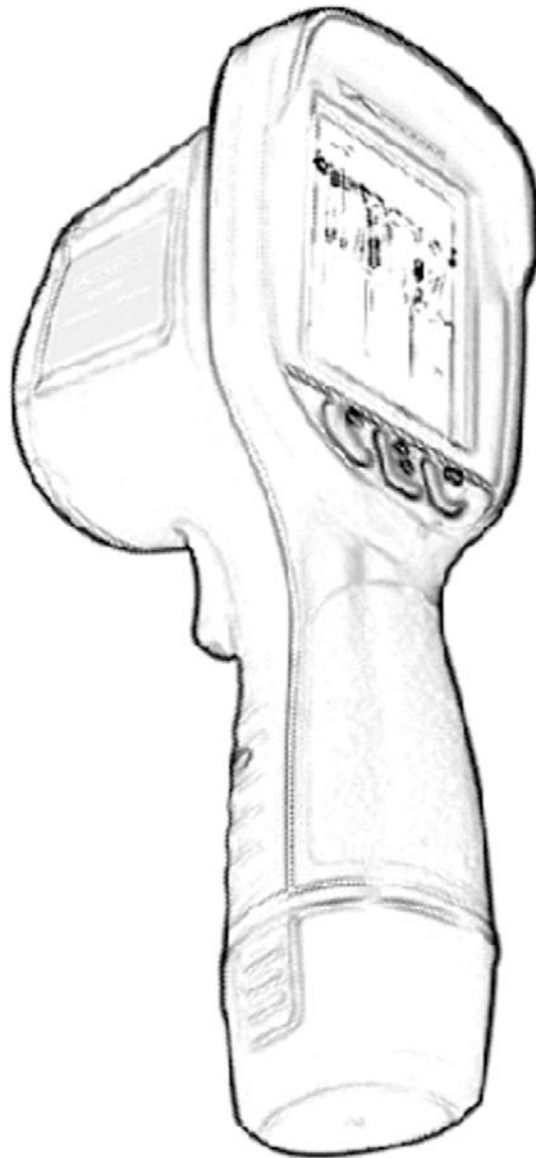


# IR-282


## Thermal Image Camera





## **SAFETY NOTES**

Read the user's manual before using the equipment, mainly "**SAFETY RULES**" paragraph.

The symbol  on the equipment means "**SEE USER'S MANUAL**". In this manual may also appear as a Caution or Warning symbol.

**WARNING AND CAUTION** statements may appear in this manual to avoid injury hazard or damage to this product or other property.















## **USER'S MANUAL VERSION**

<b>Version</b>	<b>Date</b>
1.1	JULY 2019



## SAFETY REQUIREMENTS

- \* **The security can be compromised if not applied the instructions in this manual.**
- \* Do not place any heavy object on the instrument.
- \* Avoid severe impact or rough handling that leads to damaging the instrument.
- \* Do not discharge static electricity to the instrument.
- \* Do not disassemble the instrument unless you are qualified.
- \* Follow the **cleaning instructions** described in the Maintenance section.
- \* **Symbols related to safety:**


	DIRECT CURRENT		ON (Supply)
	ALTERNATING CURRENT		OFF (Supply)
	DIRECT AND ALTERNATING		DOUBLE INSULATION (Class II protection)
	GROUND TERMINAL		CAUTION (Risk of electric shock)
	PROTECTIVE CONDUCTOR		CAUTION REFER TO MANUAL
	FRAME TERMINAL		FUSE
	EQUIPOTENTIALITY		EQUIPMENT OR COMPONENT TO BE RECYCLED

### Descriptive Examples of Over-Voltage Categories

- Cat I** Low voltage installations isolated from the mains.
- Cat II** Portable domestic installations.
- Cat III** Fixed domestic installations.
- Cat IV** Industrial installations.



## TABLE OF CONTENTS

<b>1 INTRODUCTION</b> .....	1
1.1 Description .....	1
1.2 Main Features .....	1
<b>2 DESCRIPTION</b> .....	2
2.1 Front panel description .....	2
<b>3 OPERATION</b> .....	3
3.1 Load battery .....	3
3.2 Obtain thermal image .....	3
3.3 Measure Temperature .....	4
3.4 Freeze and save imaging .....	4
3.5 Playback .....	5
3.6 Export saved imaging .....	5
<b>4 SPECIFICATIONS</b> .....	6
<b>5 MAINTENANCE</b>  .....	7
5.1 Cleaning Recommendations .....	7







# *Thermal Image Camera*

## **IR-282**

## **1 INTRODUCTION**

### **1.1 Description**

The **IR-282** is a Thermal Imaging Camera very versatile that can be used in countless applications such as industrial maintenance, energy efficiency, non-destructive controls, medicine and veterinary, security and fire fighting, petrochemical, research, etc.

It has a built-in LCD screen which displays the captured images in real time. It allows capturing images of the infrared spectrum based on 4 color palettes and of the visible spectrum. The improved picture mode that joins both display modes (infrared + visible) helps to easily find items whose thermal emissivity is similar to the environment temperature.

It includes software to display and analyze the thermal images, as well as to generate and print reports.

### **1.2 Main Features**

#### **► Operation:**

- Resolution 120 x 120.
- Visual camera 57600 pixels.
- Spectral range 8-14  $\mu\text{m}$ .

#### **► Features:**

- 3.2" TFT LCD, 240 x 320
- Temperature ranges from -20 to 250 °C.

#### **► Included accessories:**

- User manual.
- USB (Data transfer and power interface).



## 2 DESCRIPTION

### 2.1 Front panel description



① Power/Menu	a) Press and hold 3+ second to turn / off the device. b) Enter into the menu mode and select / confirm the settings.
② F1 Select	Select Left / Up under the menu mode.
③ Buzzer	Buzzer to alarm.
④ Light Indicator	a) Green color when device turned on; b) Red color when charging battery then turn green when fully charged.
⑤ Microphone	To make voice note when saving imaging.
⑥ F2 Select	Select Right / Down under the menu mode.
⑦ USB Interface	a) Connect with PC to transfer data (USB 2.0); b) Charge the battery.
⑧ Freeze /Back	a) Press to freeze the screen when imaging. b) Press and hold to make calibration. c) Press to Cancel / Back under the menu mode.

**⚠** Every time that the device is turned off it is recommended waiting at least 10 seconds before starting measure.



### 3 OPERATION

#### 3.1 Load battery

Push the battery into the battery compartment until hearing the sound, then the device will be ready to be turned on. Please, hold both sides of the battery when pulling it out.



#### 3.2 Obtain thermal image

- Load the battery, then press the power button (about 3 s.) until the screen imaging. The device will be finished the initialization and get ready to work after about 30 secs.
- Open the lens cover and aim at the target.

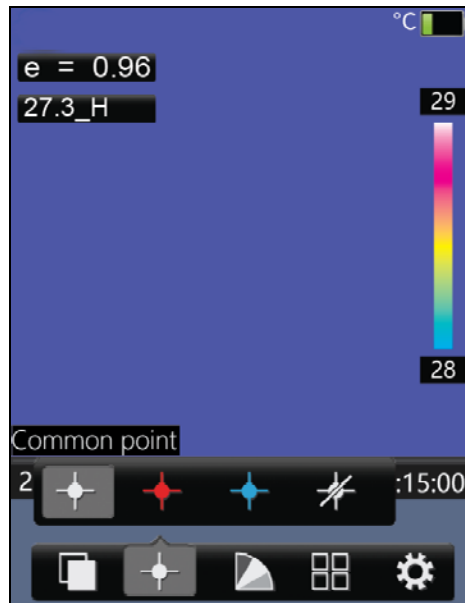


 Press and hold the Freeze/Back button to make calibration if the imaging has bad quality or retention.



### 3.3 Measure Temperature

- Press Menu Button to change the measuring point then aim the cursor to the target, then the target temperature will be shown at the top-left of the screen.
- The temperature will be shown as ">XXX°C" or "<XXX°C" when the target temperature is higher/lower than the selected temperature range. [XXX=temperature range].



### 3.4 Freeze and save imaging

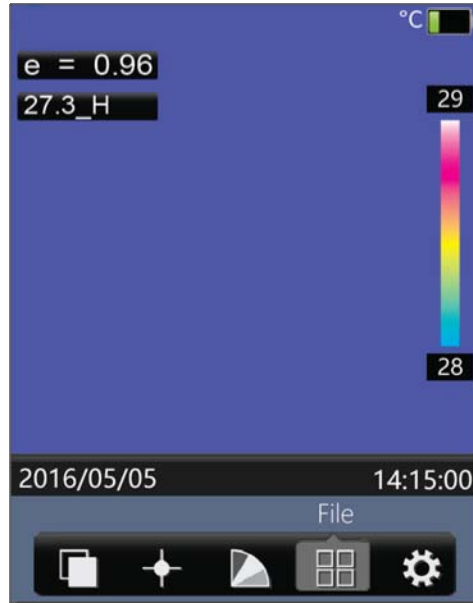
- Press Freeze / Back button to freeze the screen, then save the imaging. Select cancel and confirm to back to imaging mode. The Voice annotation notice will be on the screen when saving the imaging if the voice annotation function turned on.





### 3.5 Playback

- Select "File" icon in menu.
- Press F1、 F2 button to select different saved imaging.
- Press Freeze / Back button to exit Playback and enter imaging mode.



### 3.6 Export saved imaging

- Connect the device to PC by USB cable to export saved imaging.





## 4 SPECIFICATIONS

Item		Specification
		IR-282
Detector	Type	Uncooled FPA
	Resolution	120x120
	Spectral range	8-14um
	Frame rate	50 Hz
	Thermal sensitivity	0.06°C@30°C
Lens	FOV	33° x33°
	Focus range	0.5m~∞
	Focus method	Focus-free
Image	Spatial resolution	5mrad
	Visual light lens	Yes
Image display	LCD	3.2" TFT LCD, 240x320
	Color palette	4 color
	Image display	IR and visual image changed fast, Dual band image enhancement processing
	Image adjustment	Auto
Measurement	Measurement range	-20°C~ +250°C
	accuracy	±2°C or ±2%
	Measurement correction	Auto
	Measurement mode	Fixed center, screen max/min temperature, temperature alarm(voice ,color)
	Emissivity correction	Variable from 0.01 to 1.0
	Setup function	Date/time/format, temperature unit°C/°F/K, language
Image storage	storage card	Built-in memory, up to 5000 images
	Storage method	Manual, Auto single file saving, IR and visual image fusion saving
	Image format	JPEG format, with the original thermal data included
	Voice annotation	60 seconds (saving with thermal image)
Power supply system	Battery	Li-Ion, rechargeable
	Battery operating time	3 hours continuous operation
	Battery charging mode	Random charge with USB slot
	Power saving	Auto dormancy, auto-shutdown



Interface	Power interface	Mini-USB
	Date transmission	Mini-USB
Environment	Operating temperature	-15°C~+50°C
	Storage temperature	-25°C~+60°C
	Humidity	≤90%
	Encapsulation	IP54
	Anti-shock	25G, IEC68-2-29
	Anti-vibration	2G, IEC68-2-6
	Drop	1.5meter
Safety specification	Electromagnetic compatibility	Meet to the standards of CE certification
Physical characteristic	Dimension	240*88*135mm (H*W*D)
	Weight (with battery)	510g

## 5 MAINTENANCE

### 5.1 **Cleaning Recommendations**

**CAUTION:** Use a soft cloth dampened in a solution of mild detergent and water. Do not spray any liquid.

**CAUTION:** Do not use chemicals containing harsh material such as benzene, toluene, xylene, and acetone.