

PREFACE

Thank you for purchasing the new UTi260V thermal imager. In order to use this product safely and correctly, please read this manual thoroughly, especially the CAUTIONS 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 guarantees that the product is free from any defect in material and workmanship within one year from the purchase date. This warranty does not apply to damages 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 your seller directly.

This warranty is the only compensation you can obtain. Uni-Trend will not be responsible for any special, indirect, incidental or subsequent damage or loss caused by any reason or speculation. As some areas or countries do not allow limitations on implied warranties and incidental or subsequent damage, the above limitation of liability and stipulation may not apply to you.



CAUTIONS

1. Use or store the product at specified operating or storage temperatures. Otherwise, the device may be damaged.
2. Do not direct the product at high intensity thermal radiation sources, such as the sun, laser device, spot-welder, etc.
3. Do not knock, toss, or shake the product and accessories.
4. Do not place the battery in a high temperature environment or near high temperature objects. Do not short-circuit the positive and negative electrodes of the battery. Do not place the battery in a humid environment or water.
5. Do not expose the device to dusty or damp environment. When used in an environment with water, avoid water splashing on the product.
6. Do not use dissolved or similar liquids on the product or cables, as it may cause device damage.
7. Please follow the following instructions when wiping the device:
 - Non-optical surface: If necessary, use a clean and soft cloth to wipe the non-optical surface of the thermal imager.
 - Optical surface: Do not stain the optical surface of the lens when using the thermal imager. Be especially careful not to touch the lens with hands, as sweat from hands will leave marks on the lens glass and may erode the optical coating layer on the glass surface. When the optical surface is stained, carefully wipe it with a special lens paper.
8. When using the device, please try to keep it stable and avoid violent shaking.

9. Please close the lens cover and put the product and its accessories into the carrying box when it is not used.
10. Please do not disassemble the device to avoid product damage and loss of warranty rights.
11. Due to different batches, the materials and details of actual products may be slightly different from the graphic information. Please refer to the goods received.
12. The experimental data in the manual are theoretical values and all from Uni-Trend's internal laboratories, for reference only. Customers cannot use them as bases for placing orders. If users have any questions, please contact customer service.

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1. Specifications

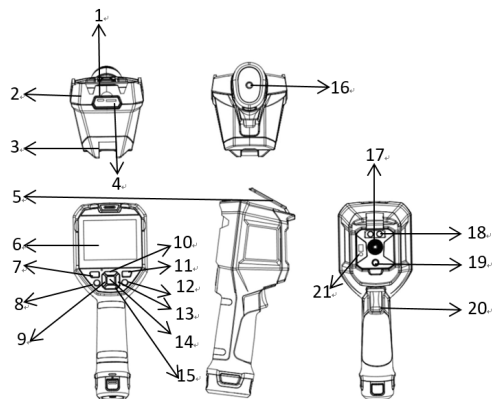
Model	UTi260V
Infrared parameters	
Detector type	Uncooled infrared focal plane array (UFPA)
IR resolution	256×192
Spectral range	8~14μm
Pixel size	12μm
Frame rate	25Hz
Thermal sensitivity (NETD)	50mK
Focus	Fixed focus
Field of view (FOV)	56°H x 42°V
Spatial resolution (IFOV)	3.8mrad
Temperature measurement functions	
Temperature measurement range	-20°C~550°C
Accuracy	±2°C/±2% whichever is greater, 0°C~550°C, room temperature 25°C
Resolution	0.1°C
Optimal measurement distance	0.25m
Temperature unit	°C/°F/K
Temperature mark	3 spots (center spot, Hi/Lo spot)
On screen analyzer	5 Points/1 Line/3 Rectangles/3 Circles
Isotherm	Manual/Auto
Hi/Lo temperature alert	LCD animation, flashlight, buzzer
Temperature measurement parameters	Emissivity, Ambient temperature, Reflected temperature, Humidity, Distance compensation, Scale switching
Image display	
Display screen	3.5" LCD touch screen
Display resolution	640 x 480
Digital camera resolution	5MP

Color palettes	Red Hot, Rainbow HC, Rainbow, Lava, Ironbow, Black Hot, White Hot
Image modes	Thermal, visual image, T-Mix/Fusion, PIP
Digital zoom	1X, 2X, 4X
Image format	JPG
Video format	AVI
System functions	
Buttons	Power, Laser, SET, Direction, Gallery, Trigger, Return
Laser pointer	√ (Class 2 laser, red)
Laser distance measurement	0.3~30m (Class 2 laser, red)
Storage	External storage Micro SD card
Data interface	Type-C USB
QR code scanning	√
Photo capturing	√
Video recording	√
Text annotation	√
Audio annotation	√
LED flashlight	√
Brightness adjustment	√
Languages	English/Chinese
Auto power off	Off, 5min, 10min, 20min, 30min, 45min, 60min, 90min
Wi-Fi photo download	√
Wi-Fi video stream	√
Smartphone APP	iOS, Andriod
PC analysis software	√
PC screen projection	√
Power supply parameters	
Battery	3.7V, 5200mAh detachable battery pack
Operating time	4h
Charging system	Type-C USB
Charging time	5h
General characteristics	

Operating temperature	-10°C~50°C
Storage temperature	-20°C~60°C
Operating humidity	10%~95%RH, non-condensing
IP rating	IP54
Drop proof	2m
Certificates	CE,FCC,UKCA,ROHS
Tripod mounting	UNC 1/4" -20
Standard accessories	USB cable, Micro SD card, user manual, toolbox

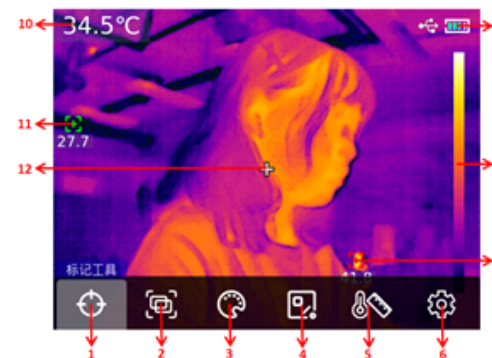
4	SD card slot	15	Down/Flashlight
5	Interface protection cover	16	Bracket screw hole
6	LCD	17	Infrared camera lens
7	Power	18	Flashlight
8	Laser	19	Visual light camera lens
9	Left	20	Trigger
10	Up	21	Laser
11	Gallery		

2. Structure



No.	Description	No.	Description
1	Type-C USB interface	12	Return
2	Upper housing	13	Right
3	Lower housing	14	SET

3. LCD Indicators/Icons



No.	Description	No.	Description
1	Markup	7	Hi spot
2	Image (image mode)	8	Range bar
3	Palette	9	Battery status
4	Measure (on screen analyzer)	10	Center spot temperature
5	Isotherm	11	Lo spot
6	Settings	12	Center spot

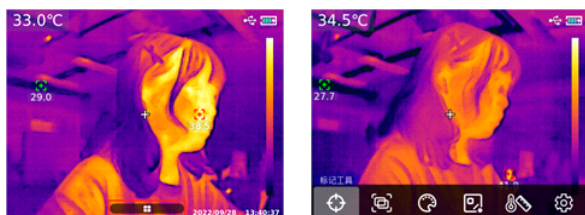
4. Power on/off

Long press the Power button for 3s to turn on the thermal imager (it needs 30 minutes warm-up time when the device is just turned on or not used for a long time, or the measurement environment changes). Long press the Power button for 3s, "Shutdown?" will show on the screen. Select "OK" to turn off the thermal imager. Long press the Power button for 5s to power off directly.

When the battery is low, a low battery indicator will show on the screen, which means the thermal imager should be turned off and the battery should be charged. When the thermal imager is in low battery status for a long time, it will automatically shut down.



5. Menu Bar



1. Press the SET button in the main interface or tap the menu bar icon to open the main menu.
2. Press the Left/Right and SET buttons or tap a submenu icon to open the selected submenu.
3. In the submenu, press the Left/Right button or tap its icon to select an option.
4. Press the SET button or tap the icon to confirm and save the selection. The thermal imager returns to the main interface.

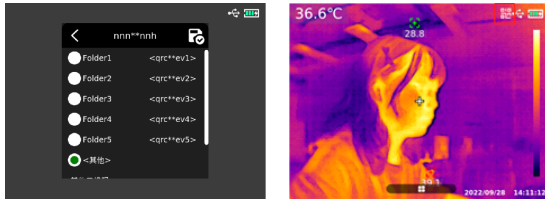
6. Submenu



Markup	Display/hide the center spot, Hi/Lo spot and the value
Image	Select the thermal, digital, fusion or PIP mode or add the QR code
Palette	Switch between Ironbow, Rainbow, Black Hot, White Hot, Red Hot, Lava, Rainbow HC
Measure	Add point, line, rectangle or circle for temperature analysis, choose an object (this function can only be used if an object is added), clear or preset
Isotherm	Switch between Auto, Ratio, Below, Above, Section or Manual
Settings	System settings

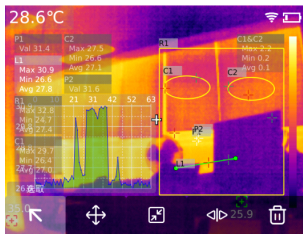
6.1 QR Code

Users can manually input or scan the QR code. Select "Cancel" to return to the main interface. After a QR code is input or scanned, it can be saved to a classified folder. After saving, a QR code symbol will be displayed in the upper right corner of the main interface. At this time, all the photos/videos taken will be marked with this QR code and these photos/videos will be saved to the corresponding classified folder. Enter the QR code interface again to cancel the current QR code.

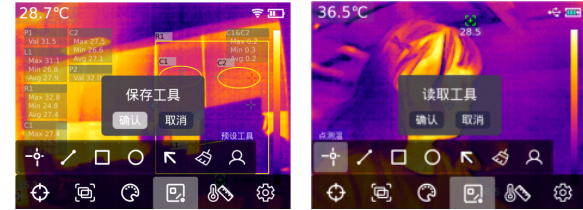


6.2 Measure (On Screen Analyzer)

After adding an analysis object, a submenu will appear. The optional functions in the submenu are choose, move, stretch (this function cannot be applied to point objects), difference (point objects can only be compared with point objects; the comparison information will be displayed on the right side), delete (delete the selected object). The temperature information of the added object will be displayed on the left. When a line object is selected, its temperature change graph will be displayed in the lower left corner.

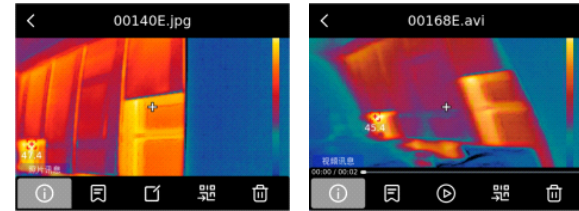



When the "Preset" function is enabled, a prompt "Save tool" will pop up. Select "OK" to save the current object. The preset tool can be used directly next time. If there is no analysis object in the main interface, enable the "Preset" function, and a prompt "Read tool" will pop up. Select "OK", and the preset tool saved last time will be added to the main interface.



7. Image Browsing and Editing

In the main interface, press the Gallery button to enter the multimedia browsing interface to browse photos/videos and perform the following operations.



Info	Create date, modified date, emissivity, HVGA (infrared resolution), ambient temperature, humidity, reflected distance, QR code (the classified folder where the photo/video is saved), distance (photos only), notes (text/voice)
Notes	Add text and voice notes to photos/videos (displayed in Info)
Edit (photos only)	Perform Markup/Image/ Palette/Measure/Isotherm/Graffiti function on photos (tap  to restore the photo to its original state)
Play (videos only)	Play or pause videos
QR code	Add QR code to classify photos/videos
Delete	Delete the current photo/video

7.1 QR Code

When the QR code function is enabled, users can add existing QR code to classify photos/videos, delete the QR code of photos/videos or add a new QR code. QR codes added here are temporary and will not be saved to the existing QR code classified folders. The classified folders can only be modified in the Settings.

8. Digital Zoom

In the main interface, press the Up button to zoom in the screen. The current magnification is displayed in the upper right corner of the screen. The magnification steps through 1X, 2X, 4X and 1X.

9. Settings



Camera mode	Single shot/Video/Time-lapse (10s-1000s)
Units	Temperature: , K, Distance: m, ft
Parameter	Adjust the emissivity (refer to the emissivity table), ambient temperature, reflected temperature, humidity, distance compensation, scale switching (-20~150/0~550)
Hi/Lo alert	Hi/Lo/LED/audible alert (When the measured temperature exceeds the Hi value, a red triangle will pop up in the main interface. When the measured temperature is lower than the Lo value, a green inverted triangle will pop up.)
QR code	Change the name of classified folders and reset QR codes

Language	Switch between English/Chinese
Date & Time	Modify time-format/date/time
Wi-Fi	Turn on/off the hotspot, modify hotspot information when it is on
USB mode	USB storage/USB projection
Brightness	Adjust the brightness (1-100)
Volume	Adjust the volume (1-100)
Laser distance measure	Laser distance measure mode: single/continue measurement
Shutdown (auto power off)	Off/5 min/10 min/20 min/30 min/45 min/60 min/90 min
Factory reset	Restore the factory settings
Format	Format the SD Card
About	Display product model, HVGA (infrared resolution), SWV (software version), HWV (hardware version), SYSV (system version), SD card capacity

9.1 Laser Distance Measure

In the main interface, press the "Laser" button to take measurements. If "Single" is selected in the settings interface, press and hold the "Laser" button until the distance value appears. Release the button to exit. If "Continue" is selected in the settings interface, long press the "Laser" button until the distance value appears. Release the button and move the thermal imager to take continuous measurements. Press the button again to exit the measurement.

10. SD Card

The device can be inserted into a Micro SD card to store images. To avoid affecting the device operating speed, please copy the backup data regularly and clean up the SD card in time. Do not insert or remove the SD card repeatedly; otherwise the data in it may be abnormal. If the SD card is removed when users are viewing or editing images, a prompt "SD lost" will pop up.

11. Maintenance

Use a wet cloth or weak soap solution to clean the outer housing of the device. Do not use abrasives, isopropyl alcohol or solvents to clean the housing or lens.

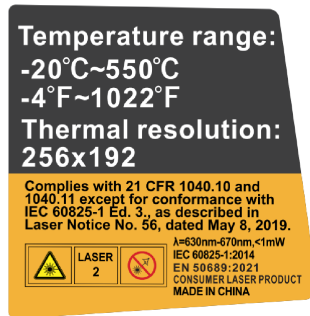
12. Notes

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

13. Product label



14. Emissivity Table

Material	Emissivity	Material	Emissivity
Wood	0.85	Black paper	0.86
Water	0.96	Polycarbonate	0.8
Brick	0.75	Concrete	0.97
Stainless steel	0.14	Copper oxide	0.78
Tape	0.96	Cast iron	0.81
Aluminium plate	0.09	Rust	0.8
Copper plate	0.06	Gypsum	0.75
Black aluminium	0.95	Oil paint	0.9
Human skin	0.98	Rubber	0.95
Asphalt	0.96	Soil	0.93
PVC plastic	0.93		

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