# How To Configure Highly Accurate DS-2TP21B-6AVFW Thermographic Handheld Camera

## 1. General Parameters

- **Temperature Measurement Range**
  86°–113° F (30.0°–45.0° C)
- **Temperature Measurement Accuracy**
  0.9° F (±0.5° C)
- **Camera Resolution**
  Thermal: 160 × 120, Optical: 640 × 480
- **Operating Environment**
  A stable indoor environment without wind or direct sunlight
  Working temperature: 50°–95° F (10°–35° C)

## 2. Installation

- **Installation Cautions**
  The performance of this temperature-screening scheme is greatly affected by the environment. This scheme would apply only to indoor environments or scenarios with calm air and consistent temperature. Besides, the relative installation location of devices also greatly affects the temperature measurement accuracy. In order to improve measurement accuracy, the installation environment has to meet certain requirements:
  - Select installation environments with one-direction path to ensure that cameras capture the full faces of all passing persons. It is recommended that people stop movement during measurements.
  - Select indoor environments with calm air and consistent temperature condition. Outdoor environments with rapid temperature changes are not recommended.
  - If this scheme is used in entrance scenes that connect indoor and outdoor environments, it is suggested that the installation location be kept at a certain distance from the entrance (such as customs or security checkpoints). Persons coming in from outdoors should stay indoors for more than five minutes before the measurement. In these ways, the influence of the outdoor temperature on measured body surface temperature could be reduced.


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- Avoid objects with high temperature placed in the scene.

- **Camera Installation**

  - The camera should be set in front of the one-direction path, capturing the full faces of passing persons, as shown below.


Figure 1, Camera Placement and Positioning

  - Recommended installation height is 4 ft 11 in–5 ft 7 in (1.5 m–1.7 m), namely the camera should be set at the same height as human faces, or even be set at a lower elevation angle, thereby reducing error caused by other heat sources near the ground.

  - The distance between the camera and measured object is recommend to be set to 3 ft 4 in–6 ft 7 in (1 m–2 m) normally.

  - Avoid any other object whose temperature is higher than a human body in the camera view background.

  - This handheld thermographic camera can be mounted on a tripod without extra adapters. There is a tripod offered by Hikvision for fixed placement, but it requires additional purchase. As domestic suppliers have not fully restored production capacity recently, there are multiple suppliers, and there may be slight differences under the same model, which will not affect the use. If you are concerned about this, we recommend that, except for tripod adapters that should be purchased together with the products, tripods that meet the standards could be purchased locally.


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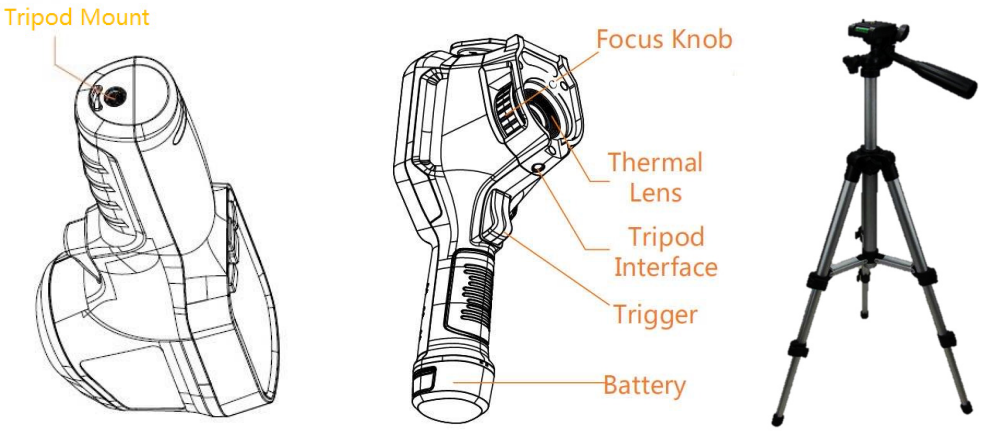


Figure 2, Physical Features

## 3. Configuration

- **User Interface**
  The **User Interface** of this handheld thermographic camera is as shown below.


Figure 3, Interface

- **Configuration Notes**

  1. Go to **Settings >> Local Settings >> Thermography Settings**.
  2. Set **Emissivity** to 0.98.
  3. Set **Distance** to the actual distance between the camera and measured object.


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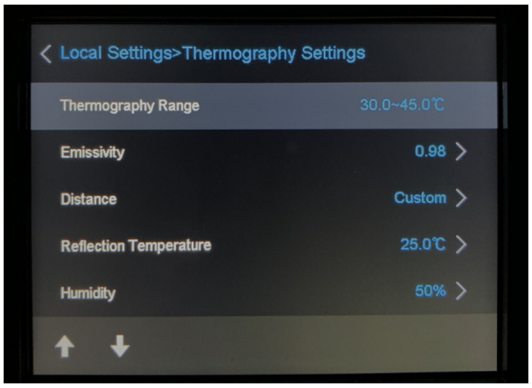


Figure 4, **Local Settings > Thermography Settings**


Figure 5, **Local > Thermography > Distance > Custom**

4. Go to **Thermography**.

5. Set **Hot Spot**, **Center Spot**, and other rules as required.

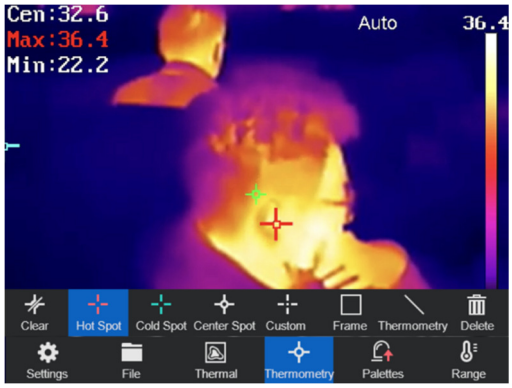


Figure 6, Hot Spot

6. Go to **Palettes**.

7. Set **Alarm Temperature (Above)** as required. When the measured value exceeds the set value, the displayed **Max Temp. Value** turns red and flashes, as shown below.


Figure 7, Alarm Temperature

8. Adjust Focus Knob, and make sure the live view is clear during measurement.

## 4. Other Notes

- Before this handheld device is used for actual body temperature measurement, run for five minutes for preheating.
- The measured human body temperature is the same as the measured **Max Temp. Value** in this scheme; make sure that the **Max Temp. Point** is on the human face in the camera view during measurement.
- This product is used for preliminary screening of people with elevated skin temperature. If an alarm occurs, use a specialized medical thermometer as a further check.
- All of the above Installation and Configuration descriptions are based on the device being used with fixed placement. Other uses as a portable handheld device or for outdoor measurements are not recommended normally. Under these circumstances, the temperature measurement accuracy may not meet the same standard.


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