

IR202 Thermal Camera

For Android Devices

Instruction Manual



**Perfect
Prime**

www.perfectprime.com



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1. Overview

PerfectPrime provides you a way to sense the invisible, measure the unfathomable, and analyze the improbable by providing thermal imaging and temperature measurements in a new way. This guide provides you all the information you need to operate the IR202 Thermal Camera for Android devices.



The IR202 is powered by the host device, no charging or battery is needed.



2. App Download
3. Phone Connection

2. APP DOWNLOAD

Scan the QR code below or enter the URL (https://play.google.com/store/apps/details?id=com.meridianin-no.perfectprime_IR202) to download the "IR202 Thermal Camera Viewer" application and install it (only supports Android Phone system).



QR Code



App

3. PHONE CONNECTION

After installation, make sure host device supports USB OTG in your phone's settings. Once plugged in, the application will automatically open within 10 seconds. Select the IR202 Thermal Camera Viewer App to start.



4. Product Specifications

4.1. General

Resolution	80 × 62
FOV (angles in degrees)	44.2° (H), 34.5° (V)
Maximum frame rate	15 FPS
Max scene temperature range	-40°C to 1000°C
NETD	150mK
Accuracy	up to +/-1°C

4.2. Environmental

Operating temperature	-20 - 85°C
Storage temperature	-40 - 85°C

4.3. Interface

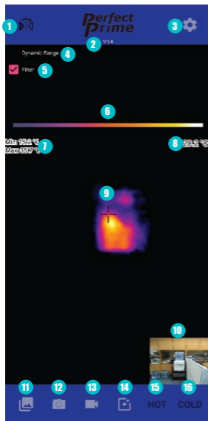
Power Consumption	300mW
Android Dongle connector	USB Type-C
Android Dongle size	56mm x 30mm x 14mm

4.4. Mechanical

Android Dongle weight	8.5 g
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5. Product Operation



- 1 Mirroring:** Tap on this button to flip the image horizontally
- 2 Software Version:** This shows the current version of software.
- 3 Settings:** Adjust settings such as color palette, temperature display unit, emissivity, over temperature alarm and under temperature alarm.
- 4 Dynamic Range:** Tap to turn on or off the dynamic range
- 5 Filter:** Tap to turn on or off the filter. User can control several image filtering to reduce noise level of the temperature data. It gives better performance once these are turned on at run time. Swipe the page indicator to second page, adjust filters by dragging the corresponding bar.
- 6 Color Bar:** The color bar shows the color palette you have chosen to use.



5. Product Operation

- 7 **Min & Max Temperature:** The minimum and maximum temperature of the detected area will be shown.
- 8 **Center Point Temperature:** This shows the temperature of the center point.
- 9 **Thermal Image**
- 10 **Visible Camera Image**
- 11 **Check Images and Videos:** Tap to view images and videos taken previously
- 12 **Take Photo:** Tap on this to take a photo.
- 13 **Take Video:** Tap on this to start recording a video. Tap again to end video recording.
- 14 **Switch between Thermal Image and Visible Camera Image:** Tap on this button to switch the position of the thermal image and visible camera image
- 15 **Over Temperature Alarm:** If the over temperature alarm is turned on in the settings and the detected temperature goes above the set temperature, the alarm will be triggered and this part would turn red.
- 16 **Under Temperature Alarm:** If the under temperature alarm is turned on in the settings and the detected temperature goes below the set temperature, the alarm will be triggered and this part would turn blue.



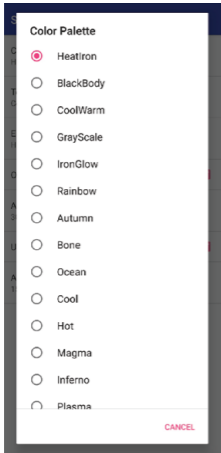
6. Settings

Settings	
Color Palette HeatIron	
Temperature Display Unit Celsius	
Emissivity Human Skin	
Over-temperature Alarm	<input checked="" type="checkbox"/>
Alarm Triggering Above: 30 °C	
Under-temperature Alarm	<input checked="" type="checkbox"/>
Alarm Triggering Below: 15 °C	

Within the settings, you can adjust variables including the color palette, temperature display unit, emissivity, over temperature alarm and under temperature alarm.



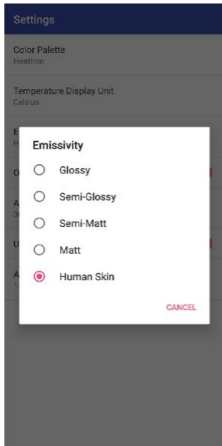
7. Color Palette



16 preset color palettes are provided for visualization purpose, temperature data is not affected. Tap the palette list, select one of the palettes on the drop-down list and result will be applied on the new thermal image.



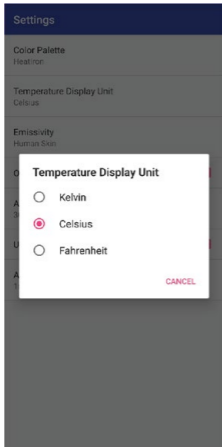
8. Emissivity



It quantifies the ability of an objects surface to emit long-wave infrared radiation and strongly affects the temperature readout from the IR202. Most of the objects with matt surface is about 0.95 as well as human skin (0.95 – 0.97). Metals tend to have dramatically lower emissivity, sometimes as low as 0.1 according to their surface processing.



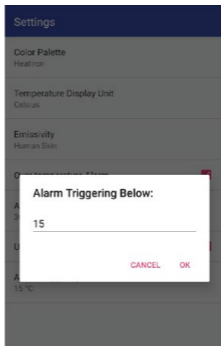
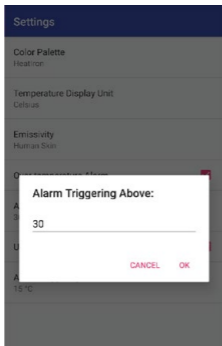
9. Temperature Display Unit



There are 3 temperature display units to choose from: Kelvin, Celsius and Fahrenheit.



10. Over and Under Temperature Alarms



You can set an alarm for over or under temperature. For the over temperature alarm, you can change the settings so when a certain temperature is reached, the alarm will trigger and there will be an alert at the bottom right of the screen. The same can be done for the under temperature alarm so that there would be an alert when the temperature goes below the temperature you set.

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Tyche Smart Limited
cs@perfectprime.com

2nd Floor, 107 Charterhouse Street,
EC1M 6HW, London,
England UNITED KINGDOM

+44 203 7695377

Retailer

Email

Address

Telephone