F2T Thermal Imager

User's Manual

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⚠ Caution

Under the dark and fog environment, firemen prefer to use this infrared thermal imager to judge the atrocious condition with great confidence and efficiency. Users need to read this instruction carefully, or otherwise, the improper and unsafe use of this fire protection thermal imager will result in death or serious injury.

1. **Before the usage of the F2T thermal imager, the user needs to be trained by authorized organizations, and needs to understand the device's using method and its specifications. Before the real use of emergency condition, the training and simulation of fire condition is recommended. Otherwise, death or serious injury may occur.**

2. **Since F2T is a complicated and special optical electronic device, due to the risk of fault operation or lost of direction in certain conditions, the ONLY device of use for directing is not recommended in dark and fog environment, this may be resulted in serious effect.**

3. **In the environment of high temperature condition, users must operate the device according to the operating procedure, or wrong operation may result in death or serious injury.**

4. **Dues to the extreme high temperature operation, all the devices may be interrupted. In the condition of F2T, when the surface temperature is at 120℃, it can continue to supply 20 minute's long real time images. If the operation time under this worst condition is over 20 minutes, the device will be destroyed.**

5. **The reflection usage of glass, water and reflected surface objects is not recommended, since it may cause to user delusion and illusion.**

6. **Please do not use this device in condition of explosion.**

7. **Before the entrance of the dangerous condition, please test the device according to the requested procedure. After the use of certain condition, please check the device if it is damaged or decrease the safety level.**

8. **The exposure of extreme high temperature, the device performance may be decreased and the images may be lost. Please avoid the overexposure and the extreme high temperature beyond the design limit, otherwise, the device may have heat saturation, and cause damages to the device.**

9. **The expiration of the device is related to the using frequency and using conditions, different using frequency and different condition of environment may result in very different expiration.**

10. **Under the usage of low temperature condition, the operation period of the battery may decrease for a while.**

11. **In some serious condition, when the device is out of power, and the battery is going to run out, please exit the serious environment, or the device may stop working and cause serious result.**

12. **The battery of the device is designed precisely by our company, the changed battery needs to be the same configuration, or it may cause the device damaged.**

13. **Only authorized personnel have the right to open and repair the device.**

⚠Failure to follow this information could result in death or serious injury.

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Introduction

Thank you to choose the F2T handheld fire fighting thermal imager, the one of the most advanced imager in the market.

F2T is designed specifically for those fire fighters protecting and searching under fog or dark environment. The product has passed the China Commonality Safety Industry Standard GA/T 635-2006 <Fire fighting infrared thermal imager>.

The F2T thermal imagers use advanced uncooled focal plane array infrared detectors and real time thermal image processing circuits designed by our company, which have high image quality and high sensitivity.F2T is a handheld imager, and can use one hand to operate the device easily.

Note：

According to the China Commonality Safety Industry Standard GA/T 635-2006 <Fire fighting infrared thermal imager>, this fire fighting thermal imager's official type is HRYXJ-F2T, shorted as F2T fire fighting infrared thermal imager.

Technical Specifications

Items	Specifications	
Detector	Type	Uncooled FPA micro bolometer
	Resolution	160×120
	Spectral Response	8 ～ 14μm
Lens	Field of view	30ºH×22.5ºV
	Focus	Fixed focus
NETD	≤120mK	
Start-up time	≤20S@30℃	
Screen	Size	3.5″
	Material	TFT LCD
	Resolution	640×480
	Color	260k
Measurement	Measurement range	-20~500℃
	Measurement method	Fixed point
	Palette	Rain, White hot, Black hot, and Fire fighting palettes
Power Indicator	Indicate the power status of the battery	
Power Supply	Power Source	Rechargeable Battery
	Operating Time	≥2hours
	Recharging Time	≤2hours
Heat Test	Operation duration at 80℃	30 minutes
	Operation duration at 120℃	10 minutes
	Operation duration at 260℃	5 minutes
Storage temperature	-40℃－70℃	
Water Resistance	IP67	
Drop Test	Height 1.0m	
Key control	Power and Scale use with only one button	
Power consumption	≤6W	
Weight	≤1.3Kg	
Size	190（L）×128（W）×273（H）	

Accessories

Figure 1 Accessories

Table 1.Accessories Information

Number	Description	Quantity
①	Transport Case	1
②	F2T Thermal Imager	1
③	Power Adapter	1
④	Ni-H Charging Battery	2
⑤	Battery Charger	1

Appearance

Figure 2 Appearance

Table 2.Appearance and function introduction

Number	Description
①	**Power Button** Press and hold the button to turn on or turn off the device. Briefly press the button to switch between the three palettes.
②	**Battery Buckle**
③	**Handle/Battery Compartment**
④	**Lens**
⑤	**LCD Display Screen**
⑥	**Battery Indicator** **Indicates the remaining capacity of power**.
⑦	**Power Indicator** **Indicates the current power on or power off state.**

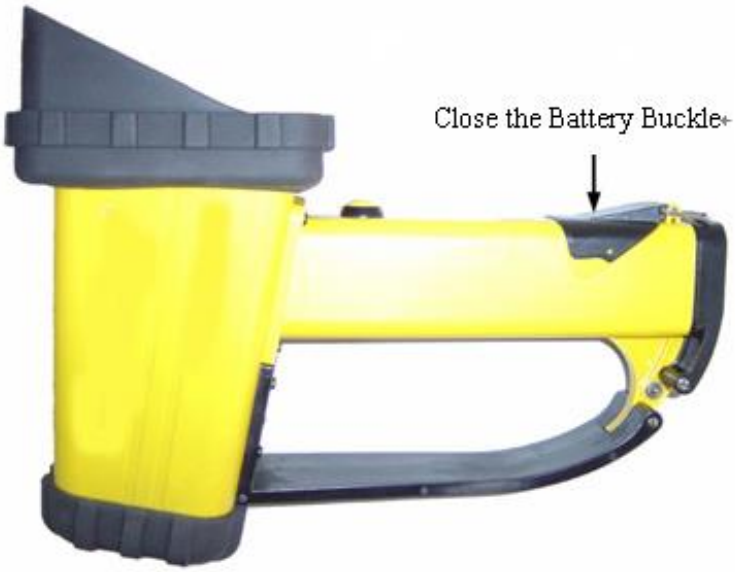
Battery Introduction

When the battery is full, the Indicator displays as a full green icon:  . When the battery is half full, the Indicator displays as a half green icon:  . In the remaining use period, the Battery Indicator displays as a red icon  . When the remaining operating period of time is less than 20 minutes, the Battery Indicator will blink to remind the operator to pay attention on the operation time. When the remaining operating period of time is less than two minutes, the screen will display a dialog of "Battery Exhausted". The dialog will blink for 10 times and the device will be automatically turned off.

Load and Unload of the Battery

(a)

(b)



(c)

Figure 3 Battery Load approaches

The loading approaches can be described as follow:

1. Open the Battery compartment cover, and put the battery in the compartment, then push it in the compartment, until it is optimally charged, shown as Figure 3(a).
2. Close the Battery Compartment Cover, shown as Figure 3(b).
3. Close the Battery Buckle, and let it fasten the Battery, shown as Figure 3(c).

The unloading approaches are just the reverse of the above steps.

1. Open the Battery Buckle, and free the Battery fastener, shown as Figure 3(c).
2. Open the Battery Compartment Cover, shown as Figure 3(b).
3. Taken out the battery from the compartment, then pull it along the compartment, shown as Figure 3(a).
4. Close the Battery Compartment Cover and the Battery Buckle.

Operation Guide

Interface Description

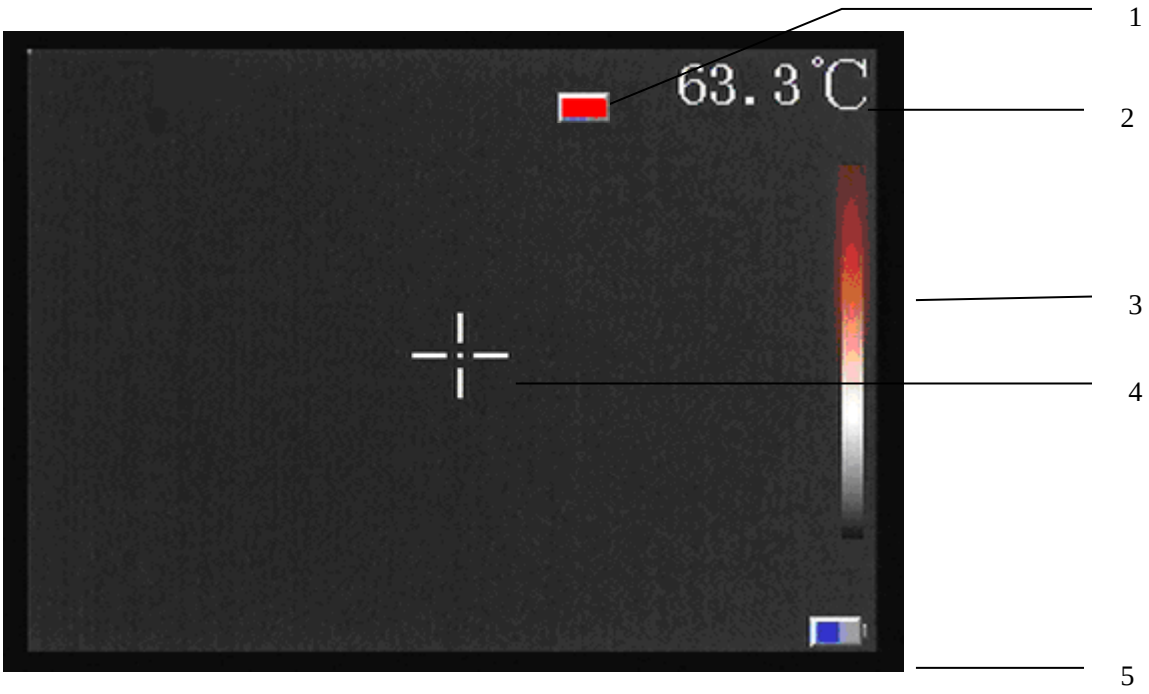


Figure 4 Interface

Number	Name	Description
①	High Temperature Scale Symbol	It is automatically shown up when the system changes to the high temperature display method. High temperature displays as red color.
②	Temperature Result	Shows the measured temperature of the central point
③	Scale	The chosen palette of the current scale.(three palettes optional)
④	Spot Cursor	Displays the current measuring point.
⑤	Battery Indicator	Displays the current power level of the Battery.

Operation Flow