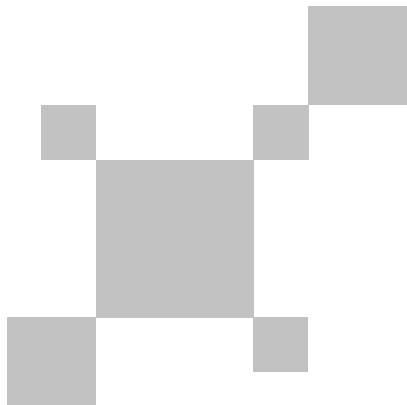


UNI-T®



UTi384H
红外热成像仪
Professional Thermal Imager

P/N:110401111073X

UTi384H
红外热成像仪使用说明书
(4p-22p)

UTi384H
Professional Thermal Imager
User Manual
(24p-42p)

序言

尊敬的用户：

您好！感谢您选购全新的UTi384H红外热成像仪，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，与热成像仪配件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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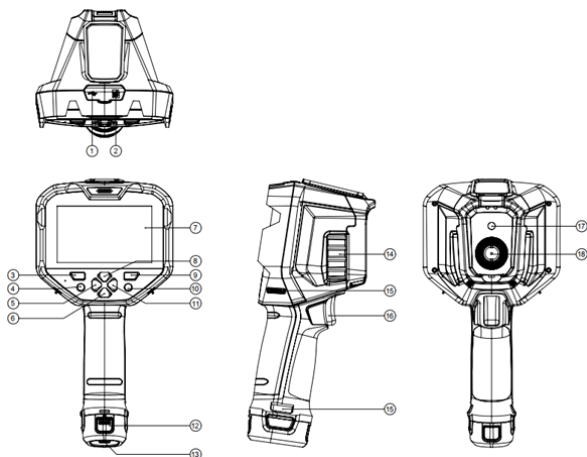
目 录

1. 性能指标	6
2. 构造	7
3. 显示说明	8
4. 开关机	8
5. 配置菜单说明	9
6. 标记工具	10
7. 测量工具	10
7. 图像模式	12
8. 色板工具	12
9. 色条工具	13
11. 设置	13
11.1 语言	14
11.2 报警	14
11.3 单位	15
11.4 时间/日期	16
11.5 屏幕亮度	16
11.6 自动关机	16
11.7 二维码	17
11.8 USB模式	17
11.9 Wi-Fi	17
11.10 系统	18
12. 照片浏览	18
13. 按键	19
14. SD卡	20
15. 保养	20
16. 安全须知	20
17. 常用发射率	21

1. 性能指标

传感器	非制冷氧化钒	测温显示	中心点温度、高/低温追踪
模式	自动增益	测温单位	摄氏度（默认）、华氏度
测温范围	-30°C~650°C (-22°F~1202°F)	高低温报警	有（LCD动画报警）
精度	目标温度-20°C~650°C， 环境温度25°C， 精度±2°C/±2%取大值	图像模式	可见光、热成像、 融合、画中画
发射率	0.95（默认）0.01~1.00	图像抓取模式	拍照
像素大小	17μm	图像保存格式	BMP
热成像像素	384*288（110592）	图像浏览	可温度分析、变更色板、备注
可见光像素	500万（自动对焦）	USB通讯	Type-C USB （实时图像及U盘存储）
色板	铁红、彩虹、黑热、白热、 红热、熔岩、高对比度彩虹	WiFi	有
红外光谱带宽	8~14μm	PC投屏	有
视场角	28°*21°	PC分析软件	有（实时图像、照片下载及分析）
IFOV	1.3mrad	手机APP	有（照片下载及分析）
镜头焦距	13mm	语言	中文/English
调焦模式	手动对焦	认证	CE FCC
灵敏度	<60mK@25°C	工作温度	0°C~50°C (32°F~122°F)
帧频率	25Hz	存储温度	-10°C~60°C (14°F~140°F)
数码放大	1x, 2x, 4x	工作湿度	10%~95%RH（非冷凝）
温度分析	5点, 5区域, 1线 （画面最多6个）	使用时间	约5小时
等温线	手动/自动	充电时间	<5h
		充电电压/电流	5V/2A
		IP等级	IP54
		跌落测试	2m

2. 结构

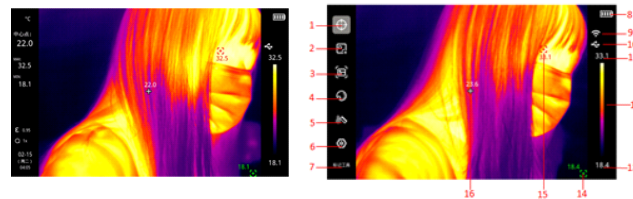


项目	说明	项目	说明
1	USB Type-C接口	10	返回键
2	SD卡槽	11	右键
3	开机键	12	电池组件
4	OK键	13	支架固定螺孔
5	左键	14	红外镜头聚焦环
6	下键	15	挂绳孔
7	液晶显示屏	16	拍照扳机键
8	上键	17	可见光摄像窗口
9	照片浏览键	18	红外热像窗口

3. 显示说明

显示屏尺寸：800×480

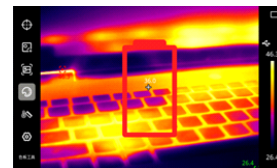
显示器分辨率：480(垂直)×800(水平)



项目	说明	项目	说明
1	标记工具	9	WiFi标识
2	测量工具	10	USB标识
3	图像模式	11	色板范围上限
4	色板工具	12	色温条
5	色条工具	13	色板范围下限
6	设置	14	自动追踪最小点
7	菜单栏文字标识	15	自动追踪最大点
8	电量	16	温度测量中心点

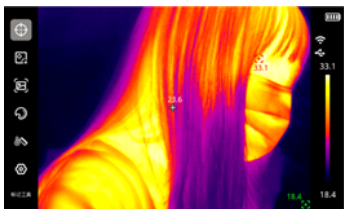
4. 开关机

长按“开机键”3秒，热像仪开机（刚开机、长时间未使用或测量环境改变后需要开机30分钟后才能进行温度测量）；长按“开机键”5秒，热像仪关机。当热像仪处于低电量模式时，弹出电量过低的提示，此时需要关闭热像仪，补充电量；当热像仪一直处于低电量模式，热像仪自动关机。



5. 配置菜单说明

主菜单配置选项



热像仪主页面

1. 在主页面按“OK键”弹出主菜单
2. 按“上/下键”选择子菜单
3. 按“OK键”确定进入相应子菜单
4. 按“上/下键”选择子菜单设置项
5. 按“OK键”保存设置
6. 按“返回键”返回上级页面

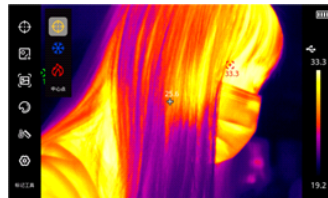


主菜单

子菜单

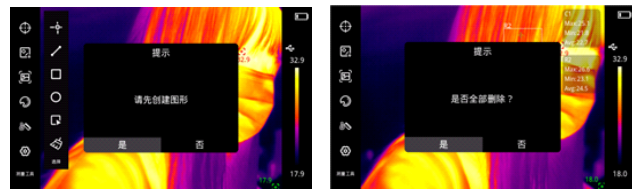
6. 标记工具

若需要使用中心点/高低温追踪的功能，按“OK键”弹出主菜单选项，通过“上/下键”选中“标记工具”，再按“OK键”进入标记工具子菜单选项，通过“上/下键”进行选择。（例如：按“OK键”选中“中心点”，当出现十字准心时表示打开了中心点光标，再次按“OK键”，十字准心消失，表示关闭了中心点光标的功能）。



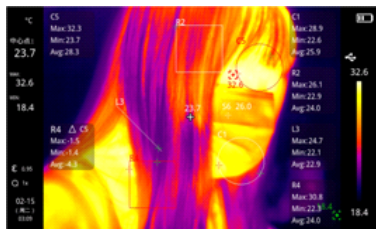
7. 测量工具

按“OK键”弹出主菜单选项，通过“上/下键”选中“测温工具”，通过“上/下键”选择需要添加的分析对象类型（按“OK键”添加，包括点测温、线测温、矩形、圆形）以及选择（只有主页面中添加了分析对象时才能使用该功能，否则弹出提示“请先创建图形”）、清空（当主页面存在测温分析对象时，弹出提示“是否全部删除？”）的功能。

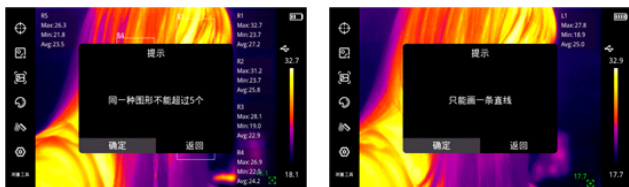


按“OK键”添加了点、线、矩形、圆形测温分析对象之后，会自动弹出“选择”的子菜单栏，通过“上/下键”选择需要的功能，包括移动、拉伸（点测温分析对象不能进行拉伸）、比较（点测温分析对象不可比较，其他测温分析工具进行比较后将会在左侧显示被比较的两个分析工具内的温度最大值/最小值/平均值的差值）、删除（只能删除当前所选中的测温分析对象）的功能。添加测温分析对象之后，会在右侧显示相应的温度信息（点测温工具除外）。

使用比较功能时，在保证主页面有测温分析工具的情况下，在测温工具中选中“选择”，在里面找到“比较”，按下“OK键”，通过“上/下/左/右键”选择需要比较的测温工具之一（当测温分析工具变为红色时，为当前被选中工具），确认后，再按下“OK键”切换到选择另一个比较对象，重复确认第一个比较对象时的操作，确认后，相关比较信息会在左侧显示温度分析框。

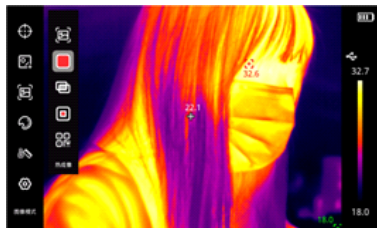


注意：点、矩形、圆形测温分析对象单个最多添加5个（当超过五个时，弹出提示“同一种图形不能超过5个”），线测温分析对象只能添加1个（当超过一个时，弹出提示“只能画一条直线”），添加的总测温分析对象数量不能超过6个，当超过该数目时则不再添加分析对象，并弹出提示“测温图形不能超过6个”。



8. 图像模式

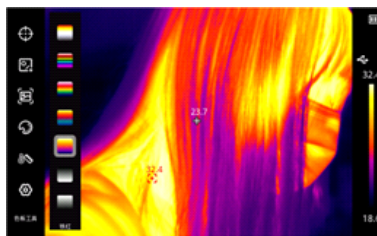
按“OK键”弹出主菜单选项，通过“上/下键”选中“图像模式”，再按“OK键”进入图像模式子菜单选项，通过“上/下键”进行选择。（例如：按“OK键”选中“融合图”，图像切换为融合模式）。其中：融合模式下可通过“左/右键”进行融合比例的调节，通过“上/下键”进行融合距离的调节；画中画模式下可通过“左/右键”选择移动或拉伸，来改变画中画的位置和大小；按“OK键”选中“二维码”，可以手动输入二维码或扫码获取二维码，选择“取消”则返回主页面（注意：二维码不可超过100个字符）。



当选择手动输入二维码后，页面跳转到“选取二维码文件”页面，有两个或多个选项可选：已被使用过的样机内存在二维码的文件夹（包括QR1、QR2、QR3、QR4、QR5）、其他二维码（里面包含自己新建并使用过的二维码）、输入新的二维码。当选择“输入新的二维码”后，弹出键盘界面，自定义二维码名称后，弹出“匹配位置”页面，该页面包含样机内已有文件夹：QR1、QR2、QR3、QR4、QR5及其他（临时二维码存放地），选择需匹配的位置即可。

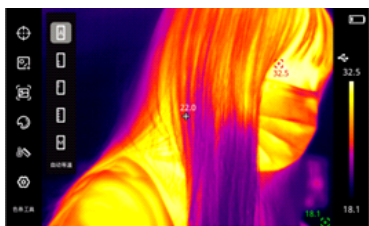
9. 色板工具

按“OK键”弹出主菜单选项，通过“上/下键”选中“色板工具”，再按“OK键”进入色板子菜单选项，通过“上/下键”选择所需要的色板，有红热、高彩虹、彩虹、熔岩、铁红、黑热、白热七种色板可选。



10. 色条工具

按“OK键”弹出主菜单选项，通过“上/下键”选中“色条工具”，再按“OK键”进入色条工具子菜单选项，通过“上/下键”选择所需要的色条工具，有自动等温、向下等温、向上等温、区间等温、手动等温五种模式可选。



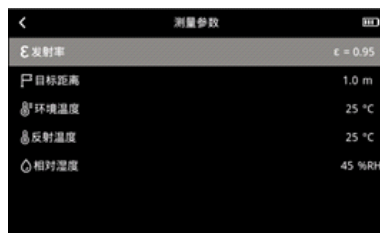
11. 设置

按“OK键”进入子菜单，通过“上/下键”选中“设置”，按“OK键”进入设置子菜单选项，通过“上/下键”选择所需要进入的设置项：参数设置、系统设置。

按“OK键”进入参数设置二级页面，可以对发射率、目标距离、环境温度、反射温度、相对湿度的参数设置。通过“上/下键”选择所需要设置的参数，按“OK键”进入参数修改界面，通过上下键进行参数值的选择。

1. 请参考21页发射率表；
2. 如果不确定选用哪些值，建议使用以下默认值：
 - 发射率 0.95
 - 目标距离 1.0m
 - 环境温度 25℃
 - 反射温度 25℃
 - 相对湿度 45%RH

注意：发射率和反射温度中是需要正确设定的两个最重要参数，如果不确定，请采用默认值。

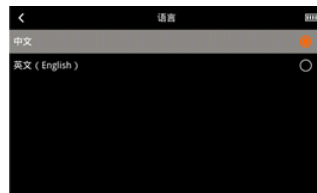


按“OK键”进入系统设置二级页面，通过“上/下键”选择需设置的选项，包括：语言、报警、单位、时间/日期、屏幕亮度、自动关机、二维码、USB模式、Wi-Fi、系统的设置。



11.1 语言

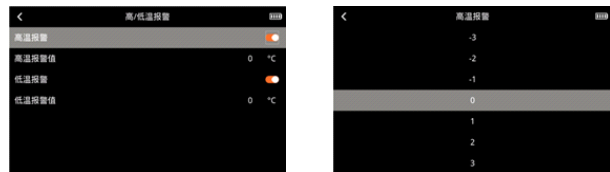
进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择中文/英文，按“OK键”确认。



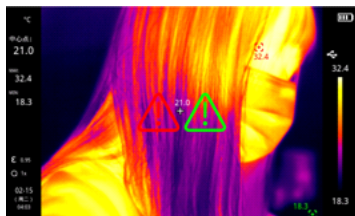
11.2 报警

进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择高温报警/低温报警，按“OK键”确认。

当打开高温报警/低温报警时，通过“上/下键”选中高/低温的报警值，按“OK键”进入各报警数值的设置，通过“上/下键”设置所需要的数值（-30℃-650℃可选）。



当被测物体温度超过高温报警温度值时，弹出红色正三角的提示；当被测物体温度低于低温报警温度值时，弹出绿色正三角的提示。

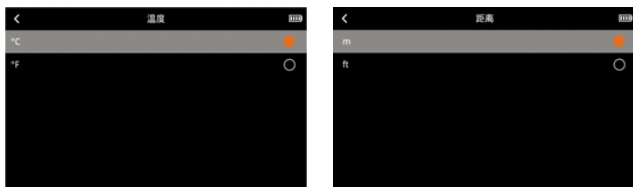


11.3 单位

进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择温度/距离，按“OK键”确认。



进入温度设置页面后，通过“上/下键”选择温度单位：°C/°F，按“OK键”确认。进入距离页面后，通过“上/下键”选择距离单位：m/ft，按“OK键”确认。



11.4 时间/日期

进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择时间格式/日期/时间，按“OK键”确认。

选择时间格式，可以打开/关闭24小时制。选择日期、时间，可通过“左/右键”选择年/月/日、时/分，通过“上下键”选择具体数值进行更改。



11.5 屏幕亮度

进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择高/中/低，按“OK键”确认。



11.6 自动关机

进入系统设置二级页面后，通过“OK键”进入该选项，打开“自动关机”后，通过“上/下键”选择30min/15min/5min，按“OK键”确认。



11.7 二维码

进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择需更改的文件夹，按“OK键”进入，通过“上/下键”选择更改名称（文件夹的名称，如：Folder1）或重设二维码（如：QR Code1）。



11.8 USB模式

进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择U盘/视频直播，按“OK键”选择。



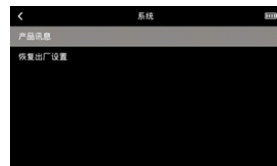
11.9 Wi-Fi

进入系统设置二级页面后，通过“OK键”进入该选项，打开“热点”后，通过“上/下键”选择ID和PW所在行，按“OK键”选择进入账号密码修改页面，通过“上/下键”选择账号/密码，进行修改，修改后点击保存即可（注意：密码不可小于八位数）。



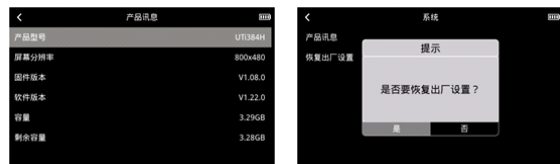
11.10 系统

进入系统设置二级页面后，通过“OK键”进入该选项，通过“上/下键”选择产品信息/恢复出厂设置，按“OK键”选择。



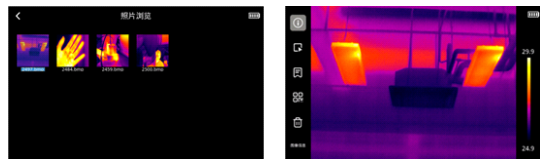
进入产品信息页面后，可以查看产品型号、屏幕分辨率、固件版本、软件版本、（SD卡的）容量、（SD卡的）剩余容量等相关产品信息。

选择恢复出厂设置后，弹出“是否恢复出厂设置？”的提示，选择是，提示“正在恢复出厂设置，请稍后。”此时等待产品自动关机重启即可。

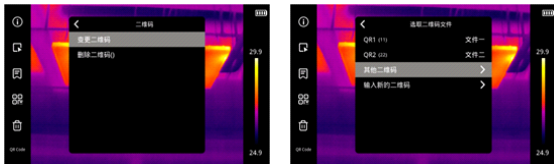


12. 照片浏览

按“照片浏览键”，进入多媒体浏览，选择照片浏览，按“上/下键”选择全部照片/QR Code1/ QR Code2/ QR Code3/ QR Code4/ QR Code5，按“OK键”进入。按“上/左/右键”选择要查看的图片，“OK键”查看图片，通过“左/右键”可以切换图片。按“OK键”出现图片界面子菜单，按“上/下键”选择图像信息（可查看照片名称、拍摄时间、修改时间、红外分辨率、发射率、最高温度、最低温度、中心温度、备注等信息）、编辑图像（可以在原有的图片上进行标记工具、测量工具、图像模式、色板工具、色条工具等功能的二次编辑，功能与主页面功能基本保持一致）、图像备注（添加备注后，可以在照片讯息中进行查看和修改）、QR Code（可变更二维码或删除二维码）、删除图像等功能。

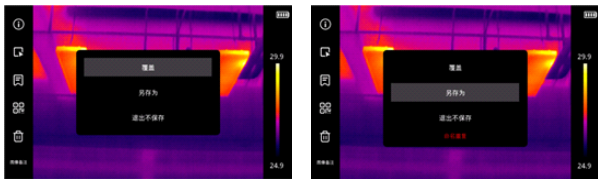


进入QR Code, 选择变更二维码, 弹出扫描二维码页面, 此时可以通过扫描获取二维码信息, 扫描出二维码后会弹出“匹配位置”页面, 为你扫描到的二维码选择你需要存放的位置(注意: 被扫描的二维码尽量不要超过100字符); 也可选择手动, 进入“选取二维码文件”页面, 选择其他二维码(里面包含自己新建并使用过的二维码)或输入新的二维码(与图像模式中输入新的二维码操作相同)。



添加二维码是为了为图片进行分类, 方便更快速的找到所需图片, 如果你所添加的二维码存放在样机内已有的文件夹(包括: QR1、QR2、QR3、QR4、QR5), 那么添加后可在相应的文件夹内查看添加了该二维码的图片; 如果图片使用的二维码为存放在“其他”文件夹内的二维码, 则只是一个临时分类, 不能在已有文件夹内找到含有此类二维码的图片。

在编辑图像、添加备注或二维码后, 返回照片浏览页面时会弹出提示“覆盖/另存为/退出不保存”, 选择覆盖, 更改原图并保存后, 返回浏览页面; 若选择新建, 则不更改原图, 新增加一张更改后的图片并返回浏览页面(注意, 此处图片命名不能与相册中已有的图片命名重复, 如果重复提示“命名重复”, 需重新另存并命名); 若选择退出不保存, 则不会对图片进行的修改操作(包括编辑、备注及二维码)。



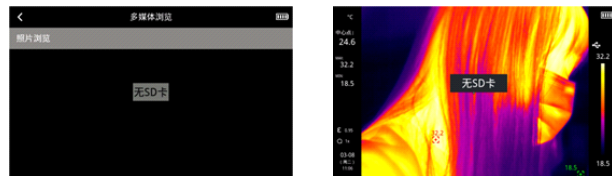
13. 按键

在主页面, 按“上/下键”, 屏幕画面进行放大, 对应的放大倍数显示于左侧状态栏, 放大倍数的切换按照1x、2x、4x、1x循环切换。

在主页面(画中画模式状态下除外), 按“左右键”, 可以进行融合程度的调节, 融合调节比例为0%、25%、50%、75%、100%。

14. SD卡

本设备支持Micro SD卡存储图像, 为了避免图像数据过大影响运行速度, 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。若在浏览图片或对图片进行操作时拔出SD卡, 或无SD卡时进行拍照操作, 则会弹出提示“无SD卡”。



15. 保养

用湿布或弱肥皂液清洗结构外壳, 不要使用研磨机、异丙醇或溶剂清洁仪器外壳镜头/窗口。

16. 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、摔坏或修正后的情况下继续使用, 以免造成错误的测试结果。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。

严禁将镜头瞄准强热光源, 如太阳等高温目标, 以免造成镜头或热成像探测器损坏。请勿在极热、极冷、多尘或者高温度的环境下使用产品, 具体温、湿度要求参见产品的参数表。系统支持USB线对机器充电, 但为了提升充电效率, 建议拔出电池包, 单独对电池包充电。

17.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		

优利德®

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PREFACE

Thank you for purchasing the new UTi384H 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.

TABLE OF CONTENTS

1. Specifications	26
2. Product Structure	27
3. LCD Indicators/Icons	28
4. Power on/off	28
5. Menus	29
6. Markup	30
7. Measure	30
8. Image	32
9. Palette	32
10. Isotherm	33
11. Settings	33
11.1 Language	34
11.2 Alarm	34
11.3 Unit	35
11.4 Date/Time	36
11.5 Brightness	36
11.6 Auto Power Off	36
11.7 QR Code	37
11.8 USB Mode	37
11.9 Wi-Fi	37
11.10 System	38
12. Image Viewing	38
13. Buttons	40
14. SD Card	40
15. Maintenance	40
16. Safety Instructions	40
17. FCC Compliance statement	41
18. Common Emissivity	41

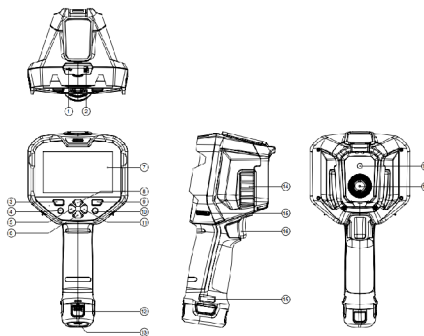
1. Technical Specifications

Sensor	Uncooled vanadium oxide
Mode	Auto gain
Range	-30°C~650°C (-22°F~1202°F)
Accuracy	Target temperature -20°C~650°C, ambient temperature 25°C: ±2°C/±2% (whichever is greater)
Emissivity	0.95 (default) 0.01~1.00
Pixel size	17µm
Thermal imaging pixels	384*288 (110592)
Visible light pixels	5 million
Palettes	Red Hot, Rainbow HC, Rainbow, Lava, Iron, Black Hot, White Hot
Infrared spectrum bandwidth	8~14µm
Field of view	28°*21°
I FOV	1.3mrad
Lens focal length	13mm
Focus mode	Manual
Sensitivity	< 60mK@25°C
Frame rate	25Hz
Digital zoom	1x, 2x, 4x
Temperature analysis	5 points, 5 areas, 1 line (up to 6 analysis objects can be added at the same time)
Isotherm	Manual/auto
Temperature display	Center point temperature, high/low temperature tracking
Unit	°C (default)/°F
High/low temperature alarm	√ (LCD alarm)
Image modes	Thermal, visible, fusion, PIP
Image capture mode	Photograph
Image save format	BMP

Image viewing	Temperature analysis, change the palette, Remark
USB communication	Type-C USB (real-time image and U disk storage)
WIFI	√
PC screen projection	√
PC analysis software	√ (real-time image, photo download and analysis)
Mobile APP	√ (photo download and analysis)
Language	Chinese/English
Certificates	CE FCC
Operating temperature	0°C~50°C (32°F~122°F)
Storage temperature	-10°C~60°C (14°F~140°F)
Operating humidity	10%~95%RH (non-condensing)
Battery life	about 5hrs
Charging time	< 5h
Charging voltage/current	5V/2A
IP rating	IP54
Drop proof	2m

2. Product Structure

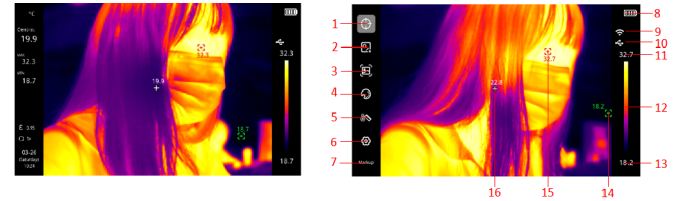
1. USB Type-C interface
2. SD card slot
3. Power
4. OK
5. Left
6. Down
7. LCD
8. Up
9. View images
10. Return
11. Right
12. Battery pack
13. Bracket screw hole
14. IR lens focus ring
15. Hand strap hole
16. Trigger
17. Visual light camera lens
18. Infrared camera lens



3. LCD Indicators/Icons

Display size: 800×480

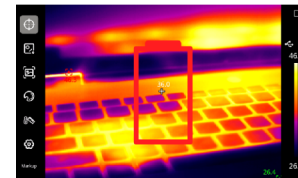
Display resolution: 480 (vertical) × 800 (horizontal)



Item	Description	Item	Description
1	Markup	9	WiFi
2	Measure	10	USB
3	Image	11	Upper range of palette
4	Palette	12	Range bar
5	Isotherm	13	Lower range of palette
6	Settings	14	Lowest temperature spot
7	Menu bar text	15	Highest temperature spot
8	Battery status	16	Center point temperature

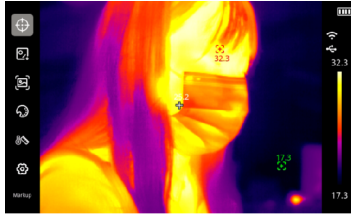
4. Power on/off

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 environment changes). Long press the Power button for 5s to turn off the product. When the battery is low, a low battery indicator will show on the LCD, 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, the device will automatically shut down.



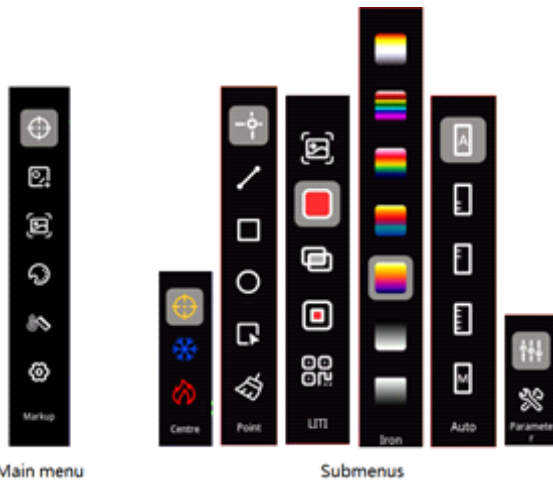
5. Menus

Main menu options



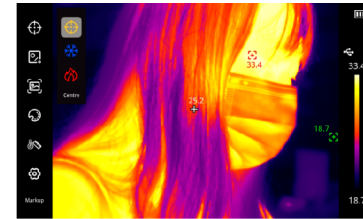
In the main interface:

1. Press the OK button to open the main menu.
2. Press the Up/Down button to step through submenus.
3. Press the OK button to open the selected submenu.
4. Press the Up/Down button to step through setting items in the submenu.
5. Press the OK button to confirm the selected setting item.
6. Press the Return button to return to the previous interface.



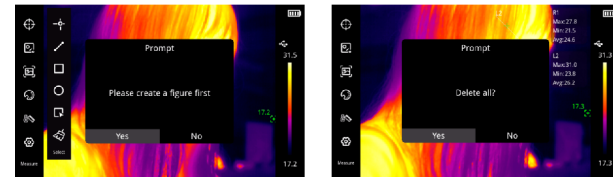
6. Markup

In the main interface, press the OK button to open the main menu. Press the Up/Down button to select "Markup". Press the OK button again to open the submenu of "Markup". In the submenu, press the Up/Down button to select a submenu option. (For example: press the OK button to perform the selected function "Center", and a center point marker will show on the screen. Press the button again to exit.)



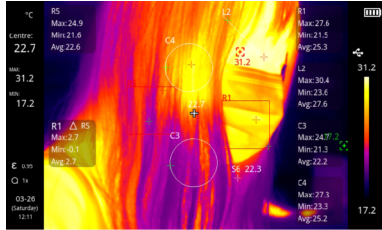
7. Measure

In the main interface, press the OK button to open the main menu. Press the Up/Down button to select "Measure". Press the OK button again to open the submenu of "Measure". In the submenu, press the Up/Down button to select an analysis object (point, line, rectangle, circle). Press the OK button to add the selected object. The submenu also includes two other functions: choose (this function can only be used if an analysis object is added, otherwise a dialogue box "Please create a figure first" will pop up) and clear (when there are analysis objects, a dialogue box "Delete all?" will pop up).

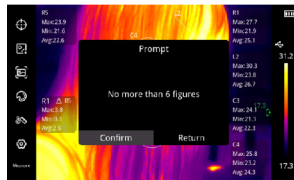
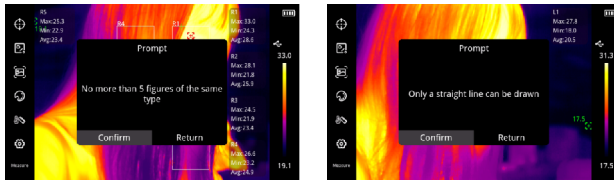


After adding an analysis object, a submenu will appear. The optional functions in the submenu are choose, move, stretch (this function cannot be applied to point objects), diff (point objects are not comparable; the comparison information will be displayed on the left side), delete (delete the selected object). The temperature information of the added object will be displayed on the right (except point objects).

When performing the comparison function, press the Up/Down/Left/Right button to select an analysis object (the selected object will turn red), and press the OK button to confirm. Repeat the above steps to select another analysis object. The comparison information of the two will be displayed on the left side of the screen.

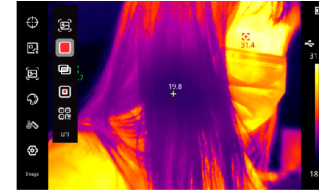


Note: The maximum number of point/rectangle/circle objects that can be added is 5 (when exceeding 5, a dialogue box "No more than 5 figures of the same type" will pop up). The maximum number of line object is 1 (when exceeding 1, a dialogue box "Only a straight line can be drawn" will pop up). The total number of added objects should not exceed 6, otherwise a dialogue box "No more than 6 figures" will pop up).



8. Image

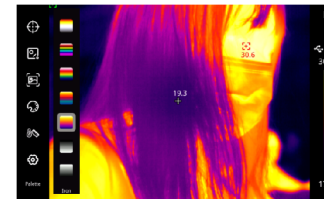
In the main interface, press the OK button to open the main menu. Press the Up/Down button to select "Image". Press the OK button again to open the submenu of "Image". In the submenu, press the Up/Down button to select a submenu option. (For example: press the OK button to perform the selected function "Fusion" and the image will switch to the fusion mode.) In the fusion mode, press the Left/Right button to adjust the fusion proportion, and Up/Down button to adjust the fusion distance. In the PIP mode, press the Left/Right button to move the position or stretch the size of PIP. For the QR function, users can manually input the QR code or scan the QR code. Select Cancel to return to the main interface. (Note: The QR code should not be more than 100 characters).



When users choose to manually input the QR code, it will jump to the "Select QR code file" interface. There are two or more options: the existing folders in the device (including QR1, QR2, QR3, QR4, QR5), other QR codes (including QR codes created and used by users) or input new QR code. After selecting "Input new QR code", the keyboard will pop up. After customizing the QR code name, the "Matching position" interface will pop up. Select the position to be matched in this interface: QR1, QR2, QR3, QR4, QR5 and other (temporary QR code storage position).

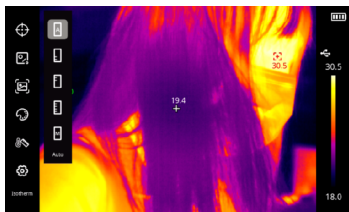
9. Palette

In the main interface, press the OK button to open the main menu. Press the Up/Down button to select "Palette". Press the OK button again to open the submenu of "Palette". Press the Up/Down button to step through seven optional palettes: Red Hot, Rainbow HC, Rainbow, Lava, Iron, Black Hot, White Hot.



10. Isotherm

In the main interface, press the OK button to open the main menu. Press the Up/Down button to select "Isotherm". Press the OK button again to open the submenu of "Isotherm". The options in the submenu are: Auto, Below, Above, Section, Manual.



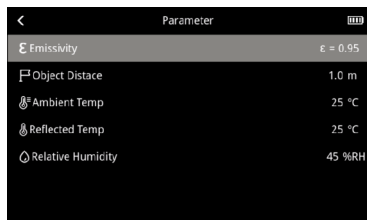
11. Settings

In the main interface, press the OK button to open the main menu. Press the Up/Down button to select "Settings". Press the OK button again to open the submenu of "Settings". Press the Up/Down button to select Parameter setting/ System setting, and press the OK button to enter the selected setting interface.

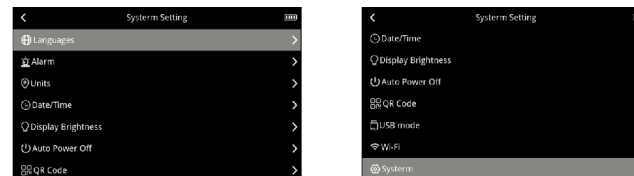
In the parameter setting interface, press the Up/Down button to select Emissivity/ Object distance/Ambient temp/Reflected temp/Relative humidity, and press the OK button to enter the corresponding setting interface. Press the Up/Down button to adjust the parameter values.

1. Please refer to the emissivity table;
2. If users are not sure which values to choose, the following default values are recommended:
 Emissivity 0.95
 Object distance 1.0m
 Ambient temp 25°C
 Reflected temp 25°C
 Relative humidity 45%RH

Note: Emissivity and reflected temperature are the two most important parameters, so if unsure, use the default values.



In the system setting interface, press the Up/Down button to select Language/ Alarm/Units Date/Time/Display Brightness/Auto power off/QR code/USB mode/Wi-Fi/ System.



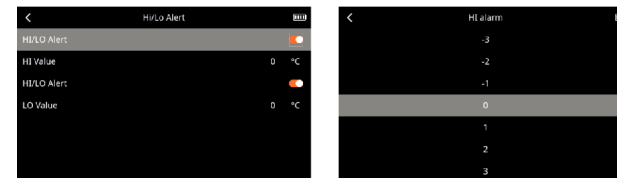
11.1 Language

In the system setting interface, press the OK button to enter the language setting interface. Press the Up/Down button to select English/Chinese, and press the OK button to confirm.

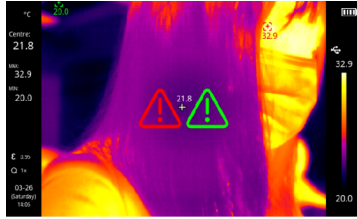


11.2 Alarm

In the system setting interface, press the OK button to enter the alarm setting interface. Press the Up/Down button to select HI/LO Alert, and press the OK button to confirm. When setting the HI/LO Alert, press the Up/Down button to select HI/LO value, press the OK button to modify, and press the Up/Down button to set the value (-30°C-650°C).

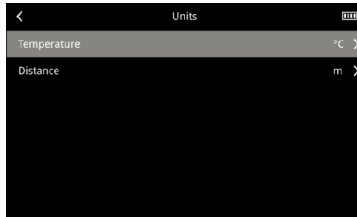


When the measured temperature exceeds the HI value, a red triangle will pop up. When the measured temperature is lower than the LO value, a green triangle will pop up.

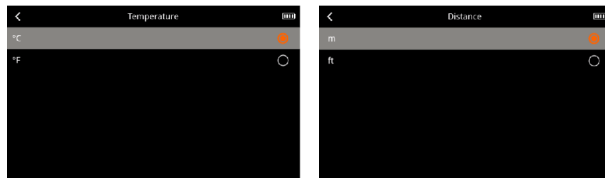


11.3 Units

In the system setting interface, press the OK button to enter the unit setting interface. Press the Up/Down button to select Temperature/Distance, and press the OK button to confirm.



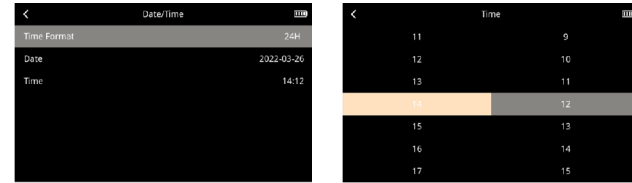
In the temperature setting interface, press the Up/Down button to select °C/°F, and press the OK button to confirm. In the distance setting interface, press the Up/Down button to select m/ft, and press the OK button to confirm.



11.4 Date/Time

In the system setting interface, press the OK button to enter the date/time setting interface. Press the Up/Down button to select Time format/Date/Time, and press the OK button to confirm.

In the time format interface, users can turn on/off the 24-hour clock. In the date/time interface, press the Left/Right button to select Year/Month/Day and Hour/Minute, and press the Up/Down button to set the value.



11.5 Brightness

In the system setting interface, press the OK button to enter the brightness setting interface. Press the Up/Down button to select High/Middle/Low, and press the OK button to confirm.



11.6 Auto Power Off

In the system setting interface, press the OK button to enter the auto power off setting interface. Press the Up/Down button to select 30min/15min/5min, and press the OK button to confirm.



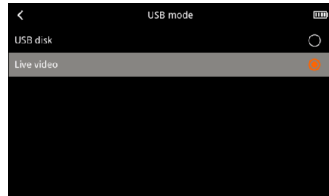
11.7 QR Code

In the system setting interface, press the OK button to enter the QR code setting interface. Press the Up/Down button to select a folder, and press the OK button to open it. Press the Up/Down button to change the name (folder name, for example Folder1) or reset the code (for example QR Code1).



11.8 USB Mode

In the system setting interface, press the OK button to enter the USB mode setting interface. Press the Up/Down button to select USB disk/Live video, and press the OK button to confirm.



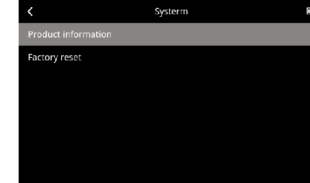
11.9 Wi-Fi

In the system setting interface, press the OK button to enter the Wi-Fi setting interface. Press the Up/Down button to select ID and PW after opening the hotspot, and press the OK button to enter the password modification interface. Press the Up/Down button to modify (Note: Password cannot be less than 8 digits).



11.10 System

In the system setting interface, press the OK button to enter the system setting interface. Press the Up/Down button to select Product information/Factory reset, and press the OK button to confirm.



In the product information interface, users can view the Model/Screen resolution/Model version/version/SD(SD capacity)/Free(Remaining capacity). After selecting Factory reset, a dialogue box "Factory reset?" will pop up. Select Yes, and a prompt "Restoring factory setting..." will appear. Wait for the product to automatically shut down and restart.



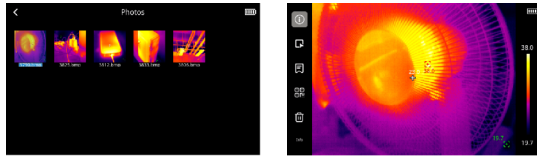
12. Image Viewing

In the main interface, press the image viewing button to enter the multimedia browsing interface. Press the Up/Down button to select all photos/QR Code1/QR Code2/QR Code3/QR Code4/QR Code5, and press the OK button to open the selected folder. Press the Up/Down/Left/Right button to select the image to be viewed, and press the OK button to view this image. Press the Left/Right button to switch between images. When viewing an image, press the OK button to open the submenu of this image. The functions in this submenu are: Message: photo name, Capture Date, modified date, Thermal Resolution, emissivity, highest temperature, lowest temperature, center point temperature, remarks.

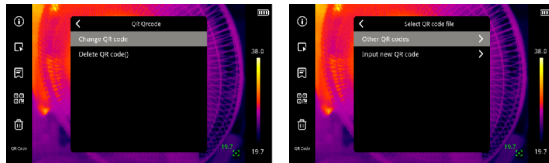
Edit: Markup, Measure, Image, Palette, Isotherm

Remark: The added notes will show in the photo message.

QR code: Users can change or delete the QR code of the current image Delete.

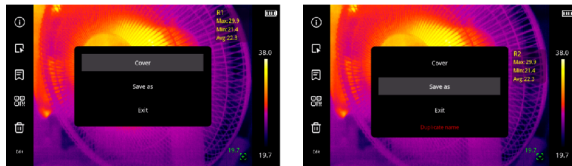


Enter the QR Code interface, select "Change QR code", and the scanning page will pop up. Users can obtain the QR code information by scanning. After scanning the QR code, the "Matching position" page will pop up for users to select a location to store the scanned QR code (Note: The QR code should not be more than 100 characters); Or they can enter the "Select QR code file" interface to select other QR codes (including QR codes created and used by users) or input new QR code.



The purpose of adding QR codes is to classify images. If the added QR codes are stored in the existing folders in the device (including QR1, QR2, QR3, QR4, QR5), the photo with the QR code added can be viewed in the corresponding folder. If the added QR codes are stored in other folders, the photo with the QR code added cannot be found in an existing folder.

After editing images, adding notes or QR codes, a dialogue box "Cover/Save as/Exit" will pop up when returning to the image viewing interface. Select Cover to change the original image and save it and return to the viewing interface; select Save as to add a modified new image and return to the viewing interface (The image name cannot be the same as the name of the existing image in the album, otherwise a dialogue box "Duplicate name" will pop up.); select Exit to not save the modified image.



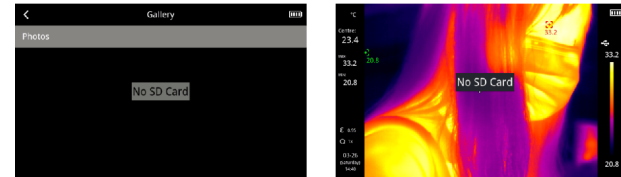
13. Buttons

In the main interface, press the Up/Down button to zoom in. The magnification is displayed on the left, and it will step through 1X, 2X, 4X, and 1X.

In the main interface, press the Left/Right button to adjust the degree of fusion. The optional degrees are 0%, 25%, 50%, 75%, and 100%.

14. SD Card

This device can use Micro SD 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. Turn off the device when inserting or removing the SD card. If the SD card is removed in the image viewing interface or the users press the trigger to capture images when the SD card is not inserted, a box "No SD Card" will pop up.



15. 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.

16. Safety Instructions

In order to ensure the accuracy, please read the instructions carefully. Please use this product in accordance with the manual; otherwise the free warranty will not be carried out if the product is damaged. Please do not use this device in flammable, explosive, steamy, humid or corrosive environments. Please do not continue to use the device when it is damaged, broken or corrected, so as to avoid incorrect test results. Please refer to the emissivity information to confirm the actual temperature; otherwise the measured temperature will be inaccurate.

Do not aim the lens at a strong heat source, such as the sun and other high-temperature targets, so as to avoid damage to the lens or the detector. Do not use the product in extremely hot, cold, dusty or high-humidity environments. For specific temperature and humidity requirements, see the parameter table.

The product can be charged with a USB cable. However, in order to improve the charging efficiency, it is recommended to pull out the battery pack and charge the battery pack separately.

17. FCC Compliance statement

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.

18. 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		

Contents of this manual are subject to change without prior notice.

UNI-T®

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彩盒 菲林做货要求

序号	项目	内容	备注
1	尺寸	110*150mm	
2	材质	封面128双铜+内页60g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: UTi384H	Part NO. 物料编号: 110401111073X
CHK 审核		 优利德科技(中国)股份有限公司 UNI-TREND TECHNOLOGY (CHINA) CO., LTD.	
APPRO. 批准			