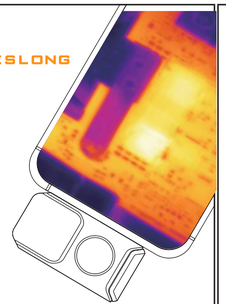
3.06.18.000101
TTM160P/260P说明书/英文/T标/供应商提供
95x62mm/105g哑粉纸/9P风琴折8折10页CMYK印刷/C0224V1.1

TESLONG



Thermal Imaging Camera

User Manual

Table of Contents

1 Product Overview

The TTM 260 and TTM 160 thermal cameras are portable infrared thermal imaging analyzers with high precision and quick response, which adopt an industrial-grade infrared detector with small pixel spacing and high resolution , and is equipped with a 3.2mm lens. The product is lightweight and portable, and can be used directly when plugged in. With the thermal image analysis app, it can be connected to a mobile phone to carry out infrared imaging of the target many subjects, making it possible to perform multi-mode professional thermal image analysis anytime and anywhere.

2 Product Characteristics

- Durable, aluminum alloy construction.
- High-quality optical lens and high-resolution detector with excellent imaging.
- Lightweight and portable, can be used with the app to perform professional thermal imaging analysis anytime and anywhere Wide temperature measurement range: -15℃ ~ 600℃ (+59℉ ~ 1112℉).
- High and low-temperature tracking.
- High-temperature alarms and customized alarm thresholds;
- Support the display of a user-defined temperature range screen, and has many use scenarios for the display of high-temperature regions.
- Support adding points, lines and rectangular boxes for regional temperature measurement, with lines and rectangular boxes supporting high and low-temperature tracking and high-temperature alarm.

3 Product Specifications

Infrared thermal Imaging

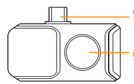
Resolution	256x192	160x120
Wavelength	8~14 μm	
Frame rate	25Hz	
NETD	<50mK @25℃	
FOV	56° x 42°	35° x 27°
Lens	3.2mm	
Temperature measurement range	-15℃~600℃ (-59℉~1112℉)	
Temperature measurement accuracy	± 2 ° C or ± 2%	
Temperature measurement	Highest, lowest, central point and area temperature measurement	
Color palette	Iron, white hot, black hot, rainbow, red hot, cold blue	

General Items

Language	English
Working temperature	-10°C ~ 75°C (-50°F~167°F)
Storage temperature	-45°C ~ 85°C (-113°F~ 185°F)
Dimensions	52mm x 34.5mm x 13mm
Net weight	25g

4 Appearance and Equipment Connection

Hardware Appearance and Part Name



5 APP Function Introduction

Use the Thermal Camera with "Teslong Thermal" app.
You can download it from Google Play or Scan the QR codes below.

GET IT ON Google Play

Teslong Thermal

5.1 User Interface Introduction

Connect the device to an Android phone or tablet to run the app, and you can see the interface as shown in Figure 5-1:

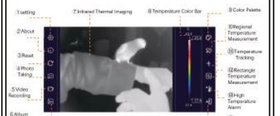


Figure 5-1

Infrared thermal Imaging

1	Setting	Provide app interface and parameter settings of infrared thermal imaging camera
2	About	Information about the app
3	Reset	Reset all information on the screen and restore it to the state at startup
4	Photo Taking	Take photos and store them in the Album
5	Video Rec ording	Make a video recording and store it the Album
6	Album	Store photos and videos
7	Infrared Thermal Imaging	The infrared thermal imaging display
8	Temperature Color Bar	Display the maximum temperature and minimum temperature in the current screen with different color block bars
9	Color Palette	Different color palette can be switched to change the color of the video
10	Regional Temperature Measurement	Points, lines and boxes can be added to measure temperature in different regions
11	Temperature Tracking	The current maximum temperature, minimum temperature and center point temperature on the screen can be tracked
12	Highlight Rectangle Temperature	The current temperature in all rectangular boxes can be highlighted. If the current screen does not have a rectangle, one will be added automatically
13	High Temperature Alarm	The high temperature alarm threshold can be set. If the temperature on the screen exceeds the threshold value, a sound and screen alarm will be issued
14	Highlight High-temperature Regions	The maximum-temperature region on the screen can be displayed

5.2.1 Settings

Click the [Settings] button to pop up the settings panel as shown in Figure 5-2. See Table 2 for the description of each setting item in the panel.

Figure 5-2

General Items

Language	English
Temperature unit	The temperature units can be set, to Celsius (℃), Fahrenheit (℉) or Kelvin (K).
Sound recording	Whether to record sound can be chosen when recording video.
High and low Temp switching	Low temperature range: -15℃~120℃ High temperature rang: 120℃~600℃
Parameter	
Emissivity	Emissivity parameter values shall be filled in according to the measured target
Correction (℃)	Correction parameters shall be filled in according to the temperature measurement deviation

Table 2

5.2.2 About

As shown in Figure 5-3.

Figure 5-3

5.2.3 Interface Reset

The interface reset button is used to reset the app interface and app settings and restore the app to its default state at startup.

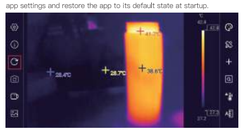


Figure 5-4

5.2.4 Photo Taking

Click the [Photo Taking] button to capture the current infrared screen and save it into the album.

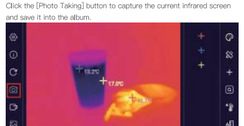


Figure 5-5

5.2.5 Video Recording

Click the [Video Recording] button to record a video.

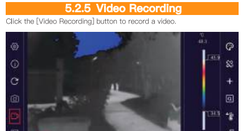


Figure 5-6

When the [Video Recording] button is clicked, the button will turn red accordingly, and the recording time will be displayed correspondingly in the lower left corner of the video window at the same time. Click the [Video Recording] button again to stop video recording.

5.2.6 Album

All photos and videos taken by the app can be conveniently viewed by clicking [Album]. The interface of the gallery is shown in Figure 5-7, with all files arranged in chronologically descending order.

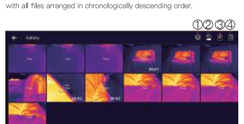


Figure 5-7

1	Album	Photos and video files are displayed at the same time
2	Photo	Only photo files are displayed
3	Video	Only video files are displayed
4	Trash	Files are selected and then deleted

5.2.7 Color Palette

6 display modes on the color palette, as shown in Figure 5-8.

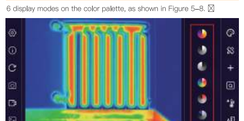


Figure 5-8

Iron	In the high-temperature region, red has a large proportion, which is suitable for detecting the scenario where the high-temperature region occupies the main proportion
White hot	The high-temperature section adopts white, and the full screen mainly adopts white-and-black transition, which is suitable for users of high temperature subjects on a low temperature background.
Black hot	The high-temperature section adopts black, and the full screen mainly adopts black-and-white transition, which is suitable for users of low temperature subjects on a high temperature background.
Rainbow	Red is used for displaying the maximum temperature, yellow is used for displaying the medium temperature, and blue and black are used for displaying the low temperature, which is suitable for scenarios with distinct colors of high and low temperature

Red heat	The main colors are red and black, and from the minimum temperature to the maximum temperature, the black, white and red transition mode is adopted, which is suitable for scenarios focusing on the high temperature state
Cold blue	Blue is used to mark the colder regions, which is more suitable for observing low-temperature target objects

By adjusting the color palette bar on the right side of the screen, the temperature range can be adjusted to make the regions that need to be observed more obvious Figure 5-9 is a comparison diagram of simply adjusting the color palette bar on the same screen.

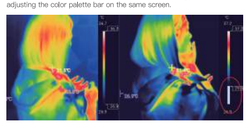


Figure 5-9

5.2.8 Regional Temperature Measurement

Click the [Regional Temperature Measurement] button on the right, and the following interface will pop up, allowing the temperature measurement of points, lines and rectangular boxes to be added to the video, in which the lines and rectangular boxes will display the real-time maximum temperature and minimum temperature of the region. By long pressing each region, the trash icon will pop up for deletion.

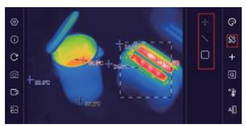


Figure 5-10

5.2.9 Temperature Tracking

Click the temperature tracking button on the right to enable or disable the measurement of the maximum temperature, minimum temperature and center point temperature on the real-time screen. Red is the maximum temperature, blue is the minimum temperature, and yellow is the center point temperature. Click to turn on temperature tracking, and click again to turn it off.

Figure 5-11

5.3.10 Highlight Rectangle Temperature

The current temperature in all rectangular boxes can be highlighted. If there is no rectangular box in the current screen, a rectangular box will be automatically added in the default position.
By long pressing the rectangular box, its size can be adjusted and its position can be dragged, and by clicking the delete icon next to it, the rectangular box can be deleted.

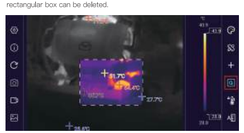


Figure 5-12

5.3.11 High-Temperature Alarm

Click the switch icon of [High-temperature Alarm], and a window for setting the high-temperature alarm threshold value pops up on the interface, as shown in the figure below. When the maximum temperature value on the screen is higher than the alarm threshold value (in the regional temperature measurement mode, the temperature in the region is taken as the benchmark, except point measurement), the system will sound an alarm, and the video screen will flash a red alarm.

Figure 5-13

5.2.12 Highlight High-temperature Regions

In this mode, the high-temperature region is displayed on the current color palette, and the other regions are displayed as white hot, and the temperature range can be adjusted by the slider on the right side of the color board bar. The analysis mode of highlighted high-temperature regions facilitates most application scenarios that focus solely on temperature values of high-temperature regions.

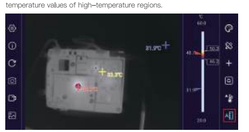


Figure 5-14

6 Precautions for Use and Maintenance

1. Please don't use alcohol, detergent and other organic cleaners to TT clean the lens, it will destroy the coating of the lens.
2. Do not let sunlight, laser or other strong light sources shine into the lens, otherwise the thermal sensor will suffer irreparable physical damage.
3. Please enable the OTG features in the mobile phone settings to run the APP, please search OTG in settings, some mobile phone default enables OTG.

7 Packing List

Name	Quantity
Thermal Camera	1 pcs
Cleaning Cloth	1 pcs
Carrying Bag	1 pcs
User manual	1 pcs

8 Appendix

Table of Reflectivity of Common Materials

Material	Emissivity	Material	Emissivity
Asphalt	0.90 to 0.98	Asphalt	Asphalt
Concrete	0.94	Concrete	Concrete
Cement	0.96	Cement	Cement
Sand	0.9	Sand	Sand
Soil	0.92 to 0.96	Soil	Soil
Water	0.92 to 0.96	Water	Water
Ice	0.96 to 0.98	Ice	Ice
Snow	0.83	Snow	Snow
Glass	0.90 to 0.95	Glass	Glass
Pottery	0.90 to 0.94	Pottery	Pottery
Marble	0.94	Marble	Marble
Plaster	0.80 to 0.90	Plaster	Plaster
Mortar	0.89 to 0.91	Mortar	Mortar
Brick	0.93 to 0.96	Brick	Brick

Customer Service
Please contact us if you have any questions about our products, we would love to hear from you.
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Lifetime Technical Support
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www.teslong.com
1-877-899-8809 (US) (Mon-Fri 8:00 AM-5:00 PM PST)