

How to optimize the temperature accuracy

Purpose

When thermal's temperature displays not so accurate (temperature accuracy beyond $\pm 8^{\circ}\text{C}$), it needs you choose three points to detect again. Then temperature measurement will work well.

Preparation

1. Thermal Imaging Temperature Measurement Tool .



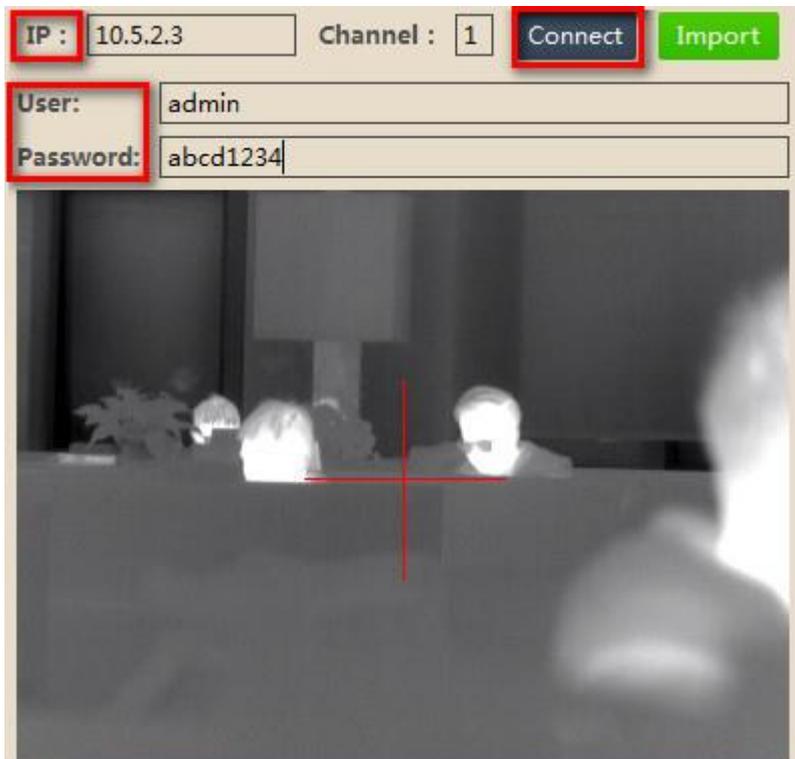
2. Thermal camera.

Note:

1. Tool can be found on FTP.
The path: /17 Thermal/Product support/04 Tool/
2. We advise that place the tool to the desktop, because when file path is too long will cause the failure of calibration.
3. It need operates device after running for about one hour.

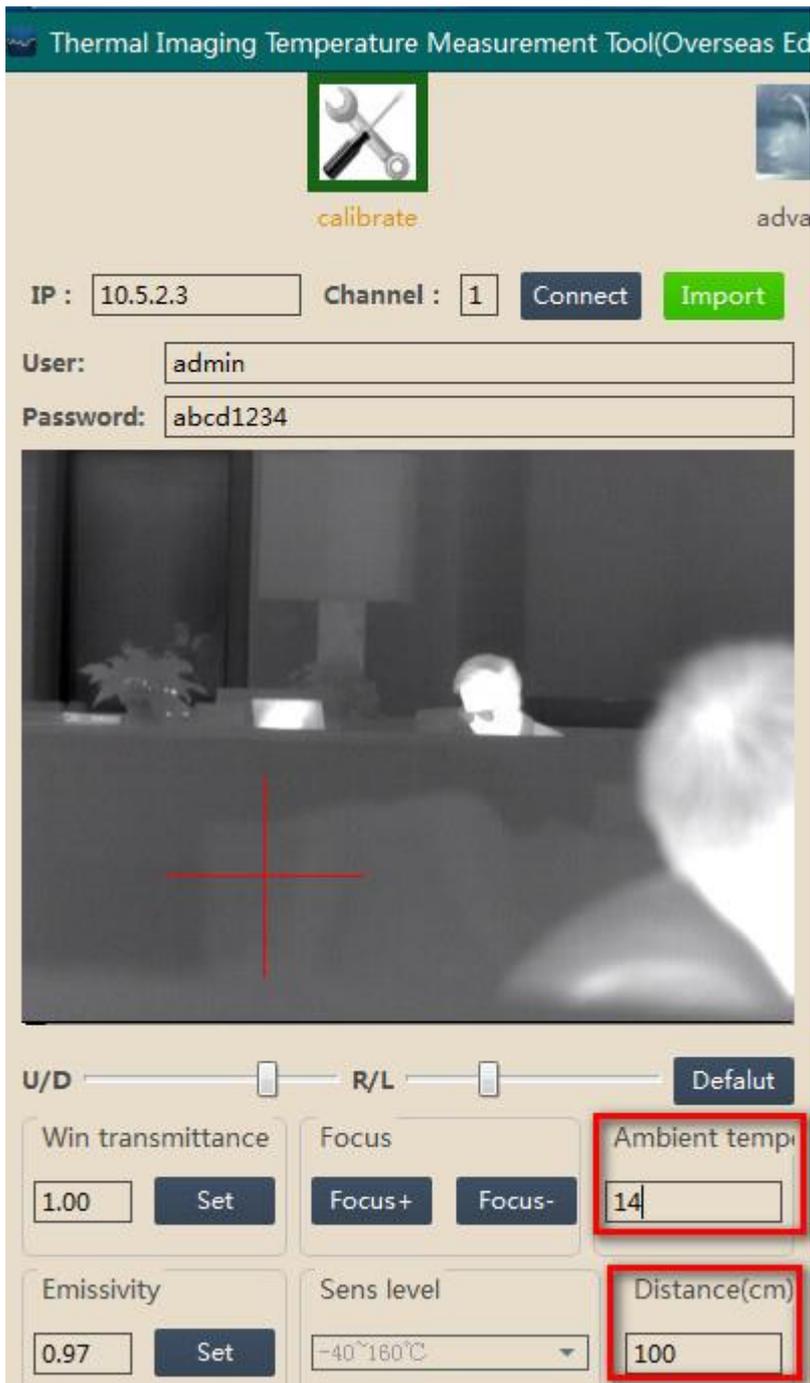
Steps:

1. Enter the IP, User and Password, click the button of Connect.



2. Find the **ambient temperature ($^{\circ}\text{C}$) and distance (cm)**, fill in the data by according to actual value. The distance means straight-line distance between the

high temperature target and the device.



Note:

All thermal cameras have the fixed minimum focus distance. When you enter the distance, please pay attention to this for the image clarity. This parameter can be found in the spec of the thermal camera.

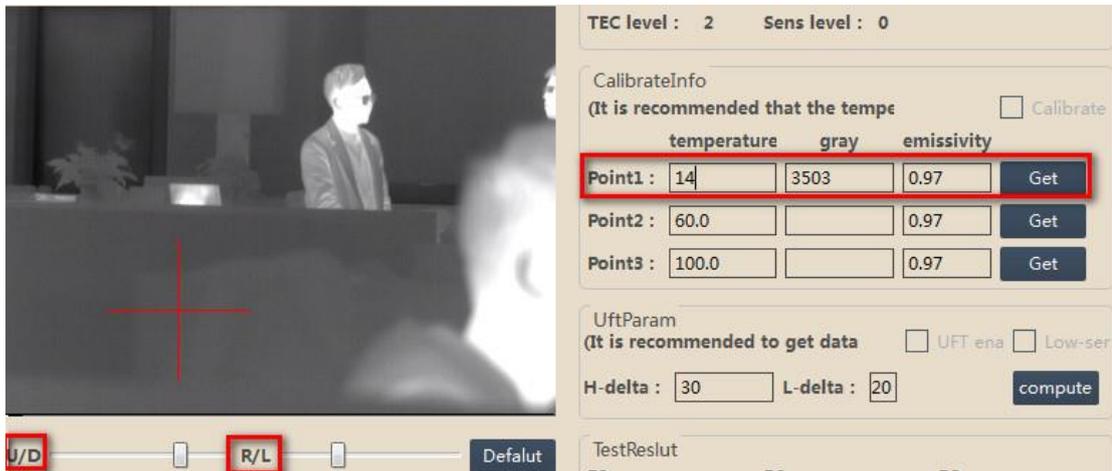
3. Select three points (low temperature target, medium temperature target, high temperature target) in the live view one by one.

Note:

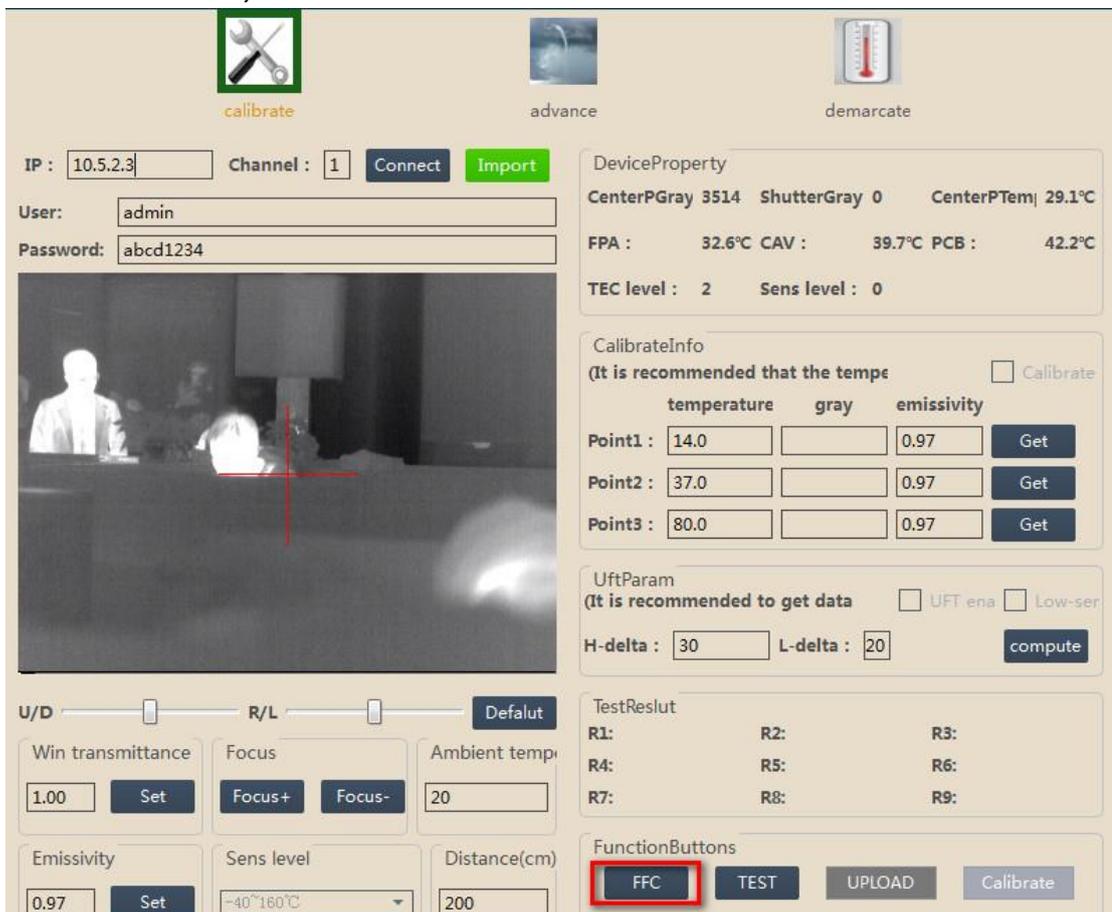
1. Three target's distance and emissivity needs not too much difference.

2. Make sure point is not selected on the glass or iron. Because this object's emissivity is much different from most other object.

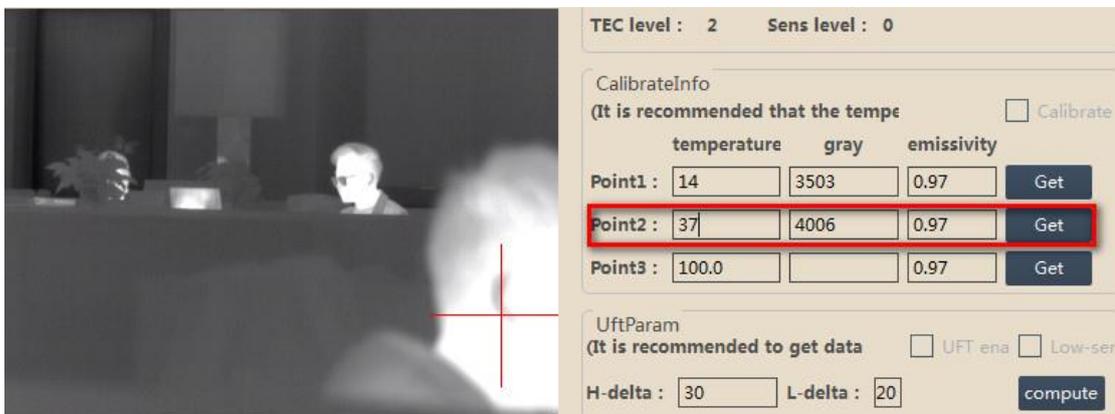
4. Point1(Indoor environment temperature:14°C)
 Select the point by dragging the **U/D** and **R/L** to create a fixed point.
 Set the point1's temperature and emissivity.



Before clicking the Get button to obtain the value of gray, you need to click FFC button first. If the time interval of three points is during 1 min, it only needs click FFC just once. If not, it needs click FFC one by one.

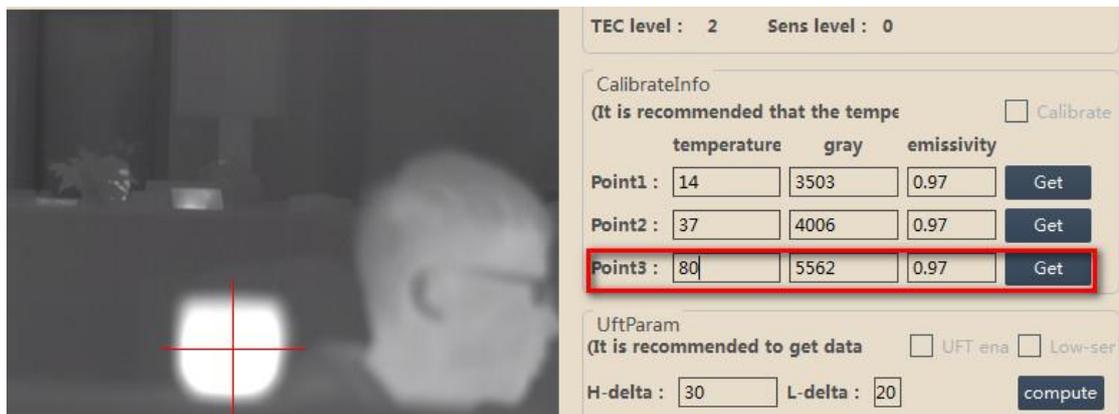


5. Point2 (Body's temperature:37 °C)
Operation is the same as point1.



The image shows a thermal camera interface. On the left is a thermal image of a person's head and shoulders. A red crosshair is centered on the forehead. On the right is a control panel. At the top, it says "TEC level : 2" and "Sens level : 0". Below that is a "CalibrateInfo" section with a checkbox for "Calibrate" and the text "(It is recommended that the temperature gray emissivity)". There are three rows of input fields: "Point1", "Point2", and "Point3". Each row has three input fields for "temperature", "gray", and "emissivity", followed by a "Get" button. The "Point2" row is highlighted with a red box, showing "37" in the temperature field, "4006" in the gray field, and "0.97" in the emissivity field. Below this is a "UftParam" section with a checkbox for "UFT ena" and "Low-ser", and two input fields for "H-delta" (30) and "L-delta" (20), followed by a "compute" button.

6. Point3(hot water:80°C)
Operation is the same as point1.



The image shows the same thermal camera interface as in step 5. The thermal image on the left now shows a bright white spot, likely a cup of hot water, with a red crosshair centered on it. The control panel on the right is identical to the previous step, but the "Point3" row is now highlighted with a red box, showing "80" in the temperature field, "5562" in the gray field, and "0.97" in the emissivity field.

7. Finally click Calibrate button, double check the value of Ambient temperature and Distance.



If data are all correct, click Yes, you will see" upload file succeeded".

8. Login the thermal by IE, check the temperature again.

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