users\tianzhicun [Browse] [Open]
 - Save downloaded files to: C:\Users\tianzhicun\Web\Downlo [Browse] [Open]
- Picture and Clip Settings:**
 - Save snapshots in live vi...: C:\Users\tianzhicun [Browse] [Open]
 - Save snapshots when pla...: C:\Users\tianzhicun\Web\Playbac [Browse] [Open]
 - Save clips to: C:\Users\tianzhicun\Web\Playbac [Browse] [Open]

A red box highlights the 'Display Temperature Info' and 'Display Temperature Info...' settings. A red 'Save' button is located at the bottom of the configuration area.

2. Enter **Temperature Measurement**, and select **Enable Temperature Measurement, Enable Color-Temperature and Display Temperature info on Stream**.

The screenshot shows the Hikvision Configuration interface. The 'Configuration' tab is selected. Under 'Basic Settings', the 'Channel No.' is set to 'Camera 02'. A red box highlights three checked options: 'Enable Temperature Measurement', 'Enable Color-Temperature', and 'Display Temperature Info. on Stream'. Other settings include 'Add Original Data on Capture', 'Add Original Data on Stream', 'Data Refresh Interval' (3 s), 'Unit' (Degree Celsius(°C)), 'Temperature Range' (-20.0~150.0), and 'Version' (V1.1.5build20180117). Below this is the 'Manual Temperature Me...' section with 'Emissivity' (0.98) and 'Distance' (20 m), both with green checkmarks. A red 'Save' button is at the bottom.

3. Then go to **Advanced Settings**

Select the **Configuration** as Normal or Expert.

● **Normal Mode:**

Fill in Emissivity (0.96 as default) and Distance (The straight-line distance between the target and the device), and it will display the highest temperature and lowest temperature.

The screenshot shows the Hikvision Configuration interface with 'Advanced Settings' selected. The 'Channel No.' is 'Camera 02' and 'Configuration' is set to 'Normal'. The 'Device Temperature(°C)' is 39. A video feed shows a grid of objects with a red box highlighting one and a temperature reading of 21.1. The 'Emissivity' is 0.96 and 'Distance' is 30 m. The 'Pre-Alarm Threshold' is 45 °C and 'Filtering Time' is 0 s. The 'Alarm Threshold' is 55 °C and 'Filtering Time' is 0 s. The 'Pre-Alarm Output' is checked for A->1 and A->2, and the 'Alarm Output' is checked for A->1 and A->2. A red 'Save' button is at the bottom.

Note:

1. **Filtering Time:** This parameter is used to provide triggering from some object with a high-temperature but only appears for a short time. The chosen range is 0~200s.

- Alarm output: The pre-alarm and alarm could choose independent alarm out from the version 5.5.0Build180411(bullet cameras)/5.5.2Build180528(PTZ cameras)

● **Expert Mode:**(bullet cameras differ from device with PTZ)

Bullet camera:

Customize the rule name and fill in the distance, then select point, line or area as rule type and draw the figure.

Basic Settings **Advanced Settings** Linkage Method

Channel No.

Configuration

Device Temperature(°C): 25

Area's Temperature Comparison

Enable	ID	Name	Type	Emissivity	Distance(...)	Reflective Temp...	Alarm Rule
<input checked="" type="checkbox"/>	1	Area1	Area	0.96	30	<input type="checkbox"/> 20	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	2	Point1	Point	0.96	30	<input type="checkbox"/> 20	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	Line1	Line	0.96	30	<input type="checkbox"/> 20	<input checked="" type="checkbox"/>
<input type="checkbox"/>	4		Point	0.96	30	<input type="checkbox"/> 20	<input checked="" type="checkbox"/>

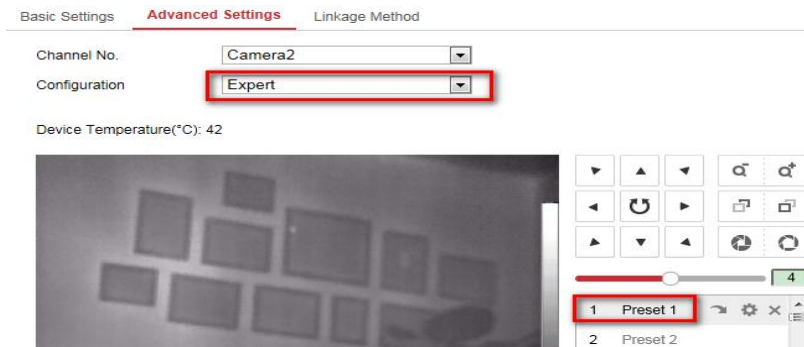
Note:

- Each scene supports 10 points, 10 frames and 1 line.
- The Reflective Temperature is not often used, it only take effect when the heat of another object interfere the temperature of the target. Enter the temperature of the interference object, the result of the target will be more accurate.

Camera with PTZ:

Because thermal cameras with PTZ support multiple-scenes temperature measurement. So we need to create a preset before measuring.

Adjust the image to the scene for temperature measurement with the PTZ control panel. Save current scene as certain preset



Note:

1. 300 presets can be created totally.
2. Each preset supports 10 points, 10 frames and 1 line.

Alarm Rule Configuration:

Set the alarm rule: Select a temperature measurement rule from the rule list and configure the parameters.

Enable	ID	Name	Type	Emissivity	Distance(...)	Reflective Temp...	Alarm Rule
<input checked="" type="checkbox"/>	1	R1	Region	0.96	4	20	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	2	R2	Region	0.96	6	20	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	P1	Point	0.96	3	20	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	4	L1	Line	0.96	5	20	<input checked="" type="checkbox"/>

Alarm Rule ✕

Alarm Rule:

Alarm Temperature: °C

Pre-Alarm Temperature: °C

Tolerance Temperature: °C

Area's Temperature Comparison:

Compare the two area rule in different ways, including Max.Temperature, Min.Temperature, Average.Temperature and Temperature.Difference.

For example, in the following picture, if the Max temperature of Area 1 is 10 degree higher than the Max temperature of Area 2, the Alarm output 1 will take effect.

Area's Temperature Comparison ✕

1 Area1 and 4 Area2 Above (Max.) 10 Alarm Output A->1 A->2

1 Area1 and 1 Area1 Above (Max.) 0 Alarm Output A->1 A->2

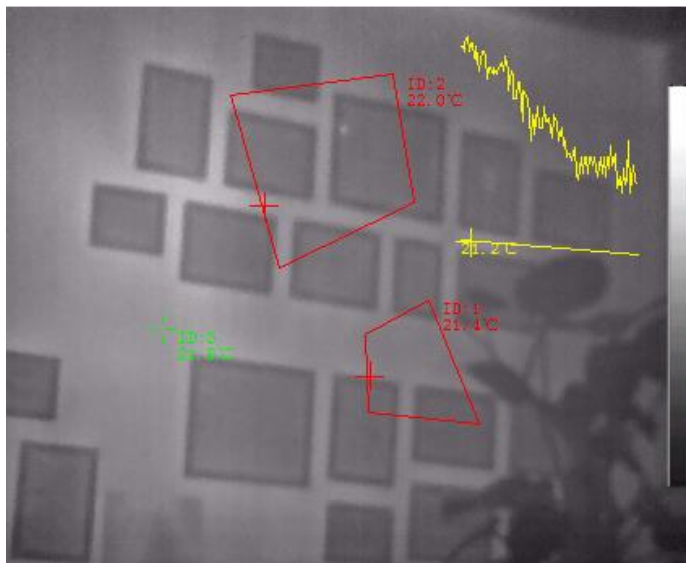
1 Area1 and 1 Area1 Above (Max.) 0 Alarm Output A->1 A->2

1 Area1 and 1 Area1 Above (Max.) 0 Alarm Output A->1 A->2

Temperature Display:

1.Camera with PTZ

Calling the preset and wait for 5 seconds, the result of temperature measurement will be shown as the picture below.



2. Bullet Camera

Show the result of temperature directly on live view.



Temperature Highlight: (bullet thermal camera)

The portion with selected temperature can be highlighted with any color. Three different temperature intervals could be chosen.

The screenshot shows the Hikvision web interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', and 'Configuration'. The 'Configuration' menu is expanded, showing 'Display Settings', 'OSD Settings', 'Privacy Mask', 'Picture Overlay', 'DPC', and 'VCA Rule Display'. The 'Display Settings' tab is active, showing a live view of a room with temperature highlights. The configuration panel on the right has the following settings:

- Image Adjustment**
- Image Enhancement**
 - Digital Noise Reduction: Normal
 - Noise Reduction Level: 50
 - Palettes: White Hot
- Temperature Intervals (highlighted in red box):**
 - Above (be colored): 35 °C (Red)
 - Between (be colored): Min 30 °C, Max 35 °C (Orange)
 - Below (be colored): 22 °C (Green)
- DDE**
 - DDE Level: 50
- Video Adjustment**
- Other**

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