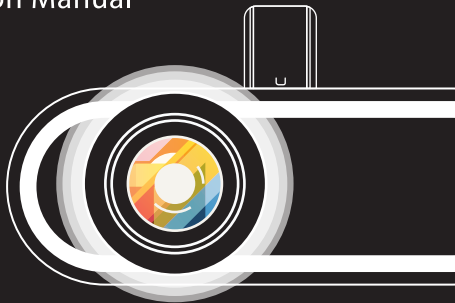


Mobile Phone Thermal Imager IR0102

Instruction Manual



**Perfect
Prime**

www.perfectprime.com



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1. Overview

This product is operated by the “IR Thermal” application on the mobile phone after connecting to the mobile phone of Android system. It is very simple to view the infrared image or measure the surface temperature of the objects. This product can be used for HVAC, building heat difference detection, equipment troubleshooting, preventive and predictive maintenance, etc.



2. Product Operation

2.1. Download of App

Scan the QR code below or enter the URL (https://play.google.com/store/apps/details?id=com.meridianin-no.senxorviewer_perfectprime&hl=en) to download the “IR Thermal” application and install it (only supports Android phone system).



QR Code



IR Thermal

2.2. Phone Connection

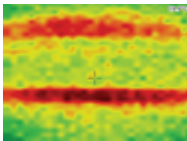
Insert the IR0102 into your phone and the “IR Thermal” application will be opened automatically within 10 seconds. If your phone does not have USB Type C interface, please use the original adapter for conversion.



2. Product Operation

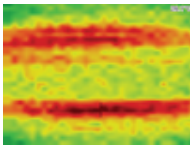
2.3. Center Point Temperature

As shown in the image, the upper right corner shows the temperature value of the displayed area's center point.



2.4. Point Temperature Measurement


If you want to check the temperature of a certain point on the displayed area, click on that point and the temperature value will be displayed on the top right.






2. Product Operation

2.5. Image Fusion

After the thermal imager and the phone are successfully connected, the visible light image is displayed by default. Click the "" button at the bottom of the screen to switch among the three display effects, namely 100% infrared image, 100% visible light image, and simultaneous display of infrared and visible light (50% each).

2.6. Mirroring

Click the "" button at the top left of the screen, and the image effects of the left side and right side will be interchanged.



2. Product Operation

2.7. Temperature Unit Setting

Click the “” button at the top right of the screen to open the setting interface, click “Temperature Display Unit”, and select one of the units in the pop-up dialog box as shown.

Temperature Display Unit

- Celsius
- Fahrenheit


CANCEL

2.8. Palette Setting

There are 2 ways to change the color palette:



2. Product Operation

2.8.1. Click the “” button at the top right of the screen to open the setting interface. Click “Color Palette” and select one of the thirteen palettes in the pop-up dialog box as shown on the right.

Color Palette

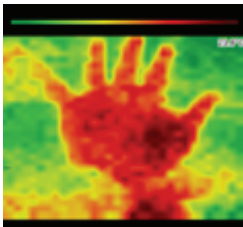
- Basic
- HeatIron
- Vindis
- Magma
- Parula
- Bezier
- BrewerBlues
- BW
- Autumn
- Cool
- HSV
- Jet
- Spring

CANCEL



2. Product Operation


- 2.8.2.** Tap the color palette bar above the display screen to change the color palette until you reach the color palette of your choice.






2. Product Operation

2.9. Face Detection On/off

Click the "" button at the top right of the screen to open the setting interface, click "Face Detection", and select "Face Detection On" or "Face Detection Off" in the pop-up dialog box.


2.10. Taking Photo

Click the "" button at the bottom of the screen to take photo and the image will be automatically saved to your phone.




2. Product Operation

2.11. Video Recording

Click the “” button at the bottom of the screen to start recording video, click the button again to stop recording video. The recorded video will be automatically saved to your phone.

2.12. Picture/Video Viewing

Click the “” button at the bottom of the screen to enter the preview interface, click the picture or video you want to view.



2. Product Operation

2.13. Image registration

When using the 50% visible light and 50% infrared mode, the visible light image and the infrared image do not align (image 1). The image registration modes helps you align the visible light image and infrared image for better viewing. First, tap on the PerfectPrime logo at the top and the white boxes with numbers will appear at the top, bottom, right and left side of the screen (image 2). You can then adjust the position of the the infrared image by tapping on the white boxes. If you want to adjust the infrared toward the right, tap on the white box on the right. The same applies for all four directions. Adjust the position of the infrared image until it aligns with the visible light image (image 3).

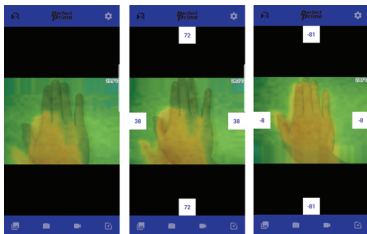


Image 1

Image 2

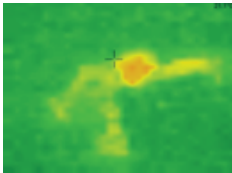
Image 3



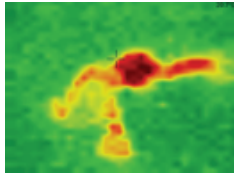
2. Product Operation

2.14. Dynamic Range

If you want to use the dynamic range mode, click on the top left of the screen where it says "Dynamic Range". The dynamic range mode enhances the color of the detected objects so that the temperature differences between object is more obvious to see. The two images below show the differences between the default mode and the dynamic range mode.



Regular mode



Dynamic range mode



3. Troubleshoot

If there is a disconnection during usage and no image is displayed, you can try the following methods:

1. Close the “IR Thermal “ application and reopen it.
2. Unplug the IR0102 and reconnect it to your phone.
3. Turn off your phone and restart it before connecting the IR0102.
4. Check your phone setting and set your phone to enable power supply for external devices.

Compatibility

To check if your phone is compatible with the IR0102, please refer to www.perfectprime.com/products/ir0102 in the compatibility section.



4. Technical Parameters

4.1. Measurement

- **Temperature range:** -4°F - 572°F (-20°C to 300°C)
- **Accuracy:** $\pm 2^{\circ}\text{C}$ or $\pm 2\%$ of reading
- **Resolution:** 0.1 °C or 0.1 °F
- **Working band:** 8 — 14 μm

4.2. Pictures & Videos

- **Horizontal viewing angle / vertical viewing angle:** 43°+1° / 43°+1°
- **Infrared image resolution:** 32x32 thermal resolution
- **Visible image resolution:** 640x480 resolution
- **Image format:** png
- **Video format:** mp4
- **Frame rate:** 9Hz
- **Focal length:** fixed



4. Technical Parameters

4.3. Environmental Conditions

- **Operation temperature range:** 0 °C to 35 °C
- **Storage temperature range:** -20 °C to 60 °C

4.4. Miscellaneous

- **Plug:** USB Type-C
- **Power supply:** Power supply from external devices, such as Android phones
- **Weight:** 20g
- **Size:** 59.4mm x 30.3mm x 12mm

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