Handheld Thermal Temperature Device
User Manual



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Welcome

Thank you for purchasing an Amcrest Handheld Thermal Camera.

This manual is designed to provide instructions for the use and management of your device and should be used for reference purposes only. The information provided in this document are subject to change without notice and may be updated without prior consent.

For the latest version of this document, please visit https://amcrest.com/support

Important Safeguards and Warnings

This section of the guide will discuss the proper handling of the device, harzard prevention, as well as tips to prevention property damage. Please read the contents of this guide carefully and comply with all instructions before and after each use.

Power Requirements

• All installation and operation of this device should conform to all local electrical and safety codes.
• Check whether the power supply is within proper voltage before applying it to the device.
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• The power source should conform to the requirements of the Safety Extra Low Voltage (SELV) standard and supply power with rated voltage that conforms to the Limited Power Source requirement according to IEC60950-1. Please note, the power supply requirement is subject to the label on the device.
• To avoid damage ensure power cords are placed in areas which it will not be trampled or damaged.

Warning

• To prevent the risk of damage, ensure the correct type of battery is being installed in the device.
• Dispose of all batteries properly. Do not expose them to high levels of heat such as fires or other heat sources. Do not crush, cut, or improperly dispose of the battery. Improper disposal of the battery could result in an explosion, damage, injury, etc.
• Avoid dropping the device or subject it to extreme physical shock.
• A battery exposed to extremely low air pressure may result in damage or battery leakage.

Application Environment Requirements

• Use the device in areas within humidity ranges of 0% RH ~ 90% RH (non-condensing).
• Do not use the device in areas which temperature ranges exceed 35°C (95°F).
• Do not use the device in areas which temperature ranges are below 10°C (50°F).
• Do not store the device in humid, dusty, extreme heat or cold, or in areas with strong electromagnetic radiation.
• Do not block the ventilation of the device while in use.
• Do not install the device near heat sources such as, radiators, heaters, or stoves.
• To avoid damage to the thermal detector and visible lens, do not aim the lenses at intense radiation sources such as the sun, lasers, molten steel, etc.
• To avoid damage to the internal components, do not allow the device to be submerged in liquid. Please note, the device has a water resistance rating of IP54 which means it is able to be protected against dust ingress. The product is fully protected again solid objects and splashing of water from any angle, however, is not fully water resistant.
• If operating in an outdoor environment, it is advised to use the device with a lightning arrester which helps to improve lightning protection.

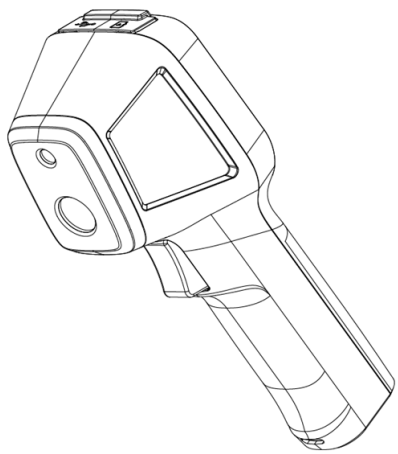
• Do not touch the photosensitive lens of the device with your hands. To clean the device, wipe the device gently with a clean cloth with a small amount of ethanol on it, if necessary.

Warning

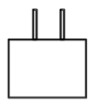
• Only use the accessories provided with the device or that are recommended by the manufacturer. Do not attempt to dismantle or repair the device yourself. Contact Amcrest directly for any inquiries involving the device.

What's Included?

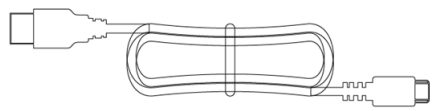
Check the packaging and confirm all necessary items are included.



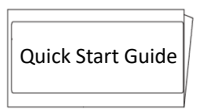
1



2



3



4

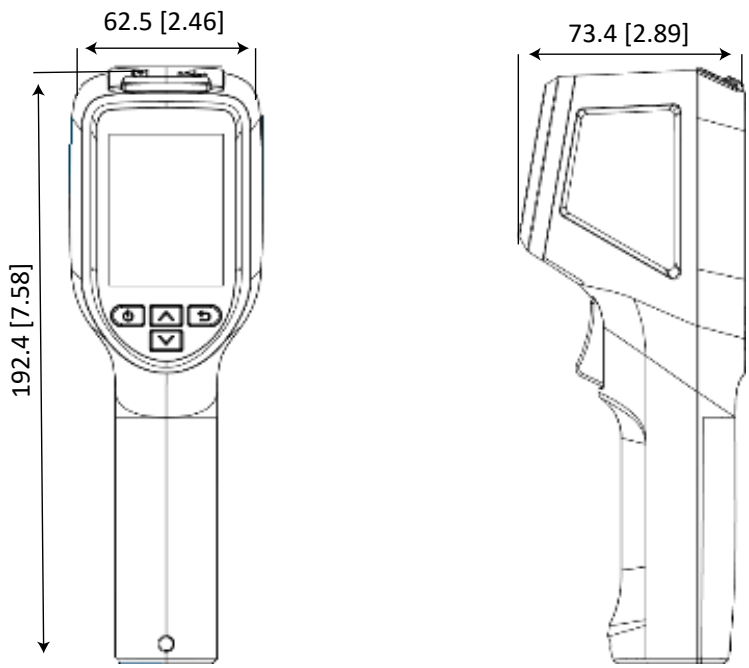


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No.	Name	No.	Name
1	Handheld thermal device	4	Quick Start Guide
2	Power Adapter	5	Wrist Rope
3	USB Cable	---	----------

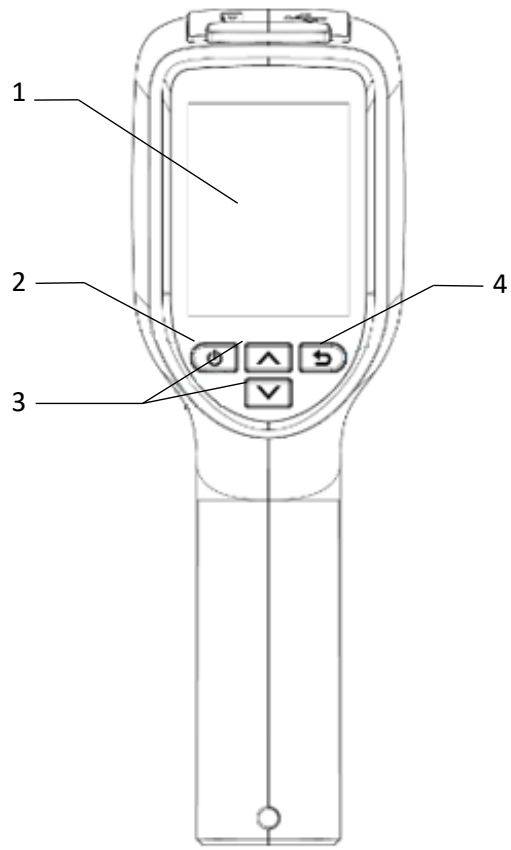
Dimensions

Please note, the demensions represented below is represented as mm [inches].



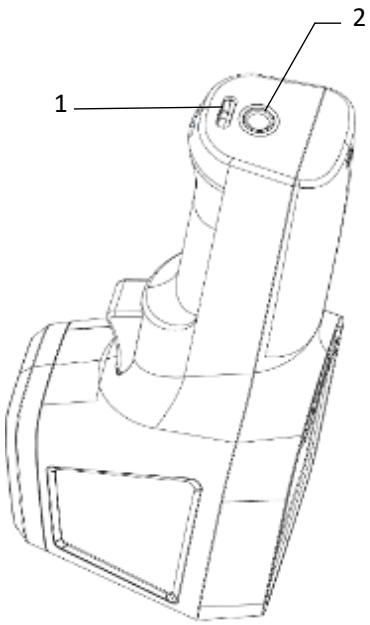
Appearance

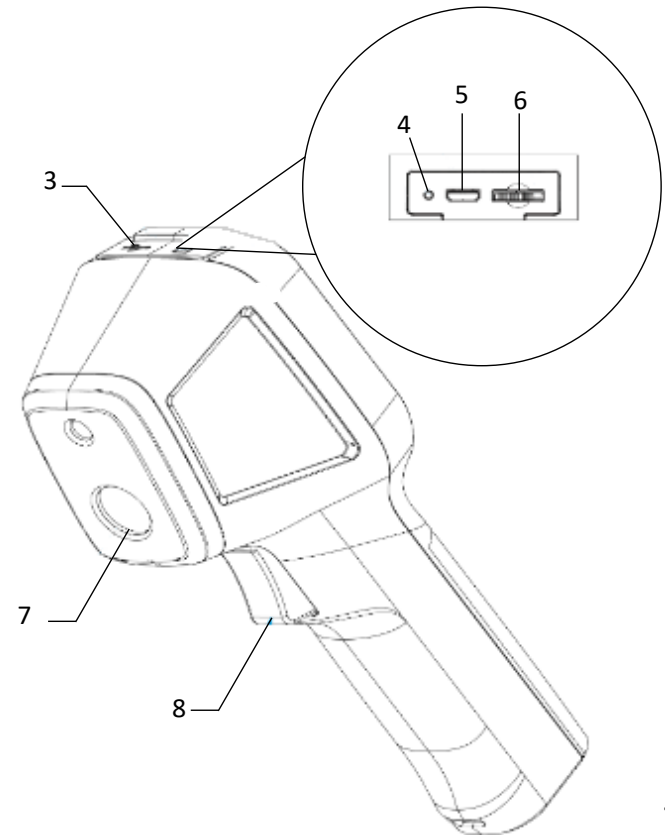
Front Panel



No.	Component	Description
1	Display Screen	Displays live view and main menu interface.
2	Power Button	Press and hold the power button to turn on the device. While in live view mode, press the power button to place the device in standby mode. Press any button to wake from standby mode. While in the main menu, press the power button to go to the submenu interface.
3	Up/Down Buttons	On the live view interface, press the up button to go to the menu interface. On the menu interface, press the up or down buttons to select different options.
4	Back Button	Exit or return to the previous menu.

Side Panels





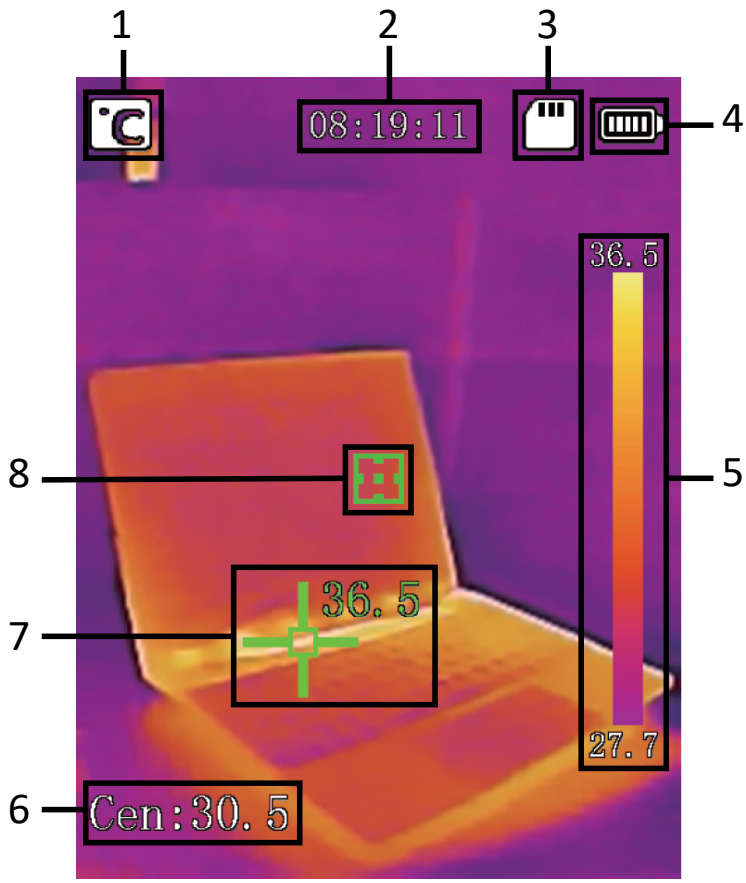
No.	Component	Description
1	Wrist rope hole	Used for threading the wrist rope.
2	Tripod port	Used for installation on a tripod.
3	Silicon plug	—
4	Charging indicator light	Charging: Red light Full charge: Green light **Note:** The battery can be recharged multiple times, however, can be degraded over time.
5	USB port	Used for connecting the USB cable.
6	SD card slot	Used for installing a SD card (Up to 256GB).
7	Thermal lens	Used for temperature monitoring.
8	Trigger button	• On the live view interface, press the trigger twice to capture an image. • On the live view interface, press the trigger 3 times to start a recording. Press the button 3 times again to stop recording. • On the menu interface, press the trigger once to return to the live view interface. • While in standby mode, press the trigger once to wake up the device.

Basic Operation

The information provided in this section will show features on the live view interface, how to install a microSD card, capture images, recording videos, etc.

Live View Interface

The live view interface provides the user with a thermal readout as well thermal information related to a target. For more information on the features found in this interface please refer to the information provided below.



No.	Name
1	The current temperature unit (°C or °F) being used.
2	The current time displayed on the device.
3	The current SD card status.
4	The current battery status.
5	The color code temperature range.
6	Temperature reported by the center point cursor.
7	The highest temperature monitoring.
8	The center point cursor.

Installing a MicroSD Card

The device is compatible with a microSD card of up to 250GB. AS microSD card will need to be installed to store images and record videos. For more information on installing a microSD card, please refer to the information provided below.

Step 1: Open the silicone plug on the top of the device.
Step 2: Face the label side of the microSD card towards the screen and insert the card slowly into the microSD card slot until you hear a click sound.
Step 3: Place the silicone plug back onto the top of the device.
Note: Do not remove the microSD card while the device is recording or taking images.

Capturing Images

The device can manually capture images as well as record temperature monitoring information. To capture an image, press the trigger twice. The image will automatically by saved to the microSD card.

Note: If a microSD card is not installed, a prompt will be displayed indicating that there is not a microSD card installed after an image is attempted to be captured.

Recording Videos

The device can manually record videos as well as record temperature monitoring information. To record a video, press the trigger button 3 times, the device will begin recording. To stop recording, press the trigger again 3 times. The recording will automatically save to an inserted microSD card.

Note: If a microSD card is not installed, a prompt will be displayed indicating that there is not a microSD card installed after a video is attempting to be captured.

Exporting Images and Recorded Videos

Captured images and videos on the microSD card can be exported locally from the device to a computer using the included USB cable. For more information on how to export an image or video, please refer to the information provided below.

Step 1: On the live view interface, press the button to display the **Menu** interface.
Step 2: Press the button to select **System Settings** and press the button to display the **System Settings** interface.
Step 3: Select the USB Option and press the button to display the USB Option interface.
Step 4: Press the button to select USB Flash Drive Mode then press the button to confirm.
Step 5: Open the silicone plug located on top of the device and connect the device to a computer using the included USB cable.
Step 6: Locate and open the folder on your computer associated with your device and locate the images or video files you would like to export.
Step 7: Copy the images and recorded videos to your computer.
Step 8: Once all applicable files have been saved, disconnect the USB cable from the computer.

Upgrade

The firmware for the device can be upgraded directly using a microSD card. Please note, the upgrade file will have to be put onto a microSD card for this process to work. If an upgrade file is available, the upgrade file (”update.img”) can be found at https://amcrest.com/firmware

For more information on how to upgrade the firmware on your device, please refer to the information provided below.

Step 1: Make sure the device is powered off before upgrading.
Step 2: Insert the microSD card with the upgrade file on it into the microSD card port on the top of the device.
Step 3: Press and hold the and buttons at the same time to start the upgrade process.
Note: Do not perform any other operations on the device when upgrading. Do not disconnect the power supply otherwise the device may be damaged.
Step 4: (Optional) To back up the new program, restart the device. The device will back up the program automatically during the restart and return to the live view interface.
Note: Do not perform any operations while in the device is being backed up. The device will automatically be restored to the backup program if the upgrade fails.

Auto Maintenance

Auto maintenance is used to set the device to reboot at specific intervals set by the user. For more information on setting up auto maintenance, please refer to the steps provided below.

Step 1: In the live view interface, press the button to access the Menu interface.
Step 2: Select **System Settings > Auto Maintain**. Select **Auto Maintain** to display the **Auto Maintain** interface. There are two settings available, auto standby, and power off.

- **Auto Standby:** Press the button to switch and select a time. The device can be set to standby mode in 1, 2, 5, or 10-minute intervals, as well as an off option.
- **Auto Power-off:** Press the button to select **Auto Power off**. Press the button to switch and select a time. The device can be set to automatically power off in 5, 10, 15, or 30-minute intervals, as well as an off option.

Function Configuration

The information provided in this section will show how to configure temperature monitoring parameters, configuring body temperature monitoring, viewing images, etc. Please note, enabling head temperature monitoring, sound, alarm leakage, snapshot linkage, and video recording will reduce battery life.

Configuring Temperature Monitoring Parameters

The device supports monitoring real time temperature of target objects in several different scenarios. Different temperature monitoring parameters can affect the accuracy of the results. The user should configure these parameters before using the device.

For more information on configuring temperature monitoring parameters, please refer to the information provided below.

Step 1: On the live view interface, press the button to display the menu interface.
Step 2: Select **Temp Params** and press the button to display the temperature parameters interface.
Step 3: (Optional) Select **Center Spot** and press the to enable or disable this function.
Step 4: (Optional) Press the button to select Isotherm then press the button to enable or disable this function.
Step 5: Configure temperature monitoring parameters.
• Press the / buttons to select parameters.
• Press the button to confirm.
• On the parameter configuration interface, press the / to increase or decrease the parameter values.

Parameter	Description
Pseudo Color	Press the button to switch to pseudo color mode.
Emissivity	Select emissivity for different monitoring targets, including human, glass, steel and customized. Select **Customized**, to configure emissivity settings manually.
Distance	The distance between the monitoring target and the device. **Note:** Ensure that the actual distance is consistent with this value otherwise it will affect the accuracy of the device.
Unit	Temperature unit. Supports °C, °F, and °K.

Step 6: Press the button to save the configuration and quit.

Configuring Body Temperature Monitoring

The device supports body temperature monitoring. An alarm will be triggered when the temperature monitoring thresholds are exceeded. Monitoring methods includes, **Max Temp Point** and **Head Detection**.

Step 1: On the live view interface, press the button to display the **Menu** interface.
Step 2: Press the button to select **Temp Params** and press the to display the **Skin Temp Monitor** interface.
Step 3: Select **Face Temp Monitor** and press the button.
Step 4: Press the / buttons to select a monitoring method. Press the button to confirm.
Step 5: Configure the body temperature monitoring parameters.

- Press the / to select a parameter.
- Press the to confirm.
- On the parameter configuration interface, press the / to increase or decrease the parameter values.

Parameter	Description
Alarm Settings	**Alarm Threshold:** Set the alarm threshold value. An alarm will be triggered when the temperature of the monitoring target exceeds the alarm threshold. On the live view interface, the temperature that exceeds the alarm threshold flashes and is displayed in red. **Snapshot:** Set whether to enable snapshot when an alarm is triggered. **Buzzer:** Set whether to beep when an alarm is triggered. **Note:** Enabling snapshots or buzzers will reduce the battery life of the device.
EnvTemp Mode	**Self-adaptive Mode:** The device calculates the ambient temperature automatically. Select **Self-adaptive Mode**, and then press the to set the current ambient temperature as the reference temperature. **Manual Mode:** Set the current ambient temperature manually.
Temp Correction	The difference of the temperature monitoring environment might cause temperature deviation between the monitored temperature and the actual temperature. You can select multiple monitored samples for testing, and then correct the temperature deviation by this parameter according to the comparison between the monitored temperature and the actual temperature. For example, if the monitored temperature is 0.5°C lower than the actual temperature, the correction value is set to 0.5°C; if the monitored temperature is 0.5°C higher than the actual temperature, the correction value is set to -0.5°C.

Step 6: Press the button to save the configuration and quit.

Viewing Images

To view images on the device, press the button while on the live view interface and select **Picture Search**. Press the button to view images.

- On the **View Picture** interface, press the / to switch images.
- Press the button to delete a selected image.

Viewing Recorded Videos

To view video recordings on the device, press the button twice to select the Video Search interface. Press the button to view recording videos.

- On the View Video interface, press the / to switch videos.
- Press the button to delete a selected image.

System Settings

System settings can be accessed from the live view interface. To access the system settings, press the button to access the Menu interface. Press the / buttons to select System Settings and press the button to display the System Settings interface. The user can configure USB options, time and date, auto maintenance, restore defaults, and restart the device.

FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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2. The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes, or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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2. The user’s manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes, or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.
For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.
3. RF exposure warning
This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.
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This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

References & Contact Information

To view setup videos for many of the steps outlined in this guide, go to http://amcrest.com/videos
For more supplemental information, or to view articles related to your device visit http://amcrest.com/support
For contact information please visit us at https://amcrest.com/contacts or reach out to us directly at 1-888-212-7538.

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