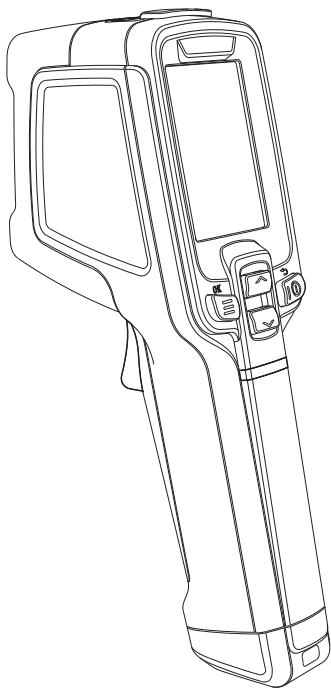


protech

# Handheld Thermal Camera

SPECIALIST



## User Manual

QC1950

## PRODUCT INTRODUCTION

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The product is a handheld thermal infrared camera for temperature measurement. It has 10,800 effective IR pixels; is configured with laser, illuminating lights and visible light; can be connected to PCs and TF cards, and meets various use requirements.

## PRECAUTIONS

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**Please always follow the following precautions strictly:**

1. Keep the device as stable as possible to prevent shaking violently.
2. Do not use the device at operating temperatures not allowed nor place it in an environment at a storage temperature not allowed.
3. Do not align the device with strong thermal emitters, such as the sun, lasers and spot welders.
4. Do not expose the device in a dusty or moist environment. Prevent water from splashing onto the device when using it in an environment with water. Cover the lens when not using the device.
5. Place the device and all its accessories into a special packing box when not using it.
6. Do not block any hole on the device.
7. Do not knock at, throw or vibrate the device or its accessories so as to prevent damages.
8. Please do not disassemble the device so as to prevent it from being damaged possibly and you from losing warranty.
9. Do not use the TF card for other purposes.
10. Do not use the device in an environment exceeding its operating temperature so as to prevent possible damages.
11. Do not apply dissolvable or similar liquid to the device and cables so as to prevent possible damages.

12. The device is powered by a lithium-ion battery so users must follow the following precautions strictly in order to use it safely:

- Never try to open or dismantle the battery.
- Do not place the battery in a high temperature environment or nearby a high temperature object.
- Do not short-circuit the battery.
- Do not put the battery in a moist environment or in the water.
- Once the liquid leaked from the battery enters eyes, flush the eyes with clear water immediately and take corresponding medical cares.
- Please charge the battery as introduced in the manual and follow the charging steps and precautions. Wrong charging may heat or damage the battery or even cause injuries.
- Pull out the battery if the device will not be used for a long time.

13. Wipe the device as described below:

- Non-optical surfaces: Use clean and soft cloth to wipe non-optical surfaces of the thermal camera when necessary.
- Optical surfaces: Please avoid staining the optical surface of lens when using the thermal camera, especially avoid touching the lens with hands since the sweat on the hands may leave traces on the lens and corrode the optical coating on the lens surface. When the optical lens surface is stained, wipe it with special lens wiping paper.

### **Precautions for use of batteries:**

1. The battery can be charged repeatedly. However, the battery is a vulnerable part. If standby time of the device is largely shortened, please replace its battery with an original one provided by the company.
2. If the device operates for a long time especially at high temperatures, its surface will warm up normally. When it is hot, please stop charging it and move it to the shade. Please avoid touching hot surfaces for a long time.
3. When charging the device, it is suggested to use original batteries and charge cables provided by the company.
4. Battery charging time varies with temperatures and its use.
5. When the battery level is low, the system will give a low battery level prompt.
6. When the battery level is too low, the system will be turned off automatically.
7. If the device gives no response when the power button is pressed, the battery has been run out and the device can be launched only after being charged with an original charger for more than 10 minutes.

## CHAPTER 1 LIST OF ITEMS



Thermal camera  
(including  
battery)

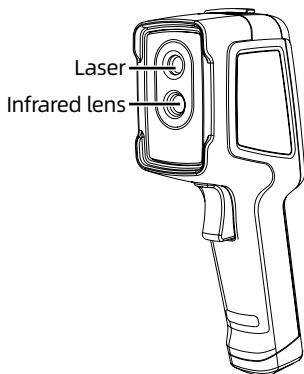


USB cable

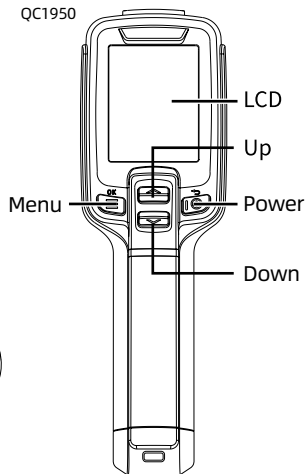
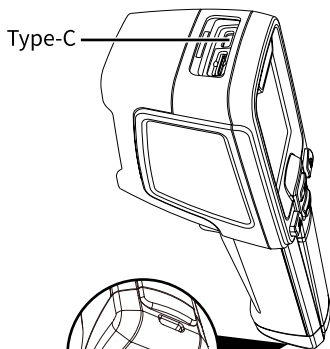


Quick Start Guide

## CHAPTER 2 PRODUCT COMPONENT DESCRIPTION



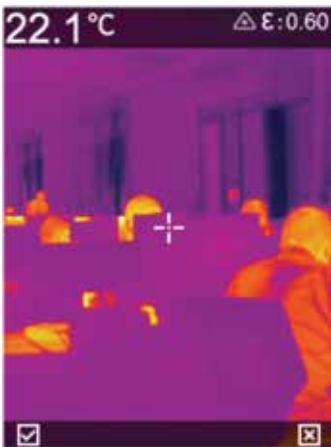
QC1950



## CHAPTER 3 BASIC OPERATIONS

### 3.1 Photo-taking


In the real-time observation interface, short press the “Trigger” Key to take a photo, and then press the “☰” key to save the photo or the “📷” key to discard it according to the prompt on the interface.



### 3.2 View and deletion of pictures

1. Short press the “☰” key to access the menu interface.
2. Select the photo column by pressing “^ v” key.
3. Short press the “☰” key to display the photo file interface.
4. Short press the “☰” key to view the photos, and display another photo by pressing Up Down key (if necessary).



5. When necessary, short press the “” key in the photo preview interface to delete a photo.

### **3.3 File export**

1. Open the USB cover on the top of the device.
2. Connect the USB cable with the computer.
3. Access the disk folder of the computer, select the photo to be exported, copy it to the computer, and view the photo file through the analysis software.
4. After the copy is done, disconnect the USB cable from the computer.



### **3.4 Setting temperature measurement parameters**

The temperature measurement parameters will affect the accuracy of the measured temperature, so these parameters should be set before the measurement.

1. Emissivity varies with the measured object. User can select a commonly used physical emissivity preset in the machine or customize it.
2. Reflected temperature: The temperature influence of the ambient temperature on the currently observed object.

## CHAPTER 4 OTHERS

### 4.1 Resetting and formatting SD card

1. Access the Setup Menu-Reset and press the “” key to confirm the reset.
2. This function will restore the machine settings to the factory defaults. Please operate carefully.
3. Access the Setup Menu-Formatting SD Card, and press the “” key to confirm the formatting.
4. This function will wipe the SD card, please operate carefully.

### 4.2 Emissivities of common objects

Material	Emissivity
Wood	0.85
Water	0.96
Brick	0.75
Stainless steel	0.14
Adhesive tape	0.96
Aluminum plate	0.09
Copper plate	0.06
Dark aluminum	0.95
Human skin	0.98
Asphalt	0.96
PVC plastics	0.93

Material	Emissivity
Black paper	0.86
Polycarbonate	0.8
Concrete	0.97
Copper oxide	0.78
Cast iron	0.81
Rust	0.8
Gypsum	0.75
Paint	0.9
Rubber	0.95
Soil	0.93

## CHAPTER 5 FREQUENTLY ASKED QUESTIONS

Symptom	Cause	Measures
Boot failure	Low battery.	Reuse battery after charging.
	Plug of external power source is not inserted properly.	Pull the plug and reinsert it in proper place.
	Battery life expires.	Replace with new battery.
IR image is not clear.	Lens have misted up or been polluted.	Clean lens with specialized equipment.
Visible light image is not clear.	Surrounding environment is too dark.	Provide lighting.
	There is vapor in front of visible light or the visible light is polluted.	Clean the front-end of visible light with specialized equipment.
Temperature measurement is inaccurate.	Set the relevant parameters for temperature measurement incorrectly.	Change parameter setting or restore the default parameters directly.
	Long time no calibration	To ensure accurate temperature measurement result, we recommend you to send back the thermal camera for calibration once a year.

Distributed by:  
Electus Distribution Pty Ltd  
46 Eastern Creek Dr,  
Eastern Creek NSW 2766 Australia  
Ph 1300 738 555  
Int'l +61 2 8832 3200  
Fax 1300 738 500

[www.electusdistribution.com.au](http://www.electusdistribution.com.au)