VICTOR 321/321 Pro
手持式红外热成像仪

使 用 手 册

www.china-victor.com

深圳市驿生胜利科技有限公司
SHENZHEN YISHENG VICTOR TECH CO.,LTD

VICTOR 321/321 Pro
手持式红外热成像仪使用说明书

(P03~P11)

VICTOR 321/321 Pro

Handheld Thermal Imager User Manual

(P12~P21)

目　录

CONTENTS

1. 安全须知

为保护您和他人免受伤害或保护您的设备免于损坏,请阅读以下全部信息后再使用您的设备。

1)注意事项

①不要将设备直接对准很高强度的热辐射源,例如太阳、激光器、点焊机等,这可能会导致设备的损坏。

②不要在超出设备许可的工作温度或储存温度环境中使用或存放仪器,这可能会造成设备的损坏。

③不要敲打,扔掷或震动仪器和配件,以免造成损坏。

④请勿用湿手触摸设备和USB接口,这可能会导致设备的损坏。

⑤不要将有溶解性或类似的液体用于设备及线缆,这可能会导致设备的损坏。

⑥擦拭本设备时请遵照以下措施:

a.非光学表面:在必要时可以使用干净柔软的布擦拭热像仪的非光学表面;

b.光学表面:使用热像仪时请避免弄脏镜头的光学表面,特别要避免用手触碰镜头,因手上的汗迹会在镜头玻璃上留下痕迹且可能会腐蚀玻璃表面的光学镀膜层。当光学镜头表面受到污染时,使用专业镜头纸小心地擦拭。

⑦在使用设备时请尽量保持稳定,避免剧烈晃动。

⑧本产品工作时会间隙性发出轻微的"咔咔"声,这是镜头"快门刷新"声音,是设备工作的正常现象。

2)警告

①如果使用过程中,发现产品有冒烟、冒火花、焦糊的异味,请立即停止使用;在确保人身安全的情况下,关闭设备电源。

②请勿用湿手给设备进行充电;湿手充电会引起触电风险。

③在不充电时,请拔掉电源插座上的适配器;适配器在长时间通电后,将有可能过热、变形、甚至火灾的发生。

④适配器或USB线损坏时,请立即停止使用;损坏的适配器或USB线有可能会因为过热、短路引起火灾的发生。

⑤长期不使用的设备,请放置在一个阴凉干燥的环境中存放,并定期给设备充电,否则电量将会耗尽,会缩短电池的使用寿命。

3)请勿拆卸设备,这有可能造成设备损坏,并丧失保修权利;如有故障请与本公司联系,由专业人员进行维修。

2. 产品指标

基础参数	321	321 Pro
探测器类型	氧化钒(VOx)微测辐射热计	
红外分辨率	96*96	
红外响应波段	8~14μm	
像元尺寸	12μm	
热成像镜头焦距	1.35mm	
空间分辨率/IFOV	8.89mrad	
帧频	25Hz	
热灵敏度/NETD	≤60 mK(@25 ℃,F#1.0)	
调焦方式	免调焦	
视场角	50°×50°	
测量范围	-20℃~550℃	
测温精度	±2℃或读数的±2%取大值	
测温分辨率	0.1℃	
测温模式	工业测温	
测温单位	℃/℉/K	
测温显示	中心点、最高点、最低点测温	
图像模式	不支持	红外模式、可见光模式、融合模式、画中画模式
可见光	不支持	200万
LED照明灯	不支持	支持
图像/视频格式	JPEG/MP4	

基础参数	321	321 Pro
温度分析	PC分析工具	
TISR	支持,分辨率:240*240	
拍照/视频录像	支持	
WLAN	不支持	可选配
语言	支持10种语言	
存储	外置SD卡	
数据接口	Type-C	
电池	不可拆卸2000mAh	不可拆卸 3200mAh
充电时间	≤4h	
整机功率	≤0.9W	≤1.4W
工作时长	≥9h	
工作温度	-10~50℃	
工作湿度	10%~90%RH 非冷凝	
存储温度	-20~60℃	
IP等级	IP54	
跌落	1.5m	
认证	CE、FCC、ROHS	
其他参数		
机身重量(g)	310g	
机身尺寸	225mm*70mm*86.44mm	
执行标准	GB/T19870-2018	

3. 产品构造

序号	321	321 Pro
1	USB盖	
2	显示屏	
3	按键区	
4	手持区	
5	三脚架固定螺丝孔	
6	挂绳孔	
7	扳机键	
8	Type-C USB口	
9	SD卡_插口	
10	保护盖	
11	/	补光灯
12	红外成像传感器	
13	/	可见光摄像头
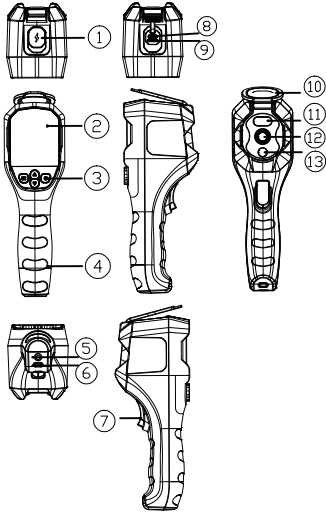
4. 显示说明

序号	说明	序号	说明
1	中心/最高/最低温度值	6	电量
2	观测画面追踪最低温点	7	伪彩色条
3	观测画面中心点	8	测温距离
4	观测画面追踪最高温点	9	发射率
5	日期时间	/	/
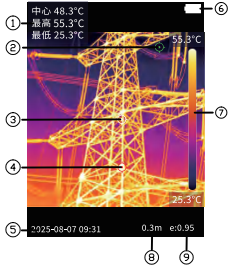
5. 按键说明

按键	设备当前状态	短按	长按
电源键	关机	/	开机
	主界面	息屏/唤醒	关机
	菜单界面	返回	关机
OK键	主界面	进入菜单	开启/关闭补光灯
	菜单界面	确认	删除照片/视频文件
上键	主界面	切换伪彩	快门校正
	菜单界面	向上	连续向上
下键	主界面	切换图像模式	切换融合比例
	菜单界面	向下	连续向下
扳机键	主界面	拍照	录像
	菜单界面	/	/

6. 菜单
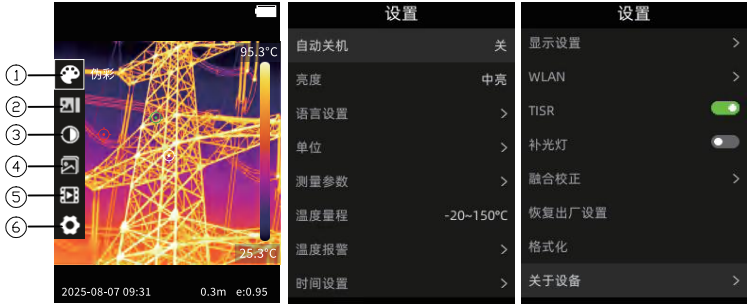
序号	功能	321	321 Pro
1	伪彩	设置伪彩模式为"白热/黑热/彩虹/铁红/红热/融合"。	
2	图像	/	设置图像模式为"红外/可见光/融合/画中画"。
3	图像参数	设置热像效果模式为"增强/标准/柔和"。	
4	照片	查看及删除照片文件。	
5	视频	播放及删除视频文件。	
6	设置	**自动关机：**设置"关/5分钟/10分钟/20分钟/30分钟"。	
		亮度： 设置屏幕亮度为"低亮/中亮/高亮"。	
		语言设置：设置语言为"简体中文/繁体中文/英文/俄语/日语/德语/法语/意大利语/韩语/波兰语"。	
		单位：设置温度单位为"摄氏度(℃)/华氏度(℉)/开尔文(K)"。	
		测量参数： 1)环境温度：可设置-10℃~50℃范围。 2)测温距离：可设置0.3~3m范围。 发射率：可设置0.01~1范围；发射率值参考："常见发射率表"。	
		温度量程：设置测温范围为"低量程(-20℃~150℃)/高量程(100℃~550℃)"。	
		温度报警： 1)高温报警：开启/关闭，可设置范围-20℃~550℃。 2)低温报警：开启/关闭，可设置范围-20℃~550℃。 3)报警自动拍照：开启/关闭，自动拍照。 a.拍照间隔：可设置范围5s~30s。 b.拍照张数：可设置范围1~50。	

序号	功能	321	321 Pro
6	设置	**时间设置：**设置日期、时间及时间制式。	
		显示设置：开启/关闭"最高温/最低温/中心点/发射率/测温距离/日期/伪彩色条"功能UI在主界面的显示。	
		/	**WLAN：**开启/关闭。 **WLAN名称：**V321 Pro_****。 **WLAN密码："**12345678"。 注：该WLAN为选配功能。
		TISR：开启/关闭。	
		/	**补光灯：**开启/关闭。
		/	**融合校正：**调整融合图像的重合度。
		恢复出厂设置：恢复到默认设置值。	
		格式化：将设备磁盘进行格式化。	
		关于设备：查看"型号/固件版本/应用版本/SN/磁盘容量"。	

7.常见发射率表

物 质	发 射 率	物 质	发 射 率
湿土	0.95	水面	0.95
玻璃	0.94	白纸	0.93
红砖	0.95	黑布	0.98
皮肤	0.98	木材	0.87

8. 保修服务

感谢您选用本产品,为了您能够充分享有完善的售后服务支持,请您在购买后认真阅读本产品保修卡的说明并妥善保存,以作保修凭证。

(1)**本产品保修期为壹年:**保修期自产品首次购买之日起算,购买日以购买产品的发票日期为准。如无有效发票,则保修期将自产品出厂日推算。产品发票日期晚于产品实际交付日期,保修期自产品实际交付日起算。

(2)**不保修范围:**

①超出规定的保修期限的;

②不能出示产品有效保修凭证和有效原始购物发票或收据,产品原序号标签有涂改、替换、撕毁的现象、产品没有序号或保修凭证上的产品型号或编号与本产品实物不相符合的;

③因误用、意外、改装、不适当的物理或操作环境、自然灾害、电涌及不当维护或保管导致的故障或损坏;

④第三方软件、服务或行为导致的故障或损坏;

⑤产品使用过程中表面外壳的正常脱色、老化、硬伤、划痕;

⑥产品可以不间断或无错误的正常运行;

⑦消耗零部件,除非是材料或工艺缺陷而发生的故障;

⑧未按随附的说明书使用产品,或产品未用于预定功能或环境,本公司经证实后确定您违反使用说明书的任何其他情况。

(3)**本公司不对销售商或任何第三方对您的额外承诺负责,您应向这些第三方要求兑现。**

产 品 保 修 卡

客户名称:＿＿＿＿＿＿＿＿＿＿＿＿＿＿ 联系电话:＿＿＿＿＿＿＿＿＿＿＿＿＿

客户地址:＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

产品名称:＿＿＿＿＿＿＿＿＿＿＿＿＿＿ 产品型号:＿＿＿＿＿＿＿＿＿＿＿＿＿

产品编号(S/N):＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

购买日期:＿＿＿＿年＿＿＿＿月＿＿＿＿日

销 售 商:＿＿＿＿＿＿＿＿＿＿＿＿＿＿ 电　话:＿＿＿＿＿＿＿＿＿＿＿＿＿

保修内容:＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

售　　后:＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

客户签字:＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿ □ 满意　□不满意

注意:本保修卡仅适用于本保修卡内产品,由销售单位盖章后方有效。

1. Safety Instruction

To protect yourself and others from injury or to protect your device from damage, please read all the information below before using your device.

1) Notes

① Do not direct the equipment at very high intensity thermal radiation sources, such as the sun, lasers, spot welders, etc., which may cause damage to the equipment.

② Do not use or store the instrument in an environment that exceeds the permitted operating temperature or storage temperature of the equipment, which may cause damage to the equipment.

③ Do not knock, throw or vibrate instruments and accessories to avoid damage.

④ Do not touch the device or USB port with your wet hand to avoid damage.

⑤ Do not use dissolved or similar liquids on equipment and cables, as this may cause damage to the equipment.

⑥ Please follow the below instructions when you wipe the device：

　　a. Non-optical surface: the user could user the clean and soft cloth to wipe it；

　　b. Optical surface: When using the thermal camera, please avoid staining the optical surface of the lens, especially touching the lens with your hands, because the sweat on your hands will leave traces on the lens glass and may corrode the optical coating layer on the glass surface. When the surface of the optical lens is contaminated, carefully wipe it with professional lens paper.

⑦ When using the equipment, please try to keep it stable and avoid violent shaking.

⑧ This product will emit a slight "click" sound when working, which is the "shutter refresh" sound of the lens, which is a normal phenomenon in the operation of the equipment.

2) Warnings

① If you find that the product has smoke, sparks, burnt odor during use, please stop using immediately; To ensure personal safety, power off the device.

② Do not charge the device with wet hands; Charging with wet hands poses a risk of electric shock.

③ When not charging, please unplug the adapter from the power socket; After the adapter is powered on for a long time, it is possible to overheat, deformation, and even fire.

④ If the adapter or USB cable is damaged, stop using it immediately. A damaged adapter or USB cable may cause a fire due to overheating or short circuit.

⑤ If the device is not used for a long time, please store it in a cool and dry environment and charge the device regularly, otherwise the power will be exhausted and the battery life will be shortened.

3)Do not disassemble the equipment, which may cause damage to the equipment and forfeit the warranty rights; If there is a fault, please contact the company, by professional maintenance.

2. Product Specifications

Basic parameters	321	321 Pro
Detector type	VOx	
IR resolution	96*96	
IR wavelength	8~14µm	
Pixel spacing	12µm	
Focal length	1.35mm	
IFOV	8.89mrad	
Image frame rate	25Hz	
NETD	≤60 mK(@25 ℃,F#1.0)	
Focal adjustment Mode	Fixed focal	
Field angle	50°× 50°	
Temperature measured range	-20℃~550℃	
Temp accuracy	±2℃ or±2% of the reading, whichever is greater	
Minimum scale	0.1℃	

Basic parameters	321	321 Pro
Temp measurement mode	Industrial temp measurement	
Temp unit	°C/°F/K	
Temp measurement display	Center point/Max temp/Minimum temp	
Image mode	Not Supported	IR/Visible/Fusion/PIP
Visible light camera	Not Supported	2 million
LED	Not Supported	Supported
Image/Video format	JPEG/MP4	
Temp analysis	PC Analysis tool	
TISR	Support, resolution: 240 * 240	
Photo/Video	Support	
WLAN	Not Supported	Optional
Language	Supports 10 Languages	
Storage memory	External SD card	
Data port	Type-C	
Battery	2000mAh (Non-removable)	3200mAh (Non-removable)
Charge time	≤4h	
Power of device	≤0.9W	≤1.4W
Duration of use	≥9h	
Working temperature	-10~50°C	
Work humidity	10%~90%RH non-condensing	
Storage temperature	-20~60°C	
IP rating	IP54	

Basic parameters	321	321 Pro
Drop level	1.5m	
Certifications	CE、FCC、ROHS	
Other parameters		
Device weight	310g	
Device size	225mm*70mm*86.44mm	
Execution standards	GB/T19870-2018	

3. Product Structure

Item	321	321 Pro
1	USB stopper	
2	LCD	
3	Button	
4	Handheld area	
5	Tripod fixing screw holes	
6	Hang hole	
7	Trigger button	
8	Type-C	
9	SD card	
10	Protect cover	
11	/	LED
12	IR detector	
13	/	Visible camera
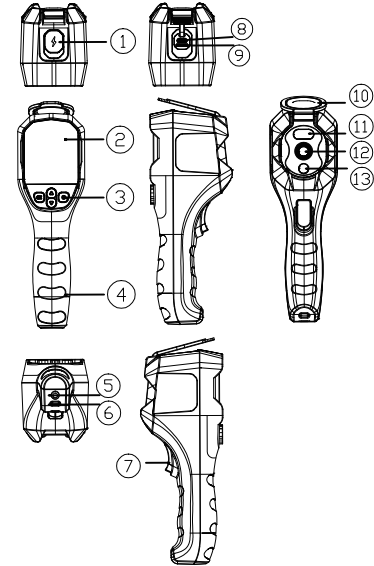
4. Display Illustration

Item	Description
1	Center/ Highest / Minimum temperature value
2	Tracking the lowest temperature point on the observation screen
3	Observing the center point of the image
4	Tracking the highest temperature point on the observation screen
5	Date and Time
6	Quantity of electricity
7	Pseudo color bar
8	Temperature measurement distance
9	Emissivity
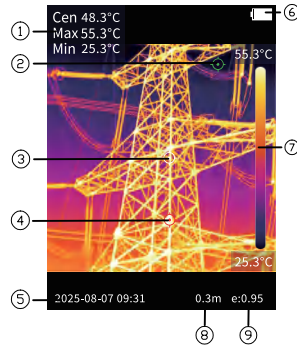
5. Button Illustration

Button	Current status of device	Short press	Long press
Power button	Power off	/	Power on
	Main interface	Sleep screen/ wake up	Power off
	Menu interface	Go back	Power off
OK button	Main interface	Enter menu	Turn on/Off the fill light
	MENU	OK	Delete photo/video files
Page UP	Main interface	Switch pseudo color	Shutter calibration
	MENU	Upward	Continuous upward

Button	Current status of device	Short press	Long press
Page down	Main interface	Switch image mode	Switch fusion ratio
	MENU	Downward	Continuous downward
Trigger key	Main interface	Take pictures	Picture recording
	MENU	/	/

6. Menu
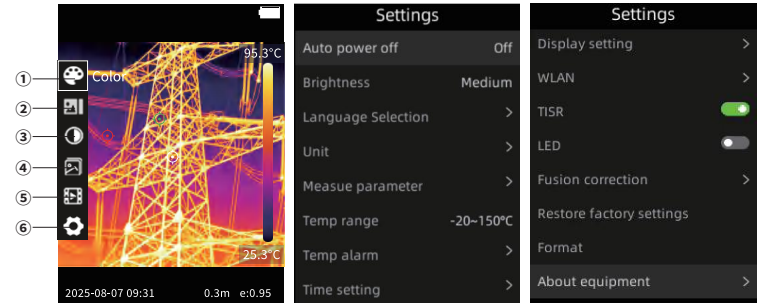
Item	Functions	321	321 Pro
1	Color palette	Switching between pseudo colors, you can switch between "White hot/Black hot/Rainbow/Iron/red hot/Fusion".	
2	Image mode	/	Switch image mode to "IR/Visible/Fusion/PIP" mode.
3	Image parameter	Switch between "Enhanced/Standard/Soft" mode.	

Item	Functions	321	321 Pro
4	Photo	View and delete photo files.	
5	Video	Play and delete video files.	
6	Setting	**Auto power off：** Set "Off/5 minutes/10 minutes/20 minutes/30 minutes".	
		Brightness： You can set "low light/medium light/high light".	
		Language Selection： switch "简体中文/繁体中文/English/Русский язык/日本語/Deutsch/Français/Italiano/한국어/Język polski"	
		Unit： Switch between Celsius (℃)/Fahrenheit (℉)/Kelvin (K).	
		Measure parameter： 1) Atmos.Temp.：Can be set within the range of -10 ℃ to 50 ℃. 2) Distance：Can be set within a range of 0.3~3m. 3) Emissivity：Can be set within the range of 0.01 to 1; Reference for emissivity values: "Common Reflectance Table".	
		Temp range： Switch between "low range (-20 ℃~150 ℃)/high range (100 ℃~550 ℃)".	
		Temp alarm： 1) High Temp alarm：Turn on/off, set range -20 ℃~550 ℃. 2) Low Temp alarm：Turn on/off, set range -20 ℃~550 ℃. 3) Alarm auto photo：Turn on/off, automatic photography. a.Capture Interval：Set the range from 5s to 30s. b.Captures Num：Set the range from 1 to 50.	
		Time settings： Set the date, time, and time format.	
		Display setting： Turn on/off the display of "highest/lowest temperature/center point/emissivity/temperature measurement distance/date/pseudo color bar".	

Item	Functions	321	321 Pro
6	Setting	/	**WLAN：** Turn on/off. **WLAN name：**V321 Pro_****. **WLAN password:**"12345678". Note: This WLAN is an optional feature.
		TISR： Turn on/off.	
		/	**LED：** Turn on/off.
		/	**Fusion correction：** Adjust the overlap of the fused images.
		Restore factory settings： Restore to default settings.	
		Format： Format the device disk.	
		About equipment： View "model/firmware version/application version/SN/disk capacity".	

7. Common Emissivity

Material	Emissivity	Material	Emissivity
Wet dusty	0.95	Water surface	0.95
Glass	0.94	White paper	0.93
Red brick	0.95	Black cloth	0.98
Skin	0.98	Wood	0.87

8. Warranty Service

Thank you for choosing this product, in order for you to fully enjoy the perfect after-sales service support, please carefully read the description of this product warranty card after purchase and keep it properly for warranty proof.

(1)The warranty period of this product is 1 year: The warranty period starts from the date of the first purchase of the product, and the purchase date is based on the invoice date of the purchase of the product. If there is no valid invoice, the warranty period will be calculated from the date the product leaves the factory. The invoice date of the product is later than the actual delivery date of the product, and the warranty period starts from the actual delivery date of the product.

(2)Non-warranty：

①Out-of-date；

②Can not produce the product valid warranty certificate and valid original purchase invoice or receipt, the original serial number label of the product has been altered, replaced, torn phenomenon, the product has no serial number or the product model or number on the warranty certificate is not consistent with the physical product;

③Failure or damage caused by misuse, accident, modification, inappropriate physical or operating environment, natural disaster, power surge and improper maintenance or storage；

④Failure or damage caused by third-party software, services or actions；

⑤Normal decolorization, aging, bruising and scratches of the surface shell during the use of the product；

⑥The product can operate without interruption or error；

⑦Consume parts, except for failures caused by defects in materials or workmanship；

⑧Failure to use the product in accordance with the attached instructions, or failure to use the product for the intended function or environment, any other circumstances in which the company in determines, upon verification, that you have violated the instructions.

(3)The Company is not responsible for any additional commitments made to you by the Seller or any third party, and you shall demand fulfillment from such third parties.

Warranty Card

Customer name：_____ TEI：_____

Customer address：_____

Product name：_____ Model#：_____

Product（S/N）：_____

Purchase date:_____ Y _____ M _____ D

Seller：_____ TEL：_____

Warranty content：_____

After sales service：_____

Customer signature：_____

☐ Satisfaction   ☐ Dissatisfaction

Note：This warranty card is only applicable to the products in this warranty card and is valid only after being stamped by the seller.

321/321 Pro 手持红外热成像仪说明书
做货要求：

尺寸：110×150mm

材质：128g双铜纸

颜色：四色印刷

外观要求：钉装，印刷完整清晰、版面整洁，无重影、斑墨、残损、刀线错位等缺陷

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