VEVOR®

Hand-held Thermal Imager

Quick Start Guide

VEVOR®

Hand-held Thermal Imager

Instruction Manual

# NOTES FOR SAFE USE

• When using the device, do not shake the device violently and avoid dropping it. Keep it away from magnetic field interference sites.

• Don't aim the device directly at powerful hot light sources, such as the sun. It may cause damage to the lens or thermal imaging detector.

• Do not use the product in extremely cold, hot, dusty, or high humidity environments.
The recommended temperature operating range: -10℃ ~ + 50℃.

• Equipment shall be stored in a dry environment without corrosive gas to avoid direct sunlight.

• Please take good care of the packaging materials. If there is any problem, use the original package and send it to the agent or return it to the manufacturer.

• If the equipment is not working properly, please contact the purchasing agent or the after-sales service office of our Company. Do not remove or repair the equipment in any way. Our Company shall not be liable for any problems caused by unapproved modifications or repairs.

• 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.
(2) This device must accept any interference received,including interference that may cause undesired operation.

PRODUCT PRESENTATION
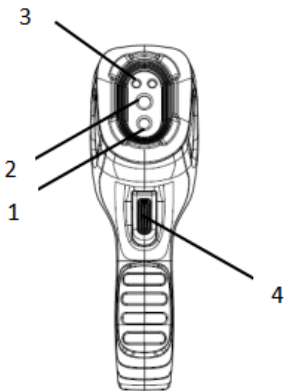
1. Digital Camera (optional)
2. Infrared Lens
3. LED Lamp
4. Image Capture Trigger
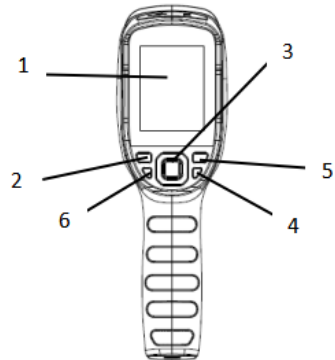
1. Screen
2. Photo Library
3. Navigation Key
4. On/Off Key
5. Return Key
6. LED Key

BASIC OPERATION

1. Photo-taking and Viewing

In the observation interface, short press the trigger button to take a picture. If the automatic saving is turned off, then press the trigger button to save / press the return button to return to the previous screen. In the observation interface, short press the Photo Library to view the saved images.

2. Set up the Measurement Mode

In the observation interface, firstly, short press the confirmation button to enter the main menu. Secondly, select the "measurement" option.Thirdly, press the confirmation button to enter the secondary menu, move left and right to choose different measurement modes. Finallly, press the confirmation button again to hide the menu.

3. Set the Image Mode (optional)

In the observation interface, firstly, short press the confirmation button to enter the main menu. Secondly, use the navigation button to select the "Image mode". Thirdly, press the confirmation button to enter the secondary menu, move left to right to choose different image modes. Finallly, press the confirmation button again to hide the menu.

4. Set up the Color Board

In the observation interface, firstly, short press the confirmation button to enter the main menu. Secondly, use the navigation button to select the "color board" option. Thirdly, press the confirmation button to enter the secondary menu, move left and right to choose different color boards. Finallly, after selecting, press the confirmation button again to hide the menu.

FUNCTIONAL CONFIGURATION

1. Set the Temperature Measurement Parameters

In the observation interface, firstly, short press the confirmation key to enter the main menu. Secondly, select the "Settings" option, and then press the confirmation key to enter "Other Settings". Thirdly, press the navigation key to select "Temperature Measurement Settings", then press confirmation key to enter to adjust the emission rate / ambient temperature / distance. Increase or lower the parameter value by the upper and lower navigation key, and press the confirmation key to complete the modification.

2. Set Additional Options

In the "Other Settings" interface, you can also set the high and low temperature alarm, temperature measurement gear, automatic switch off time and other options.

3. Main Product Parameters

Model	SC240N	SC240M	SC240H
Screen	2.8"	2.8"	2.8"
Visible light camera	No	2 mega pixels	2 mega pixels
Infrared image resolution	240x180 (43200)	240x180 (43200)	240x180 (43200)
Temperature measurement range	-20-350℃	-20-550℃	-20-550℃
Photo capture frequency	20Hz	20Hz	20Hz

Certainty of measurement	±2℃ or ±2%		
Wavelength coverage	8 – 14μm		
Angle of field	52.5°x 39.5°		
Shortest focal length	0.1m		
Focal distance	3.2mm		
Focal distance mode	Free focus		
Heat sensitivity	<40mK		
Temperature measurement resolution	0.1℃		
Temperature measurement mode	Center point / hottest / minimum temperature	Center point / hottest / minimum temperature	Central point / hottest / minimum temperature / 5 custom points / 1 analysis area
Temperature measurement unit	° C, ° F, Kelvin		
Environmental temperature setting	-10~50℃, with a step length of 1℃		
Distance settings	0.5-4m Step length: 0.25m		
Image mode	Heat-imagingre	Thermal imaging	Thermal imaging, thermal fusion, visible light, painting in painting
Pseudo color	White hot, black hot, iron red, rainbow	White hot, Black hot, lava, iron red, rainbow, high contrast rainbow, black and red	White Hot, Black Hot, Lava, Iron Red, rainbow, high contrast rainbow, Black and Red, Purple Orange, Special 1, special 2
High and low temperature alarm	Yes		
Fill the light	Yes		
Internal storage	16G	64G (Scalable at 128G)	64G (Scalable at 128G)
Auto shut off	5 Minutes, 10 minutes, 20 minutes, turn off		
Battery Life	9h	11h	15h
Language	English, Traditional Chinese, Korean, Japanese, French, Spanish, Italian, Pakistani, Portuguese, German, Polish, Russian, Hungarian, Turkish (13 languages in total)		
Charging time	4h	4h	4h
PC analysis software	support		
Installation hole of the tripod bracket	Yes		

Decline	2m		
Waterproof	IP54		
Impact vibration	Impact 25g (IEC 60068-2-27); vibration 2.5g (IEC60068-2-6)		
Working temperature	-10℃~+50℃		
Storage temperature	-20℃~+60℃		
Annotation function	No	No	No
Laser designator	No	No	No
Battery type	5000MA internal battery	5000MA internal battery	5000MA internal battery
Wifi	No	No	Yes
Touch screen	No	No	No
Picture recording	No	Yes	Yes
Automatically take photos with the alarm	No	No	Support automatic alarm photography; the number of shots and time interval can be set
Take photos regularly	No	No	Support, shooting number, time interval can be set
USB image transmission	No	No	Support, real-time temperature analysis
Packaging accessories	Thermal imager * 1 16G Memory card *1 Data line * 1 Pull rope bag * 1 Original package * 1 Mail order box * 1	Thermal imager * 1 64G Memory card * 1 Data line * 1 Portable pack * 1 Original package * 1 Mail order box * 1	Thermal imager * 1 64G Memory card * 1 Data line * 1 Portable pack * 1 Original package * 1 Mail order box * 1

APPENDIX TABLE OF COMMON MATERIAL MISSION

| Matter	Emissivity
Skin	0.98
Printed circuit board	0.91
Cement concrete	0.92
Pottery and porcelain	0.92
Rubber	0.95
Wood	0.90
Pitch	0.96
Brick	0.93
Sand	0.90
Soil	0.92
Hardboard	0.90
White film paper	0.93
Water	0.96
Snow	0.85
Marble	0.94
Polished glass board	0.94
AAO	0.55
Oxidative iron treatment	0.64
Oxidative treatment steel	0.79
Oxidation-treated stainless steel	0.85

- 请不要使物体摔落到设备上或大力振动设备，使设备远离存在磁场干扰的地点。

- 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。

- 请勿在极冷、极热、多尘、或者高湿度的环境下使用产品；产品建议使用温度-10℃~+50℃。

- 设备需存放在干燥无腐蚀性气体环境，避免阳光直射。

- 请妥善保管好设备包装材料，以便出现问题时使用原包装包好后寄到代理商或返回厂家处理。

- 如果设备工作不正常，请联系购买设备的代理商或者本公司售后服务处，不要以任何方式拆卸或修改设备，对未经认可的修改或维修导致的问题，本公司不承担任何责任。

- 设备遵循FCC 认证中 Part –15 射频设备的规定。操作须符合以下两个条件:
  (1) 本设备不得造成有害干扰.
  (2) 本设备会接收到其他的干扰，可能会造成一些不良后果。

产品介绍
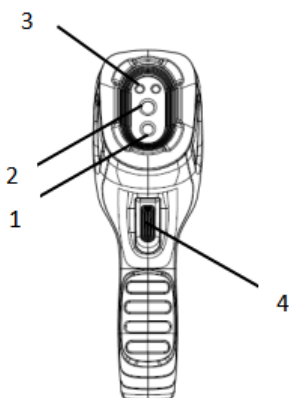
1. 数码相机（选配）
2. 红外镜头
3. LED灯
4. 拍照扳机
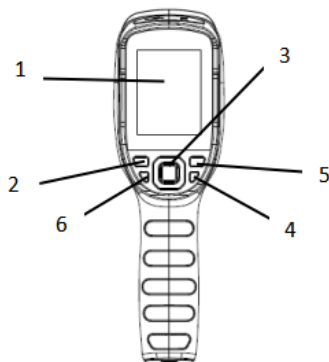
1. 屏幕　　　 4. 电源键
2. 图库键　　 5. 返回键
3. 导航键　　 6. LED键

产品介绍

1. 拍照与查看

在观测界面，短按扳机键抓取图片；若关闭自动保存，按扳机键后，按确认键保存/按返回键取消保存；在观测界面，短按图库键，可进入图库查看已保存图片。

2. 设置测量模式

在观测界面，短按确认键调出主菜单，使用方向键选中"测量"选项，再按确认键调出二级菜单，左右移动可选择不同测量模式，选择后，再次按确认键隐藏菜单。

3. 设置图像模式(选配)

在观测界面，短按确认键调出主菜单，使用方向键选中"图像模式"选项，再按确认键调出二级菜单，左右移动可选择不同图像模式，选择后，再次按确认键隐藏菜单。

4. 设置色板

在观测界面，短按确认键调出主菜单，使用方向键选中"色板"选项，再按确认键调出二级菜单，左右移动可选择不同色板，选择后，再次按确认键隐藏菜单。

功能配置

1. 设置测温参数

在观测界面，短按确认键调出主菜单，使用方向键选中"设置"选项，再按确认键进入"其他设置"；方向键选择"测温设置"，确认键进入后，可对发射率/环境温度/距离调整。通过上下方向键对参数值进行增大或减小操作，按确认键完成修改。

2. 设置其他选项

在"其他设置"界面，还可以对高低温报警、测温档位、自动关机等选项进行设置。

3. 产品主要参数

型号	SC240N	SC240M	SC240H
屏幕	2.8"	2.8"	2.8"
可见光相机	无	200w 像素	200w 像素
红外图像分辨率	240x180 (43200)	240x180 (43200)	240x180 (43200)
正确的温度范围	–20–350℃	–20–550℃	–20–550℃
图片捕捉频率	20Hz	20Hz	20Hz
测量精度	±2℃ or ±2%		
波长范围	8 – 14μm		
视场角	52.5°x 39.5°		
最短焦距	0.1m		
焦距	3.2mm		
焦距模式	免调焦		
热敏性	<40mK		
测温分辨率	0.1℃		
测温模式	中心点/ 最高温/ 最低温	中心点/ 最高温/ 最低温	中心点/最高温/ 最低温/5个自定 义点/1个分析区域
测温单位	摄氏度、华氏度、开尔文		
环境温度设置	–10~50℃，步长1℃		
距离设置	0.5–4m步长0.25m		
图像模式	热成像	热成像、热融合、 可见光、画中画	热成像、热融合、 可见光、画中画

伪彩	白热、黑热、铁红、彩虹	白热、黑热、熔岩、铁红、彩虹、高对比彩虹、黑红	白热、黑热、熔岩、铁红、彩虹、高对比彩虹、黑红，紫橙、特殊1、特殊2
高低温报警	有		
补光灯	有		
内存	16G	64G（可扩展128G）	64G（可扩展128G）
自动关机	5分钟、10分钟、20分钟、关		
续航	9h	11h	15h
语言	英文、中文繁体、韩语、日语、法语、西班牙语、意大利语、巴葡语、德语、波兰语、俄语、匈牙利语、土耳其语（共13种语言）		
充电时长	4h	4h	4h
PC分析软件	支持		
三角架支座 安装孔	有		
跌落	2m		
防水	IP54		
冲击振动	冲击25g(IEC 60068-2-27)；振动2.5g(IEC60068-2-6)		
工作温度	–10℃~+50℃		
存储温度	–20℃~+60℃		
注释功能	无	无	无
激光指示器	无	无	无
电池类型	5000MA 内置电池	5000MA 内置电池	5000MA 内置电池
Wifi	无	无	有
触摸屏	无	无	无
录像	无	有	有
报警自动拍照	无	无	支持报警自动拍照；拍摄张数、时间间隔可设置
定时拍照	无	无	支持，拍摄张数、时间间隔可设置
USB视频传输	无	无	支持，可以进行温度实时分析
包装配件	热像仪*1 16G内存卡*1 数据线*1 抽绳袋*1 原包装*1 邮购盒*1	热像仪*1 64G内存卡*1 数据线*1 便携包*1 原包装*1 邮购盒*1	热像仪*1 64G内存卡*1 数据线*1 便携包*1 原包装*1 邮购盒*1

附录 常见物质发射率表

物质	发射率
人的皮肤	0.98
印刷电路板	0.91
水泥混凝土	0.92
陶瓷	0.92
橡胶	0.95
木材	0.90
沥青	0.96
砖	0.93
沙	0.90
土壤	0.92
硬纸板	0.90
白胶膜纸	0.93
水	0.96
雪	0.85
大理石	0.94
抛光玻璃板	0.94
阳极氧化铝	0.55
氧化处理铁	0.64
氧化处理钢	0.79
氧化处理不锈钢	0.85

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