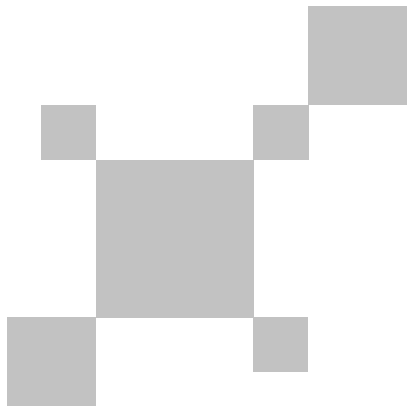


UNI-T®



P/N:110401111133X



UTi260A
红外热成像仪
Professional Thermal Imager

UTi260A
红外热成像仪使用说明书
(4p-20p)

UTi260A
Professional Thermal Imager
User Manual
(22p-38p)

序言

尊敬的用户：

您好！感谢您选购全新的UTi260A热成像仪，为了正确使用本产品，请您在使用之前仔细阅读本说明书全文，特别是有关“安全注意事项”的部分。

如果您已经阅读完本说明书全文，建议您将此说明书妥善保管，与热成像仪一同放置或者放在您随时可以查阅的地方，以便在将来的使用过程中查阅。

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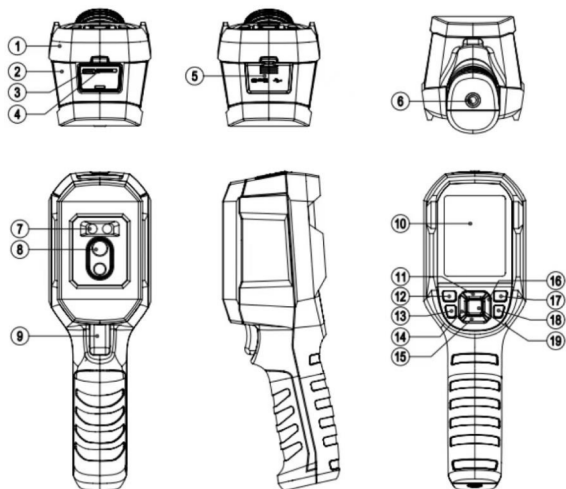
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1. 性能指标

传感器	非制冷氧化钒
测温范围	-20°C~400°C (-4°F~752°F)
发射率	0.95 (默认) 0.01~1.00
精度	-10°C~400°C, 常温25°C, ±2°C/±2%取大值
测温响应时间	≤500ms
热成像像素	256*192 (49152)
像素大小	12μm
色板	铁红、彩虹、黑热、白热、红热、熔岩、高对比度彩虹
红外光谱带宽	8~14μm
视场角 (FOV)	56°*42.2°
瞬时视场角 (IFOV)	3.8mrad
热成像灵敏度	<50mK @25°C
帧速率	<25Hz
测温显示	中心点测温、高低温追踪和重点区域测温 (ROI), 出厂模式为高低温追踪
图像格式	BMP (带温度数据)
测温点	除中心点, 可以添加3个测温点
PC分析软件	有
实时图像传输	有 (实时图像、照片下载及分析)
数据通讯	Type-C USB (U盘存储照片下载)
产品尺寸	236mm*75.5mm*86mm
显示屏幕	2.8" TFT LCD
显示分辨率	320*240
电池	5000mAh (18Wh)
自动关机	可调节: 自动关闭、5分钟、10分钟、30分钟 (默认)
使用时间	7-9小时
充电时间	小于5小时
充电电压/电流	5V/2A
图像存储	Micro SD卡
存储温度	-20°C~60°C (-4°F~140°F)
工作温度	-10°C~50°C (14°F~122°F)
工作湿度	10%~95%Rh (非冷凝)
IP等级	IP54
跌落测试	2m
认证	CE FCC
配件	说明书, Type-C USB线, 32GB TF卡

2. 结构

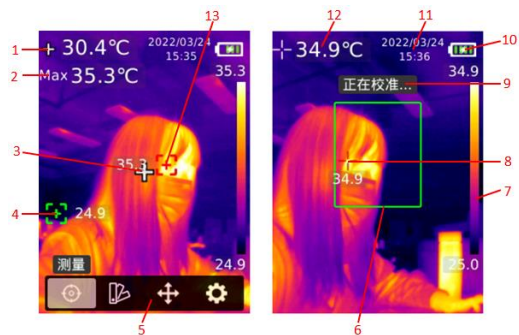


项目	说明	项目	说明
1	上壳	11	上键
2	下壳	12	开机键
3	USB Type-C接口	13	照明键
4	SD卡槽	14	左键
5	接口防护盖	15	下键
6	支架固定螺丝孔	16	右键
7	照明灯	17	照片浏览键
8	红外热像窗口	18	返回键
9	扳机拍照键	19	SET键
10	液晶显示屏		

3. 显示说明

屏幕尺寸：2.8"

显示器分辨率：320（垂直）×240（水平）



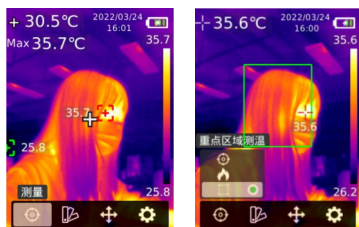
项目	说明	项目	说明
1	当前中心温度	8	重点区域温度最大点
2	当前自动追踪温度最大点温度	9	手动校准提示信息
3	中心点光标	10	电量图标
4	当前自动追踪温度最小点	11	当前时间
5	主菜单栏	12	重点区域温度最大点温度
6	重点区域测温 (ROI)	13	当前自动追踪温度最大点
7	温度条		

4. 开关机

长按“开机键”3秒，热像仪开机。长时间没使用或测量环境改变后需要开机20分钟后才能进行温度测量；长按“开机键”3秒，热像仪关机。

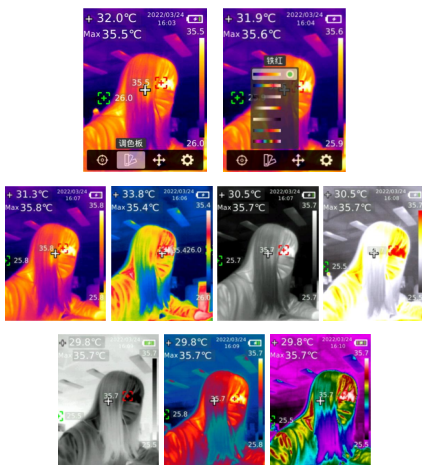
注意：热像仪启动关机程序后，需要经历5~6秒。请尽量避免连续反复开关机，以免对热像仪造成损害。

5. 测量



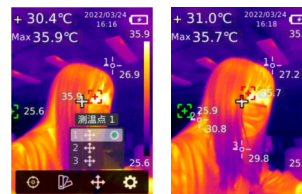
在热像主测试页面，按“SET”键调出主菜单栏，按“左/右键”选择测量选项，短按“SET”键进入测量选择菜单，按“上/下键”选择测量中心点、高低温点或重点区域测温（ROI），短按“SET”键选择打开或关闭测量中心点、高低温点或重点区域测温（ROI），短按“返回键”返回主菜单栏及热成像页面。

6. 色板



在热成像主测试页面，按“SET”键调出主菜单栏，按“左/右键”选择调色板选项，短按“SET”键进入色板选择菜单，按“上/下键”选择不同色板，短按“SET”键应用当前色板，短按“返回键”返回主菜单栏及热成像页面。

7. 点测温



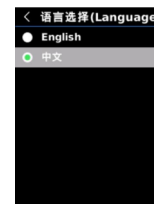
在热成像主测试页面，按“SET”键调出主菜单栏，按“左/右键”选择点测温选项，短按“SET”键进入点测温菜单，按“上/下键”选择打开或关闭不同测温点，选择打开当前测温点后短按“SET”键进入热成像主测试页面，按“左/右/上/下键”移动测温点到感兴趣区域，短按“SET”键应用当前位置，并读取当前点温度；如果选择关闭当前测温点，短按“SET”键关闭，短按“返回键”返回主菜单栏。

8. 设置



在热成像主测试页面，按“SET”键调出主菜单栏，按“左/右键”选择设定选项，短按“SET”键进入设置二级菜单，按“上/下键”选择不同设置选项，短按“SET”键进入相对应的设置选项并进行参数配置，短按“返回键”返回上级菜单。

8.1 语言选择



进入设置菜单后，按“上/下键”选择语言选择选项，短按“SET”键进入语言选择，可以按“上/下键”选择中文或English，短按“SET”键保存当前设置，设置完毕后，短按“返回键”返回上级菜单。

8.2 日期时间



进入设置菜单后，按“上/下键”选择日期时间选项，短按“SET键”进入日期时间设置，通过“左/右键”选择不同的时间节点或时间格式，短按“SET键”选定时间节点，按“上/下键”可以进行加减时间，短按“SET键”保存设置值，设置完毕后，短按“返回键”返回上级菜单。

8.3 温度单位



进入设置菜单后，按“上/下键”选择温度单位选项，短按“SET键”进入温度单位设置，按“上/下键”选择不同的温度单位，短按“SET键”保存设置值，设置完毕后短按“返回键”返回上级菜单。

8.4 高低温警告



进入设置菜单后，按“上/下键”选择高低温警告选项，短按“SET键”进入高低温警告设置，按“上/下键”选择不同的设置项，可以分别打开或关闭高低温警告并设置温度值，选择温度值短按“SET键”进入设置值，短按“上/下键”可以进行加减数值，设置完毕后，短按“返回键”，保存设置值并返回上级菜单。当打开警告后，当温度超出所设定范围会发出警告。

8.5 测温档位



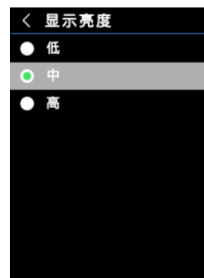
进入设置菜单后，按“上/下键”选择测温档位选项，短按“SET键”进入测温档位设置，按“上/下键”选择低增益或高增益，短按“SET键”选择并保存设置，等待增益切换成功后短按“返回键”返回上级菜单。

高增益测温范围：-15°C~150°C

低增益测温范围：150°C~550°C

注意：设备在进行增益切换过程中需要耗时30S~40S，请等待切换稳定后再进行其他操作或测温。

8.6 显示亮度



进入设置菜单后，按“上/下键”选择显示亮度设置选项，短按“SET键”进入显示亮度设置，按“上/下键”选择不同的显示亮度等级，短按“SET键”选择并保存设置，短按“返回键”返回上级菜单。

8.7 自动关机



进入设置菜单后，按“上/下键”选择自动关机选项，短按“SET键”进入自动关机设置，按“上/下键”选择不同的自动关机时间或关闭自动关机，短按“SET键”选择保存设置，短按“返回键”返回上级菜单。自动关机时间有5分钟、10分钟、30分钟、关可选。

8.8 USB模式



进入设置菜单后，按“上/下键”选择USB模式选项，短按“SET键”进入USB模式设置，按“上/下键”选择不同的USB模式，短按“SET键”选择并保存设置，短按“返回键”返回上级菜单。

U盘模式：连接PC后可以在PC端浏览图片和分析数据；

USB相机模式：连接PC后可以实现实时图像投屏功能。

8.9 测量参数



进入设置菜单后，按“上/下键”选择测量参数设置选项，短按“SET键”进入测量参数设置，按“上/下键”选择发射率、环境温度或距离，选择后短按“SET键”进入设置，按“上/下键”可以进行加减数值，设置完毕后短按“SET键”保存参数，短按“返回键”返回上级菜单。

备注：常用物体的发射率请参考附录的常用发射率表。

8.10 系统设定



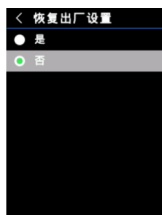
进入设置菜单后，按“上/下键”选择系统设定选项，短按“SET键”进入系统设定菜单，按“上/下键”选择相应的系统设定功能，短按“SET键”进入下级菜单，短按“返回键”返回上级菜单。

8.10.1 设备信息



在系统设定中，按“上/下键”选择设备信息选项，短按“SET键”进入设备信息，可以查看产品型号、版本、（SD卡）容量、（SD卡）剩余（容量）。短按“返回键”返回上级菜单。

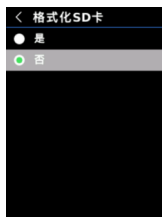
8.10.2 恢复出厂设置



在系统设定中，按“上/下键”选择恢复出厂设置选项，短按“SET键”进入，按“上/下键”选择是否恢复出厂设置，短按“SET键”确定，短按“返回键”返回上级菜单。

注意：在恢复出厂设置过程中，请勿强制进行其他操作，以免程序错误。

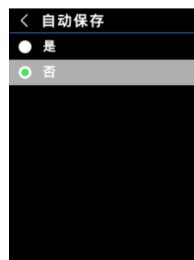
8.10.3 格式化SD卡



在系统设定中，按“上/下键”选择格式化SD卡选项，短按“SET键”进入，按“上/下键”并按“SET键”选择是否格式化SD卡，短按“返回键”返回上级菜单。

注意：在格式化SD卡过程中，请勿强制拔出SD卡或进行其他操作，以免程序错误。

8.10.4 自动保存



在系统设定中，按“上/下键”选择自动保存选项，短按“SET键”进入图像自动保存设置，按“上/下键”选择是否打开自动保存功能，短按“SET键”选择并保存设置，短按“返回键”返回上级菜单。

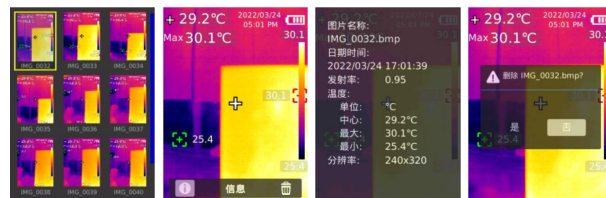
注意：在保存、浏览图片的过程中，请勿拔出SD卡。建议保存图片张数不超过1000张，以免影响机器反应速度。当图片张数超过1000张时，请及时清理SD卡。

9. 温度补偿及校准

为适应不同使用环境及场所，可以通过设置环境温度及测温距离进行相应的温度补偿，具体设置方法，请参考8.9测量参数设置。

为了提高温度测量稳定性，可以进行手动温度校准。校准方法：在主测量界面短按“返回键”，设备进行校准。

10. 图像浏览



短按“照片浏览键”进入照片浏览界面，通过“上/下/左/右键”可以选择不同照片，短按“SET键”进入全屏浏览。在全屏浏览模式下，按“SET键”进入图像信息浏览及图像删除。

注意：浏览图像过程中，不能拔出SD卡，以防出错。

11. 图像拍摄



短按“拍照扳机键”，进行图像拍照。手动保存模式下，通过“左/右键”选择是否保存图像，并按“SET键”确认或按返回键返回取消本次拍照。自动保存模式下，图像会自动保存到SD卡。
备注：只有安装了SD卡后，才能保存图像。

12. 照明

长按“照明键”3秒打开或关闭LED照明灯。在把温度警告打开后，当所检测温度超出所设置温度范围时，LED照明灯闪烁以警告，直至警告解除。
注意：请不要在照明灯打开的情况下，正对人或动物眼睛，避免造成伤害。

13. USB通信及图像投屏

1. 请参考下载指南下载UTi-Live Screen上位机软件及实时图像投屏上位机软件，并完成安装；
2. USB模式设置为U盘模式后，将USB数据线与电脑连接，通过上位机软件可以浏览图片和分析数据；
3. USB模式设置为USB相机后，将数据线与电脑连接，通过图像投屏上位机软件，可以实现实时图像投屏功能；
4. 关于上位机软件的使用方法，你可以从操作页面的帮助选项中调取《软件用户手册》进行参考。

备注：电脑投屏的过程中，请不要拔掉USB线，使用完毕后，请先关掉投屏软件，再拔掉USB线。

14. SD卡

本设备支持Micro SD卡（TF卡）存储图像，为了避免图像数据过大影响设备运行速度，请定期拷贝备份数据，并及时清理卡内数据。为了避免热拔插造成SD卡数据异常，请不要反复拔插SD卡，尽量在关机状态下拔插SD卡。

15. 充电

本设备支持5V/1A或5V/2A电源适配器充电，请使用具有安规认证的电源适配器进行充电。
注意：在充电过程中，请勿轻易按“关机键”关机，如若需要关机重启，请拔出Type-C电源线，断开电源再重启设备。

16. 保养

用湿布或弱碱性肥皂液清洗结构外壳，不要使用研磨剂、异丙醇或溶剂清洁剂仪器外壳镜头窗口。

17. 安全须知

为了保证测量结果准确，请仔细阅读使用说明。请务必按照说明书使用本产品，否则造成产品损坏后将不进行免费保修。请不要在易燃易爆、蒸汽周围、潮湿或腐蚀性环境下使用本仪器。请不要在仪器损坏、摔落、或修正后的情况下继续使用，以免造成错误的测试结果。

18. 使用须知

请参考辐射系数信息获取实际温度，否则会导致测得的温度不准确。由于产品功耗发热比较大，会引起机体内部温度升高，为了保证产品精度，长时间关机状态再开机使用时，建议开机预热20分钟后再进行测量。由于充电引起机体内部温度升高，从而影响温度测量精度，因此，建议在对本产品充电时不要进行温度测量。

因传感器固有的漂移特性，偶尔会测温不准，传感器会自动打快门并进行温度校正，为了产品测量精度需温度稳定后读数。

19. 常用发射率

材质	发射率	材质	发射率
木	0.85	黑纸	0.86
水	0.96	聚碳酸	0.8
砖	0.75	混凝土	0.97
不锈钢	0.14	氧化铜	0.78
胶带	0.96	铸铁	0.81
铝板	0.09	锈	0.8
铜板	0.06	石膏	0.75
黑铝	0.95	油漆	0.9
人体皮肤	0.98	橡胶	0.95
沥青	0.96	土壤	0.93
PVC塑料	0.93		

本说明书内容若有变更，恕不另行通知

优利德®

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PREFACE

Thank you for purchasing the new UTi260A thermal imager. In order to use this product 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 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.

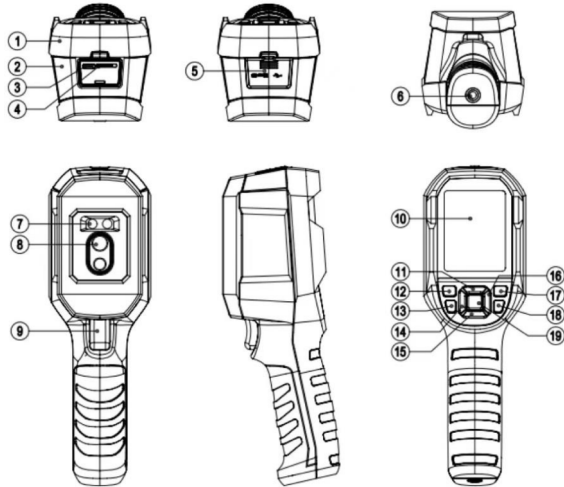
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1. Specifications

Sensor	Uncooled vanadium oxide
Range	-20°C~400°C (-4 F~752 F)
Emissivity	0.95 (default) 0.01~1.00
Accuracy	Range: -10°C~400°C, ±2°C/±2% (whichever is greater)
Response time	≤500ms
IR resolution	256*192 (49152)
Pixel size	12μm
Palettes	Iron, Rainbow, White Hot, Red Hot, Black Hot, Lava, Rainbow HC
Infrared spectral bandwidth	8~14μm
Field of view (FOV)	56°*42.2°
Instantaneous field of view (IFOV)	3.8mrad
Thermal sensitivity	<50mK @25°C
Frame rate	<25Hz
Temperature display	Center point temperature, high/low temperature tracking (default), ROI
Image format	BMP
Temperature measuring point	Besides the center point, 3 points can be added
PC analysis software	√
Real-time image transmission	√ (real-time image, photo download and analysis)
Data communication	Type-C USB
Product size	236mm*75.5mm*86mm
Display	2.8" TFT LCD
Display resolution	320*240
Battery	5000mAh(18Wh)
Auto power off	5 minutes/10 minutes/30 minutes (default)/Off
Operating time	7-9hrs
Charging time	<5hrs
Charging voltage/current	5V/2A
Image storage	Micro SD card
Storage temperature	-20°C~60°C (-4 F~140 F)
Operating temperature	-10°C~50°C (14 F~122 F)
Operating humidity	10%~95%Rh (non-condensing)
IP rating	IP54
Drop proof	2m
Certificates	CE FCC
Accessories	User manual, Type-C USB cable, 32GB TF card

2. Product Structure

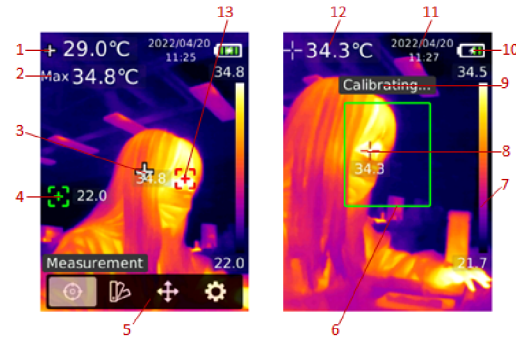


NO.	Description	NO.	Description
1	Upper casing	11	Up
2	Lower casing	12	Power
3	USB Type-C interface	13	Flashlight button
4	SD card slot	14	Left
5	Interface cover	15	Down
6	Tripod mounting hole	16	Right
7	Flashlight	17	Image viewing
8	Infrared camera lens	18	Return
9	Trigger	19	SET
10	LCD		

3. LCD Indicators/Icons

Display size: 2.8"

Display resolution: 320 (vertical) × 240 (horizontal)



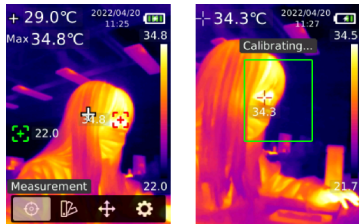
NO.	Description	NO.	Description
1	Center point temperature	8	Highest temperature spot in ROI
2	Highest temperature	9	Calibrating
3	Center point	10	Battery status
4	Lowest temperature spot	11	Date and time
5	Menu	12	Highest temperature in ROI
6	ROI	13	Highest temperature spot
7	Range bar		

4. Power on/off

Long press the Power button for 3s to turn on/off the product. If the product has not been used for a long time or the measurement environment has changed, please turn on the product and leave it for 20 minutes before measuring.

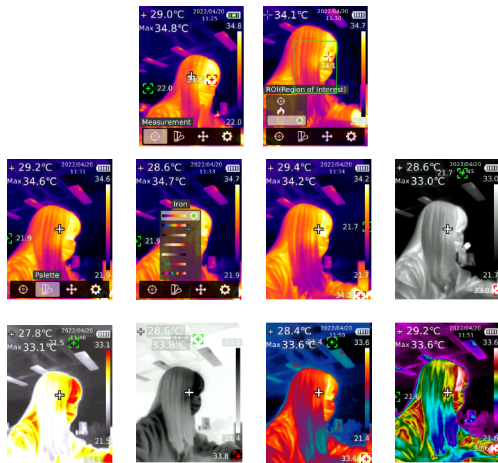
Note: It will take 5 to 6s for the product to power off. Please do not turn it on and off repeatedly.

5. Measurement



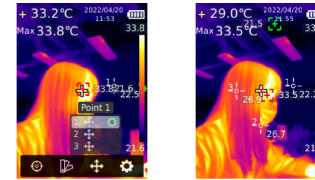
In the main interface, press the SET button to open the main menu. Press the Left/ Right button to select "Measurement", and press the SET button to open its submenu. Press the Up/Down button to select Center spot/Hi/Lo spot/ROI. Press the Return button to return to the previous interface.

6. Palette



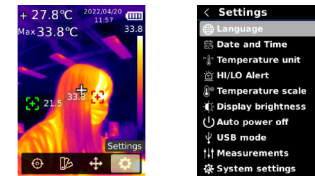
In the main interface, press the SET button to open the main menu. Press the Left/ Right button to select "Palette", and press the SET button to open its submenu. Press the Up/ Down button to select a palette. Press the SET button to use the selected palette. Press the Return button to return to the previous interface.

7. Point Temperature



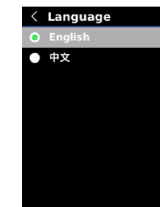
In the main interface, press the SET button to open the main menu. Press the Left/ Right button to select "Point temperature", and press the SET button to open its submenu. Press the Up/Down button to select a point, and press the SET button to add the point to the main interface. Press the Left/ Right/Up/Down button to move the point, and press the SET button to confirm. The point temperature will show on the screen. Press the SET button again to close the point. Press the Return button to return to the previous interface.

8. Settings



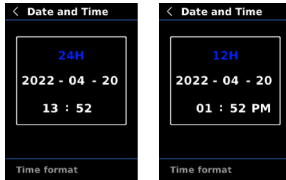
In the main interface, press the SET button to open the main menu. Press the Left/ Right button to select "Settings", and press the SET button to open its submenu. Press the Up/ Down button to select an option in the submenu, and press the SET button to enter its setting interface. Press the Return button to return to the previous interface.

8.1 Language



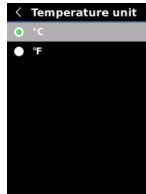
In the Settings interface, press the Up/Down button to select "Language", and press the SET button to enter the language interface. Press the Up/Down button to select English/ Chinese, and press the SET button to confirm. Press the Return button to return to the previous interface.

8.2 Date and Time



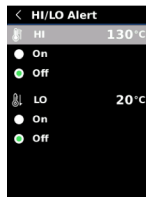
In the Settings interface, press the Up/Down button to select "Date and time", and press the SET button to enter its setting interface. Press the Left/Right button to select time format/year/month/day/hour/minute, and press the SET button to set the selected value. Press the Up/Down button to add/subtract, and press the SET button to save the modified value. Press the Return button to return to the previous interface.

8.3 Temperature Unit



In the Settings interface, press the Up/Down button to select "Temperature unit", and press the SET button to enter the unit setting interface. Press the Up/Down button to select °C/°F, and press the SET button to confirm. Press the Return button to return to the previous interface.

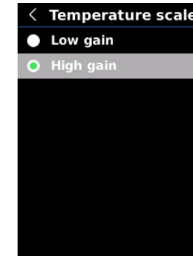
8.4 HI/LO Alert



In the Settings interface, press the Up/Down button to select "HI/LO alert", and press the SET button to enter the alert setting interface. Press the Up/Down button to select On/Off. Press the SET button to set the alert value. Press the Up/Down button to add/subtract. Press the Return button to return to the previous interface.

When the HI/LO alert function is turned on, the alert will be issued when the temperature exceeds the set range.

8.5 Temperature Scale

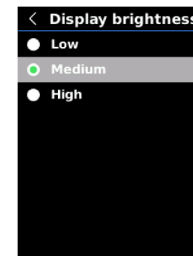


In the Settings interface, press the Up/Down button to select "Temperature scale", and press the SET button to enter the scale setting interface. Press the Up/Down button to select Low gain/High gain, and press the SET button to confirm. Press the Return button to return to the previous interface.

High gain range: -15°C~150°C
Low gain range: 150°C~550°C

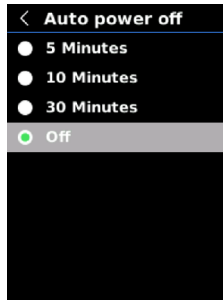
Note: It will take 30s to 40s to switch between low gain and high gain.

8.6 Display Brightness



In the Settings interface, press the Up/Down button to select "Display brightness", and press the SET button to enter the brightness setting interface. Press the Up/Down button to select Low/Medium/High, and press the SET button to confirm. Press the Return button to return to the previous interface.

8.7 Auto Power Off



In the Settings interface, press the Up/Down button to select "Auto power off", and press the SET button to enter its setting interface. Press the Up/Down button to select 5 minutes /10 minutes/30 minutes/Off, and press the SET button to confirm. Press the Return button to return to the previous interface.

8.8 USB Mode

In the Settings interface, press the Up/Down button to select "USB mode", and press the SET button to enter its setting interface. Press the Up/Down button to select USB disk/USB camera, and press the SET button to confirm. Press the Return button to return to the previous interface.

USB disk: Connect the product to the PC to view images and analyze data;
 USB camera: Connect the product to the PC for real-time image projection.



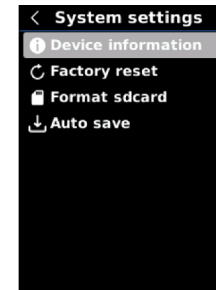
8.9 Measurements



In the Settings interface, press the Up/Down button to select "Measurements", and press the SET button to enter its setting interface. Press the Up/Down button to select Emissivity /Ambient temp/Distance, and press the SET button to set the selected parameter. Press the Up/Down button to add/subtract the value, and press the SET button to confirm. Press the Return button to return to the previous interface.

Note: For the emissivity of common objects, please refer to the table in appendix.

8.10 System Settings



In the Settings interface, press the Up/Down button to select "System settings", and press the SET button to enter its setting interface. Press the Up/Down button to select Device information/Factory reset/Format SD card/Auto save, and press the SET button to enter the submenu. Press the Return button to return to the previous interface.

8.10.1 Device Information



In the system settings interface, press the Up/Down button to select "Device information", and press the SET button to enter its submenu. The Model version/ Capacity/Free can be viewed. Press the Return button to return to the previous interface.

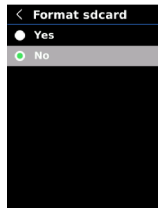
8.10.2 Factory Reset



In the system settings interface, press the Up/Down button to select "Factory reset", and press the SET button to enter its submenu. Press the Up/Down button to select Yes/No, and press the SET button to confirm. Press the Return button to return to the previous interface.

Note: Do not perform other operations when restoring factory settings.

8.10.3 Format SD Card



In the system settings interface, press the Up/Down button to select "Format SD card", and press the SET button to enter its submenu. Press the Up/Down button to select Yes/No, and press the SET button to confirm. Press the Return button to return to the previous interface.

Note: When formatting an SD card, do not remove it or perform other operations.

8.10.4 Auto Save



In the system settings interface, press the Up/Down button to select "Auto save", and press the SET button to enter its submenu. Press the Up/Down button to select Yes/No, and press the SET button to confirm. Press the Return button to return to the previous interface.

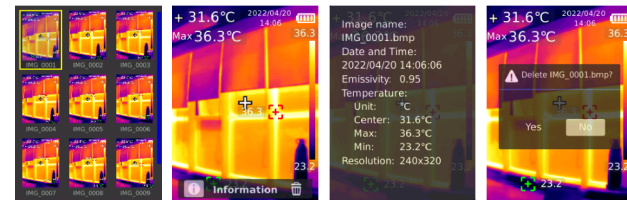
Note: Do not remove or insert the SD card when saving or viewing images. The number of saved images should not exceed 1000. Clean up the SD card if there are more than 1000 images.

9. Temperature Compensation and Calibration

To adapt to different environments and places, temperature compensation is available. For the specific setting method, please refer to Chapter 8.9 Measurements.

To improve the measurement stability, manual calibration can be performed. Press the Return button in the main interface to calibrate.

10. Image Viewing



Press the Image Viewing button to view the images. Press the Up/Down/Left/Right to select an image, and press the SET button to view the image. Press the SET button again to view the image information and delete images.

Note: Do not remove or insert the SD card when viewing images.

11. Image Capture



Press the trigger to capture an image. Press the Left/Right button to save it or not, and press the SET button to confirm or the Return button to cancel. In the auto save mode, the images will be automatically saved to the SD card.

Note: Images can only be saved if an SD card is inserted.

12. Flashlight

Long press the Flashlight button for 3s to turn on/off the flashlight. When the temperature alert is on and the measured temperature exceeds the set range, the LED light will flash.

Note: When the LED light is on, please do not point it at eyes of people or animals.

13. USB Communication and Image Projection

- Download and install the UTi-Live Screen software and real-time image projection upper computer software.
- Refer to Chapter 8.8 USB Mode to select USB disk. Connect the product to the PC. In the PC software, users can view images and analyze data.
- Refer to Chapter 8.8 USB Mode to select USB camera. Connect the product to the PC. In the real-time image projection software, the real-time image projection function can be enabled.
- Regarding the operation of the PC software, retrieve the Software User Manual from the Help option in the main interface.

Note: Please do not unplug the USB cable during image projection. After use, please close the PC software before unplugging the USB cable.

14. SD Card

This product supports Micro SD card (TF card) to store images. To avoid affecting the operating speed, please copy the backup data regularly and clean up the SD card in time. To avoid causing abnormal data on the SD card, do not insert or remove the SD card repeatedly.

15. Charging

Please use a safety-certified 5V/1A or 5V/2A power adapter for charging.

Note: Do not turn off the product during charging. If shutdown or restart is needed, please unplug the Type-C power cord and disconnect the power supply first.

16. Maintenance

Use a wet cloth or weak soap solution to clean the outer shell of the device.

Do not use abrasives, isopropyl alcohol or solvents to clean the outer shell, lens or windows.

17. Safety Instructions

To ensure the accuracy, please read the instructions carefully before using. Please do not use the product in flammable, explosive, steamy, wet or corrosive environments. Stop using the product if it was damaged, drop or modified to avoid inaccurate measurement results.

18. Notice for Use

Please use the correct emissivity to obtain accurate temperature readouts.

To ensure accuracy of the product, please warm it up for 20 minutes before measuring if it has not been used for a long time.

When being charged, the internal temperature of the product rises, which will lead to inaccurate temperature measurement. So, it is not recommended to take measurements during or right after charging the product.

The product has a self-calibration function. If the reading jumps quickly, please read the temperature after it gets steady.

19. Common Emissivity

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
Aluminum plate	0.09	Rust	0.8
Copper plate	0.06	Gypsum	0.75
Black aluminum	0.95	Paint	0.9
Human skin	0.98	Rubber	0.95
Asphalt	0.96	Soil	0.93
PVC	0.93		

Note: This user manual can be downloaded from the official website of Uni-Trend.

This manual is subject to change without prior notice.

UNI-T®**UNI-TREND TECHNOLOGY (CHINA) CO., LTD.**

No. 6, Gong Ye Bei 1st Road,
Songshan Lake National High-Tech Industrial
Development Zone, Dongguan City,
Guangdong Province, China

彩盒 菲林做货要求

序号	项目	内容	备注
1	尺寸	110*150mm	
2	材质	128双铜+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	骑马钉	
6	表面处理		
7	其它	无	
版本		REV. 0	
DWH 设计	宣浩	MODEL 机型: UTi260A	Part NO. 物料编号: 110401111133X
CHK 审核		 优利德科技(中国)有限公司 UNI-TREND TECHNOLOGY (CHINA) LIMITED	
APPRO. 批准			