



User Manual

Thermal Imager Camera



Please read this user manual thoroughly before using the instrument

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1. Safety

- 1) Read all safety information and instructions for use before using the product. Use the Product only as specified.
- 2) Do not use the Product around explosive gas, vapor, or in damp or wet environments.

Environment conditions:

- 1) $RH \leq 90\%$ (non-condensation)
- 2) Operating temperature: -5 to 40°C / 23 to 104°F

Maintenance

Repairs or servicing not covered in this manual should only be performed by qualified personnel.

Wipe the unit with a dry soft cloth. Do not use abrasives or solvents on this instrument.

2. Introduction

The thermal imaging camera combines a center-point temperature measurement with a blended digital image and heat map overlay.

The product allows the user to scan a broad area with the blended digital image and heat map overlay to quickly identify temperature anomalies that need more attention.

The product is equipped with a visual camera allowing the scanned image to blend from heat map to visual images. Heat map and visual images can be stored on the memory card, which can then be made into reports or printed.

The product is easy to use; turn on and within seconds it provides an image with no training needed. It is an ideal product for electrical, HVAC, and facility maintenance applications, which can find the problem quickly.

3. Features

- TFT colour lcd display
- Adjustable emissivity and reflected background compensation improves measurement accuracy on semi-reflective surface
- Hot and cold spot temperature markers that guide the user to the hottest and coldest regions in the infrared heat map
- Selectable color palette
- Visual and heat map image alignment
- Image capture and save option to SD card

4. Specification

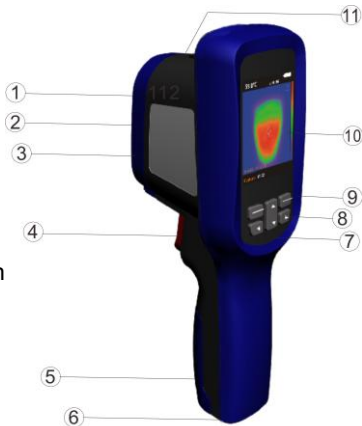
Display	2.5"color lcd display
IR solution	60×60 (3600 pixels)
Visible light image resolution	300,000 pixels
Field of view	20×20
Thermal sensitivity	0.15°C / 0.27°F
Temperature range	-20 to 300°C / -4 to 572°F

Accuracy	±2% of reading ±2°C /3.6°F (Note: accuracy is measured in an ambient temperature of 18-28 degrees.)
Emissivity	Adjustable 0.1 to 1.0
Image frequency	6HZ
Spectral band	8-14um
Focus mode	fixed
Color palette	Ink color, black and white, rainbow color, ocean blue, iron red
View options	Blending of the visual and the infrared from full infrared to full visual in 25 % increments
File format	bmp
Image storage	8GB Micro SD card
Memory view	Scroll through all saved images and view on-screen
Auto Power Off Time	3minutes, 5 minutes, 10 minutes are optional
Working temperature	-5 to 40°C / 23 to 104°F
Storage temperature	-20 to 55°C /-4 to 131°F
Relative humidity	10 to 80%RH

Overrange indication	over
Power supply	4* LR6 AA batteries or USB power supply
Battery life	6h
weight	310g
size	223 × 88 × 65mm

5. Meter Description

1. Infrared lens
2. Visual camera
3. LED flashlight
4. Image capture button
5. Battery cover
6. Tripod nut
7. Up/down/left/right button
8. Select button
9. MENU button
10. TFT display
11. SD and USB interface



6. Button function

6.1 “MENU” button

- ① Press “” button for 3 seconds to power on/off the meter.
- ② Press “” button one more time to enter into basic function setting, only five options show on the display at once, press “” button to scroll through the display menu. Press “” again to return to normal measurement mode.

6.2 “” button

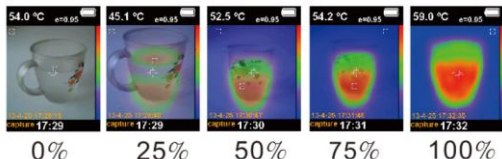
In measuring mode, pressing “” button can turn on/off the LED flashlight.

In the main menu mode, press this button to scroll up or down to select the setting.

In the secondary menu mode, press this button to increase or decrease values.

6.3 “” and “” button

In measuring mode, press “” and “” button to blend the visual/infrared from full infrared to full visual in 25 % increments.

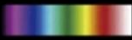


6.4 Image Capture button

In measuring mode, press image capture button, the screen will show “YES or NO”, press “▲” to save image, press “▼” to cancel the image captured. If “SD Card Error! Please Check!” appears on the screen, it indicates there is no SD card in the slot or SD card is not installed correctly. If FULL appears in the screen, it indicates SD card is full.

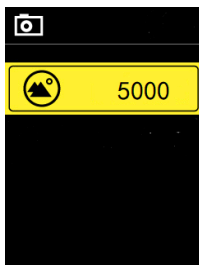
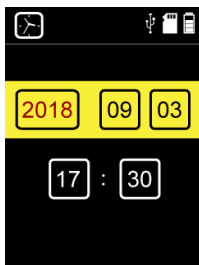
7. Menu description

 12:30	Time setting
 5000	Image store
 50%	Background light setting
 °C	Temperature unit setting

 OFF	Auto power off time setting
 11088MB	Capacity of memory card
 	Colour palette setting
 0.95	Emissivity setting
 ON	Hot and cold markers

8. Secondary Menu Description

8.1 Date and Time Setting



Press “” button to enter into menu mode, press “” to

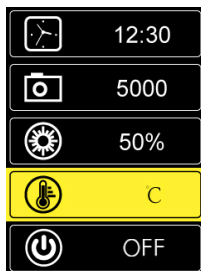
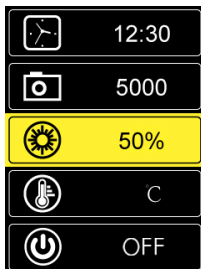
move to  12:30, press "SELECT" to enter into Date and Time setting interface (see above fig.). Press "SELECT" button to select YEAR-MONTH-DAY-HOUR-MINUTE in turn. Press "▲" or "▼" to increase or decrease the value. Press "MENU" to save the setting and exit to main menu mode.

8.2 Images Capture and Save

Press "MENU" button to enter into menu mode, press  to

move to  5000, press "SELECT" button to enter into Image store interface (see above fig.). Press "▲" or "▼" to choose the image you want to check, and then press "SELECT" button to check the details. Press "▲" or "▼" to scroll through and review the other stored images. Press "SELECT" button again to delete the stored images. Press "MENU" to exit viewing mode.

8.3 Background light setting



Press “MENU” button to enter into menu mode, press “” to

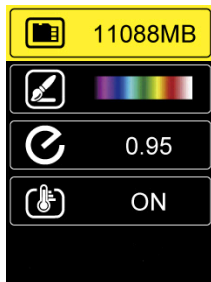
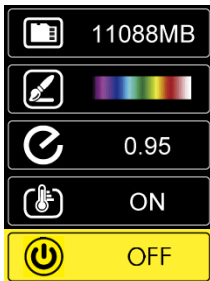
move to  50% (see above fig.). Press “SELECT” button to enter setting mode. Press “▲” or “▼” to adjust the value, the bigger the value the brighter the background is. Press “MENU” to save the setting and exit to main menu mode.

8.4 Temperature unit setting

Press “MENU” button to enter into menu mode, press “” to

move to  C (see above fig.). Press “SELECT” button to switch the temperature units between °C or °F. Press “MENU” to save the setting and exit to main menu mode.

8.5 Auto power off time setting



Press “” button to enter into menu mode, press “” to

move to  OFF (see above fig.). Press “” button to switch OFF-3MIN-5MIN-10MIN mode in turn. Press “” to save the setting and exit to main menu mode.

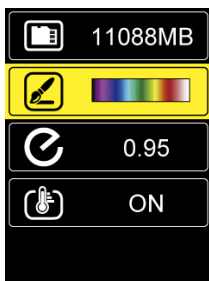
- 1) OFF: Disable auto power off function
- 2) 3MIN: The meter will be automatically power off after 3 minutes of inactivity.
- 3) 5MIN: The meter will be automatically power off after 5 minutes of inactivity.
- 4) 10MIN: The meter will be automatically power off after 10 minutes of inactivity.

8.6 Capacity of memory card

Press “” button to enter into menu mode, press “” to

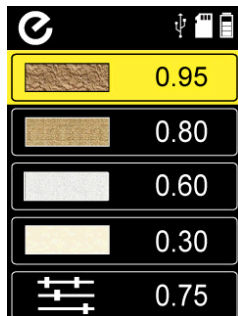
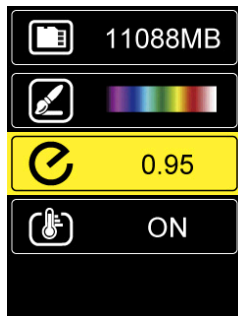
move to  11088MB to check the capacity of memory card.

8.7 Colour Palette Setting



Press “MENU” button to enter into menu mode, press “” to move to  (see above fig.). Press “SELECT” button to switch between colour palettes. Press “MENU” to save the setting and exit to main menu mode.

8.8 Emissivity Setting



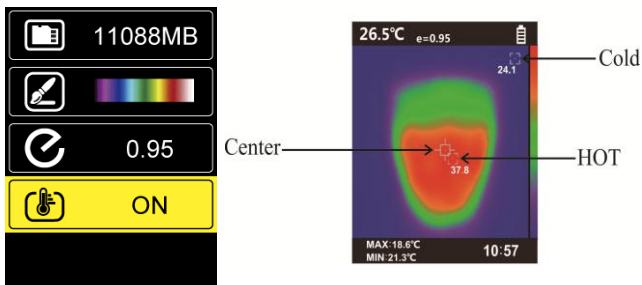
Press “MENU” button to enter into menu mode, press “

move to  0.95. Press “SELECT” button to enter

emissivity setting interface (see above fig.). Press “

 0.75, press “

8.9 MAX/MIN Temperature Marker



Press “” button to enter menu mode, press “” to move to



. Press “” button to switch on/off the

Max/Min Temperature markers.

9. Infrared Measurement Info

All objects radiate infrared energy, which is based on the actual surface temperature and surface radiation coefficient of the object. The product perceives the infrared energy on the surface of the object and uses the data to calculate the estimated temperature. Many common objects and materials (such as painted metal, wood, water, skin and fabric) can radiate energy effectively, so it is easy to obtain relatively accurate measurements (high radiation coefficient). However glossy surfaces or painted metals are not easy to radiate because their radiation coefficients are less than 60% (0.60). These materials are classified as low radiation coefficient materials and it is necessary to adjust the instruments emissivity to obtain an accurate reading.

10. Emissivity Table

Material	Emissivity	Material	Emissivity
Aluminum	0.30	Glass	0.90 to 0.95
Bitumen	0.90 to 0.98	Iron Oxides	0.78 to 0.82
Concrete	0.95	Paint	0.80 to 0.95
Asbestos	0.95	Plastic Cement	0.85 to 0.95
Ceramics	0.90 to 0.95	Paper	0.70 to 0.94
Brass	0.50	Sand	0.90
Brick	0.90	Rubber	0.95
Carbon	0.85	Wood	0.94
Oil Sludge	0.94	Textile	0.94
Frozen Food	0.90	Lead	0.50
Hot Food	0.93	Marble	0.94
Ice	0.96 to 0.98	Cloth (Black)	0.98
Snow	0.83	Gypsum	0.80 to 0.90
Human Skin	0.98	Water	0.92 to 0.96

11. Accessories

- ① User's manual
- ② Canvas bag
- ③ SD card
- ④ SD card reader
- ⑤ USB cable

Brannan Thermometer

Brannan.co.uk



