



P/N:110401106660X



Certificate No. QAC0956661



Thermal Imager User Manual

User Manual

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DEAR USERS

Thank you for choosing this brand new Uni-Trend instrument. In order to use this instrument safely and correctly, please read this manual thoroughly, especially the Safety Instructions part.
After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference.

LIMITED WARRANTY AND LIABILITY

Uni-Trend Technology (China) Limited will guarantee that the product is free from any defect in material and workmanship within one year since the purchase date. This warranty does not apply to the damage caused by accident, negligence, misuse, modification, contamination and improper handling.
The dealer shall not be entitled to give any other warranty on behalf of Uni-Trend.
If you need warranty service within the warranty period, please contact to your nearest authorized service center to obtain return authorization information, and then post the product to the service center with the question description enclosed. This warranty is the only compensation you can obtain. Meanwhile, Uni-Trend will not be responsible for any special incidental for indirect damage or loss that is caused by any reason or speculation.
As some areas or countries do not allow to imply guarantees and collateral or limit incidental or subsequent damage, above limitation of liability and stipulation may not be applicable to you

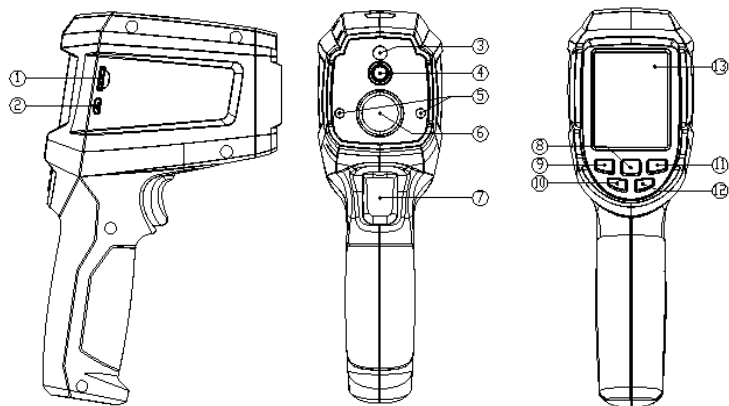
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1. Technical Specification

UT i80 Technical Specification	
Infrared temperature measurement	
Temperature range	-30~400°C (-22~752°F)
Basic accuracy	-30~0°C: ±3°C (-22~32°F: ±5.4°F) 0~100°C: ±2°C (33.8~212°F: ±3.6°F) 100~400°C: ±2% (213.8~752°F: ±2%) Nominal temperature and humidity 23±2°C (73.4±3.6°F), 50-75% RH
Emissivity	0.95 (default, 0.1-0.99 manual adjustment)
D:S (Distance to Spot ratio)	20:1
Measurement resolution	0.1°C (0.18°F)
Response time	250ms
Thermal imaging technology	
IR resolution	4800 pixels (80*60)
Pixel size	17µm
Display mode	Thermal imaging, image blending, digital camera
Color palette	Ironbow, rainbow, gray scale
Image blending setting	0% (full thermal imaging), 25%, 50%, 100% (all visible light)
Optimized image blending distance	≥ 1m
Spectral range	8~14µm
Field of view (FOV)	50° horizontal

Thermal imaging sensitivity	150mk
Frame rate	≧ 9Hz
Save image format	BMP (320x240)
General parameters	
Visual camera	2 MP
Equipment size (length * width * height)	205mm * 124mm * 65mm
Display type	2.4" TFT LCD
Display resolution	320*240 pixels
Laser indication	Dual laser
Battery	3.7V/2600mAh
Auto Power Off	Yes
Battery life	Approx. 6 hours
Charge time	Approx. 7 hours
Certification	CE
Storage temperature	-20~50°C (-4~122°F)
Working temperature	0~45°C (32~113°F)
Temperature coefficient	±0.1°C/°C (±0.18°F/°F) or ±0.1%/°C (±0.1%/°F) (any of the larger ones)
Drop test	1 meter (3.28 feet)
Standard accessory	User manual, USB cable, 8GB Micro SD card
Altitude	No more than 2000 meters

2. Structure Description

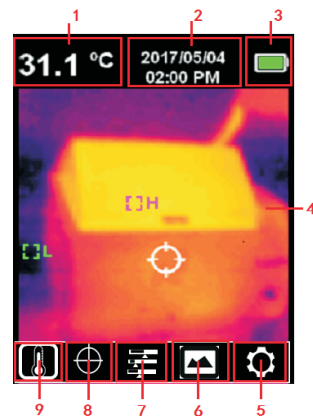


Item	Description	Item	Description	Item	Description
1	Micro SD card slot	5	Laser	9	Left arrow button
2	USB interface	6	Infrared lens	10	Power button
3	Visible light camera	7	Trigger	11	Right arrow button
4	Thermal camera	8	Menu-OK button	12	Back button
13	LCD				

3. Display

Screen size: 2.4" (49.5mm x 37.7mm)

Display resolution: 320 (vertical) x 240 (horizontal) pixels



Item	Description	Item	Description	Item	Description
1	Measure temperature	4	Thermal & Visible Light image display area	7	"Color palette" option
2	Date & clock	5	"Setting" option	8	"Cursor" option
3	Battery status	6	"Photograph playback" option	9	"Temperature" option

4. Power On/Off

Long press the Power button over 3 seconds to Power on,
 Long press the Power button over 3 seconds again to Power off.

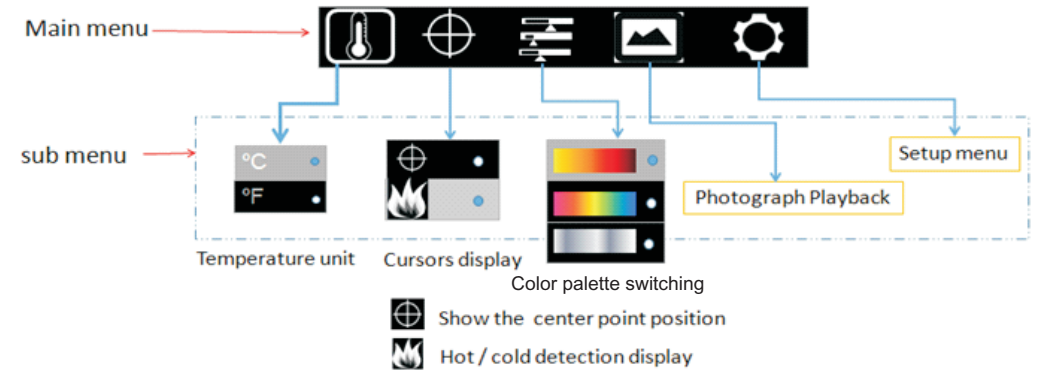
5. Menu Introduction

Thermal imaging panel (thermal imaging ratio 4:3; color bandwidth 10 columns)

Main menu:

1. Press OK button to pop-up the main menu.
2. Use the left/right button to select sub menu.
3. Press OK button to confirm the option.
4. Use the left/right arrow button to select the unit between °C or °F.
5. Press OK key to confirm the desired temperature unit.
6. Click on the back button to exit and return to the main menu.
7. Click on the back button again to return to the image display page.

Main menus and submenu







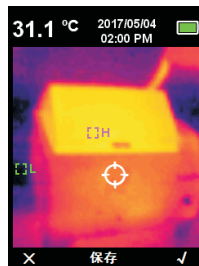
6. Image Blending

UTi80 blends the daylight and thermal image and displays them together. The temperature of the target area will be displayed on the LCD screen. Press the left/right buttons to adjust the blended ratio from 0% - 100%. The Optimized image fusion distance is suggested to be more than 1 meter

7. Photograph Taking




The steps to take photograph are as follows:

1. Press trigger to take a snapshot of the current image.
2. Release trigger to freeze the image and save the photo.
3. Press the right arrow button  to select , and then save the photo.
4. Press the left arrow button  to select , and then discard the photo.



8. Temperature Display






The steps to select temperature unit are as follows:

1. Press OK button to pop-up the main menu .
2. Use the left/right button to select  sub menu.
3. Press OK button to confirm the  option.
4. Use the left/right arrow button to select the unit between °C or °F.
5. Press OK key to confirm the desired temperature unit.
6. Click on the back button to exit and return to the main menu.
7. Click on the back button again to return to the image display page.








9. Temperature of Center Point Position and Heat/Cold detection

The steps to capture the temperature of center point position are as follows:

1. Press the OK button to pop-up the main menu
2. Use left/right button to select  sub menu
3. Press the OK button to pop-up  and  option
4. Use the left / right button to select  option
5. Press the OK button to confirm  option
6. The temperature value displayed on the LCD screen is the temperature of the center point position
7. Click on the back button to exit to return to the main menu,
8. Click on the back button again to return to the image display page.

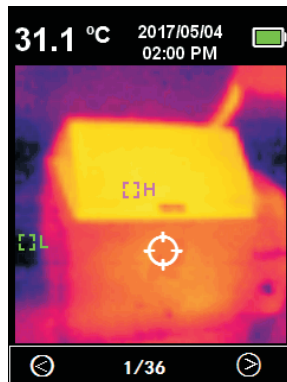
The steps to trace Heat/Cold detection are as follows:

1. Press the OK button to pop-up the main menu
2. Use the left / right button to select  sub menu
3. Press the OK button to pop-up  and  option
4. Use the left / right button to select  option
5. Press the OK button to confirm the  option
6. There are two color crosshairs appearing on the LCD screen. Where the white crosshair located represents the high temperature area, where the blue crosshair located represents the low temperature area.
7. Click on the back button to exit to return to the main menu,
8. Click on the back button again to return to the image display page.

10. Color palette

The steps to select color are as follows:

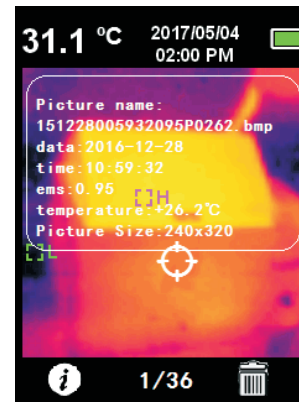
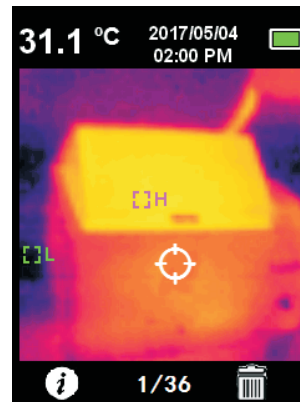
1. Press OK button to pop-up the main menu.
2. Use the left / right button to select sub menu.
3. Press the OK button to pop-up Hot iron, Rainbow and Gray scale options
4. Use the left / right button to select desired color.
5. Press the OK button to confirm the desired color.
6. Click on the back button to exit to return to the main menu.
7. Click on the back button again to return to the image display page.



11. Photograph Playback

The steps to play back photograph are as follows:

1. Press OK button to pop-up the main menu.
2. Use the left / right button to select Photograph Playback sub menu.
3. Press OK button to enter the photo display interface.
4. Use the left or right arrow button to select the photo you want to view.
5. Click on the back button to exit to return to the main menu.
6. Click on the back button again to return to the image display page.

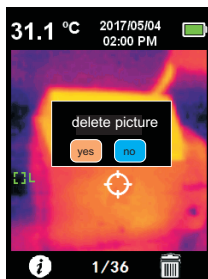


The steps to view the detail information of photo are as follows:

1. Enter Photograph Playback sub menu.
2. Press OK button to pop-up sub menu.
3. Use the left / right arrow button to select option.
4. Press OK button to confirm option, and the detail information of the photo is displayed
5. Click on the back button to exit.
6. Click on the back button again to return to the main menu.
7. Click on the back button again to return to the image display page.

The steps to delete the photo are as follows:

1. Enter Photograph Playback sub menu.
2. Press OK button to pop-up and sub menu.
3. Use the left /right arrow button to select option ,
4. Press OK button to confirm option, and pop-up a dialog box asking whether to delete the photo.
5. Use the left /right arrow button to select "Yes" or "No "
6. Select "Yes", press OK button to delete the photo.
7. Select "No", press OK button to discard the photo.
8. Click on the back button to exit to return to the main menu.
9. Click on the back button again to return to the image display page.



12.Setup

The steps to enter the Setup menu are as follows:

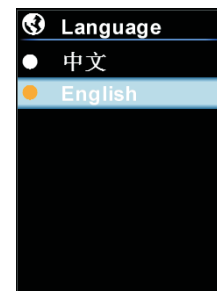
1. Press the OK button to pop-up the main menu.
2. Use the left /right arrow button to select option.
3. Press OK button to confirm the option.
4. Use the left /right arrow button to select the option you want.
5. Press OK button to confirm the desired option and pop-up the sub menu for you to set up.
6. Click on the back button to exit.
7. Click on the back button again to return to the main menu.
8. Click on the back button again to return to the image display page.



13.Language Setting

The steps to setup Language are as follows:

1. Press the OK button to pop-up the main menu.
2. Use the left or right arrow button to select option.
3. Press the OK button to enter the sub menu.
4. Use the left or right arrow button to select Language Setting option.
5. Press the OK button to enter the interface to select language (English or Chinese).
7. Press the OK button to confirm the desired language.
8. Click on the back button to exit.
9. Click on the back button again to return to the main menu.
10. Click on the back button again to return to the image display page.



14.Date and Time



The steps to setup Date and Time are as follows:

1. Press the OK button to pop-up the main menu,
2. Use the left or right arrow button to select option.
3. Press the OK button to enter the sub menu.
4. Use the left or right arrow button to select Date and Time option.
5. Press the OK button to enter the interface to set up Date and Time.
6. Click on the back button to exit.
7. Click on the back button again to return to the main menu.
8. Click on the back button again to return to the image display page.



15.Emissivity

The steps to setup emissivity are as follows:



- 1.Press the OK button to pop-up the main menu,
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select emissivity option.
- 5.Press the OK button to enter the interface to set up emissivity.
- 6.Click on the back button to exit
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.

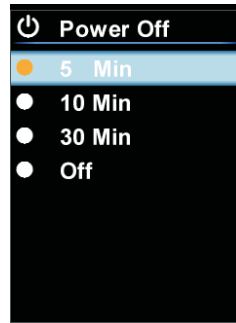
Note: The emissivity value can be adjusted from 0 to 0.99. The default value is set up to 0.95.

It is very important to choose the correct emissivity value to improve accuracy of temperature measurement. Emissivity has a significant impact on the measured surface temperature.

16.Auto Power Off



The steps to set up Auto-Power-Off time are as follows:

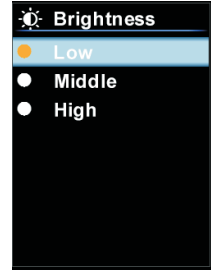
- 1.Press the OK button to pop-up the main menu.
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select Auto Power Off option.
- 5.Press the OK button to enter the interface to select Auto-Power-Off time.
- 6.Click on the back button to exit.
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.



17.Display Brightness



The steps to set up Display Brightness are as follows:

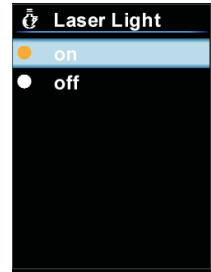
- 1.Press the OK button to pop-up the main menu.
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select Display Brightness option.
- 5.Press the OK button to enter the interface to select display brightness.
- 6.Click on the back button to exit
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.



18.Laser Setting



The steps to turn on /off laser are as follows:

- 1.Press the OK button to pop-up the main menu.
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select Laser Setting option.
- 5.Press the OK button to enter the interface to select laser On/Off.
- 6.Click on the back button to exit.
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.



19.High/Low Temperature Alert Setting



The steps to set up High/ Low Temperature Alert are as follows:

- 1.Press the OK button to pop-up the main menu,
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select High/ Low Temperature Alert Setting option.
- 5.Press the OK button to enter the interface to select High/ Low temperature alert On / Off.
- 6.Click on the back button to exit.
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.



20.Device Information



The steps to view Device Information are as follows:

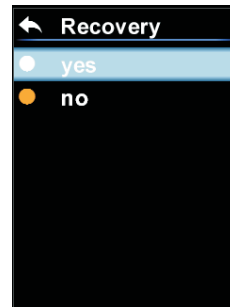
- 1.Press the OK button to pop-up the main menu,
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select Device Information option.
- 5.Press the OK button to view the detail information of the device.
- 6.Click on the back button to exit.
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.



21.Restore Setting



The steps to Restore Setting are as follows:

- 1.Press the OK button to pop-up the main menu,
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select Restore Setting option.
- 5.Press the OK button to select Yes or No.
- 6.Click on the back button to exit
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.



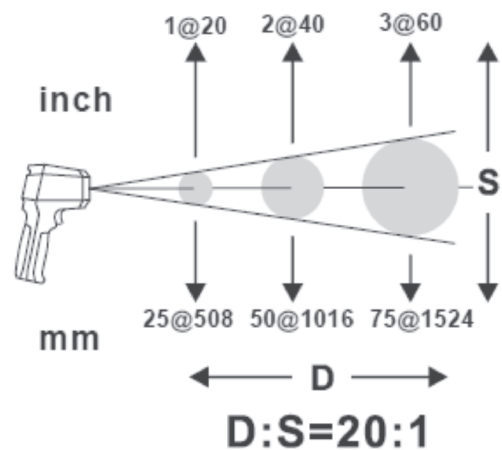
22.Format SD Card

The steps to Format SD Card are as follows:

- 1.Press the OK button to pop-up the main menu,
- 2.Use the left or right arrow button to select  option.
- 3.Press the OK button to enter the  sub menu.
- 4.Use the left or right arrow button to select Format SD Card option.
- 5.Press the OK button to select Yes or No.
- 6.Click on the back button to exit
- 7.Click on the back button again to return to the main menu.
- 8.Click on the back button again to return to the image display page.



23. D:S (Distance to Spot ratio)



Don't stare into the laser beam



CLASS II wavelength 630-670nm
output < 1mW EN60825-1

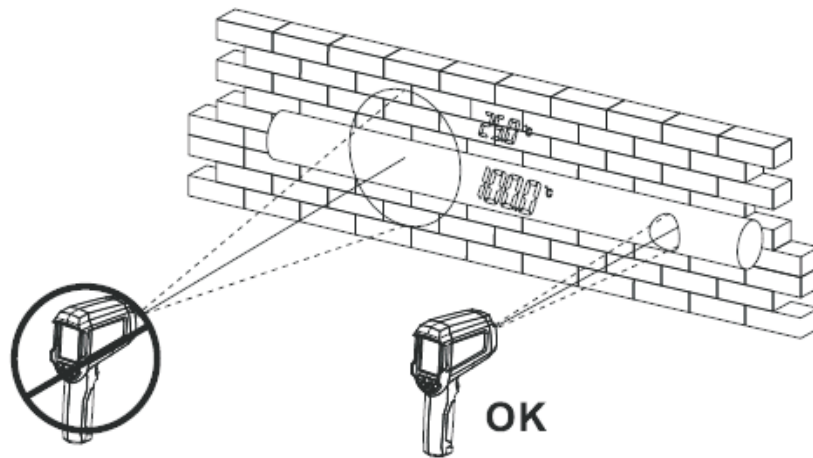


24. Measurement area

Make sure target measurement area is greater than laser spot area. the smaller the target is, the closer the test distance should be. It is recommended that the measuring distance should be less than 75% of the theoretical value.

Dual wavelength laser pointer:

Uti80 adopts the dual laser pointer that helps user to quickly confirm the area to be measured.




25.Maintenance

Use a wet cloth or a weak soap solution to clean the outer shell of the device.
Do not use the grinding agent, isopropyl alcohol or solvent to clean the lens and window.

26.Safety Instructions

In order to ensure accurate measurement results, please read the instructions carefully. Please be sure to use this product in accordance with the instructions, otherwise the product maybe damaged and warranty being void. Please do not use this instrument in flammable, explosive, steam, wet or corrosive environments. Please do not continue to use the instrument if it is damaged or modified. Please use the correct emissivity value in order to obtain accurate temperature readouts. When being charged, the internal temperature of the device will rise, which will lead to inaccurate temperature measurement. So, it is not recommended to be used for testing while the device is being charged.

说明书菲林做货要求：

序号	项目	内容	
1	尺寸	尺寸：150x118mm	
2	材质	封面与封底128g双铜，内页80g双铜	
3	颜色	四色	
4	外观要求	完整清晰、版面整洁，无斑墨、残损、毛边、刀线错位等缺陷。	
5	装订方式	无	
6	表面处理	无	
7	其它	无	
版本		0	
DWH 设计	赵春珠2017/8/11	MODEL 机型： Uti80	Part NO. 物料编号： P/N:110401106660X
CHK 审核		 优利德科技(中国)有限公司 UNI-TREND TECHNOLOGY (CHINA) LIMITED	
APPRO. 批准			