

TVT280 Visual IR Thermometer – Contents

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TVT280 Visual IR Thermometer – Product Introduction

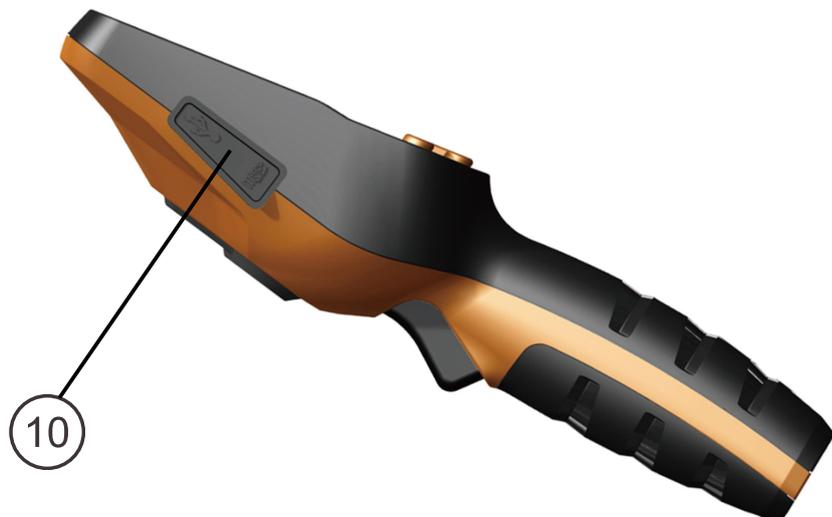
1.1 Front and Rear Panel Features

1. Indicator light
2. Display Screen
3. Menu key
4. Left key
5. Up, Down key
6. Right key
7. Power key
8. Measure key
9. Camera



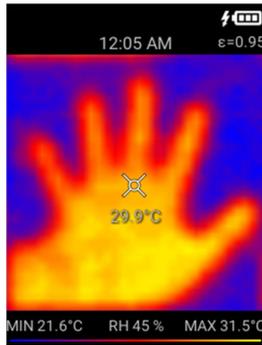
1.2 Side Panel Features

10. USB insert



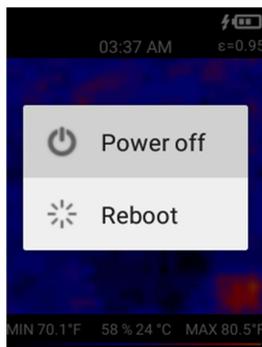
TVT280 Visual IR Thermometer – Operation Flow (rev 0.8)

2.1 Power ON: Press & Hold Power button for 2 sec.

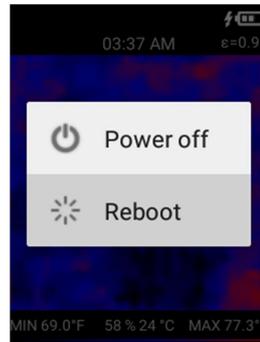
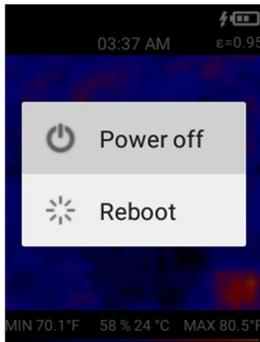


Opening Screen (wait for initialization) Measurement Screen

2.2 POWER OFF: Press & Hold Power button for 2sec.



A pop-up menu appears for Power Off or Reboot selection.



Use Up/down button to select, and press Measure button to confirm.

2.3 Display OFF: Press Power button once to turn off display. Press Power button again to turn on it.

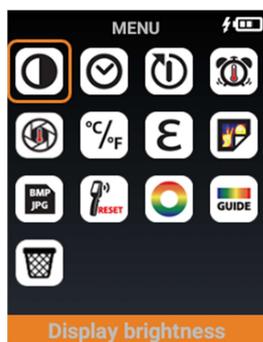
Remark: The Measurement screen is the default screen when turn on the display.

2.4 Menu Screen: Press the Menu button to enter Menu mode.

The default selection is first icon (i.e. Display brightness).

2.4.1 Use Up/Down/Left/Right button to select the icon. Then, press Measure button to open the selected item.

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2.4.2 Press Menu button to back to Measurement Screen.

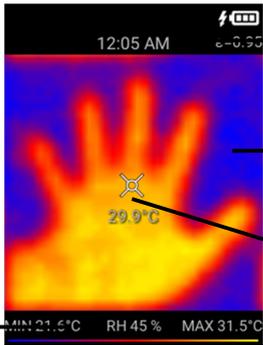
2.4.3 The summary of Menu icons:

	<p>Display Brightness</p> <ul style="list-style-type: none"> - To set the brightness of display
	<p>Date and Time</p> <ul style="list-style-type: none"> - To set time and date
	<p>Auto-Off Timer</p> <ul style="list-style-type: none"> - To set the auto-off timer for the Display
	<p>Hi-Low Temperature Alarm</p> <ul style="list-style-type: none"> - To set the high or low temperature alarm
	<p>Auto-monitor Alarm</p> <ul style="list-style-type: none"> - To capture the thermal image when over the Temperature Alarm in a period of time
	<p>Temperature Unit</p> <ul style="list-style-type: none"> - To set temperature unit degree C / degree F
	<p>Emissivity</p> <ul style="list-style-type: none"> - To adjust the emissivity from 0.1 to 1.0
	<p>View Image</p> <ul style="list-style-type: none"> - To view the captured thermal image/video
	<p>Image format</p> <ul style="list-style-type: none"> - To set the image output format (Bitmap or JPEG)
	<p>Factory Reset</p> <ul style="list-style-type: none"> - To reset factory setting
	<p>Color Palette</p> <ul style="list-style-type: none"> - To select the thermal image color palette
	<p>Color palette guide</p> <ul style="list-style-type: none"> - To turn on/off the color palette temperature reference guide
	<p>Trash</p> <ul style="list-style-type: none"> - To delete image/video permanently

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2.5 Measurement Screen

Palette guide bar included min/max object temperature, and humidity



Time & Emissivity

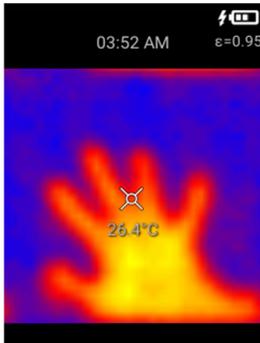
Image View Area

Object Temperature mark

2.5.1 Press Menu button to enter Menu mode.

2.5.2 Press Up/Down button to select mode of image:

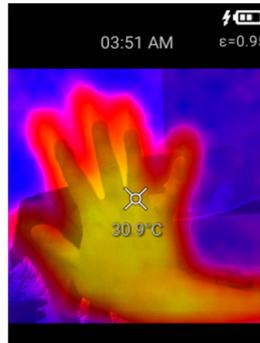
(1) Thermal Image



(2) Visual Image

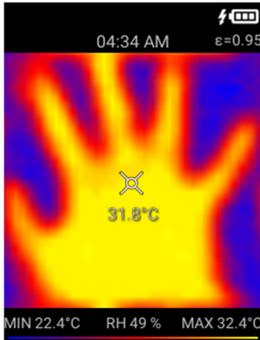


(3) Overlay Image

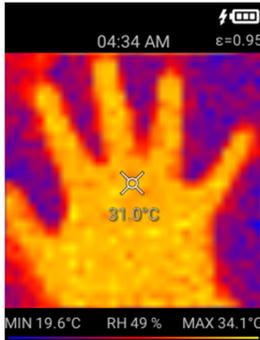


2.5.3 Press Left button to select the filter mode:

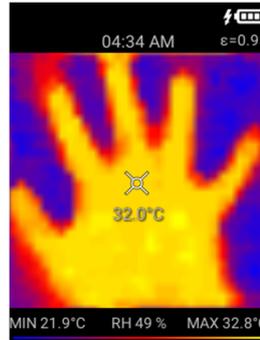
(1) Wide Gaussian filter



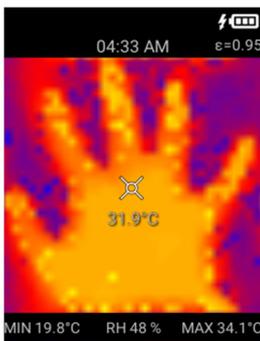
(2) No filter



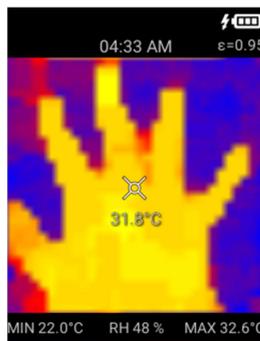
(3) Median filter



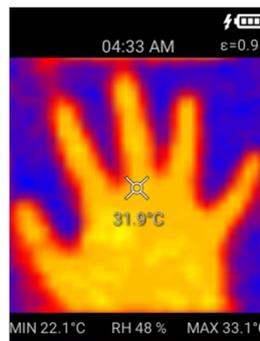
(4) Noise gate



(5) Edge-preserving

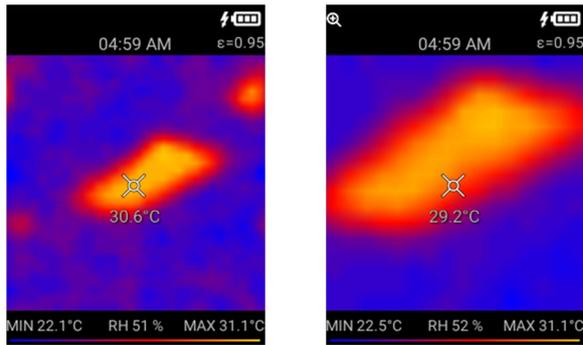


(6) Narrow Gaussian



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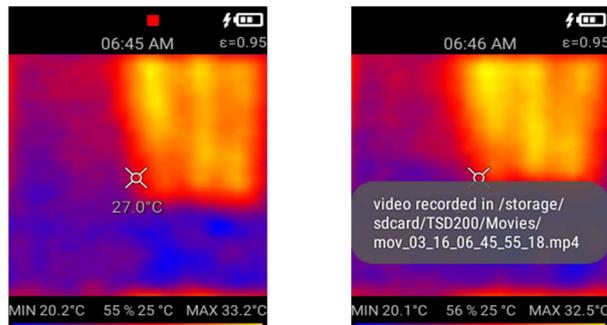
2.5.4 Press Right button to select zoom in or zoom out.



2.5.5 Press Measure button to capture the image; Press & Hold Measure button to take the video.

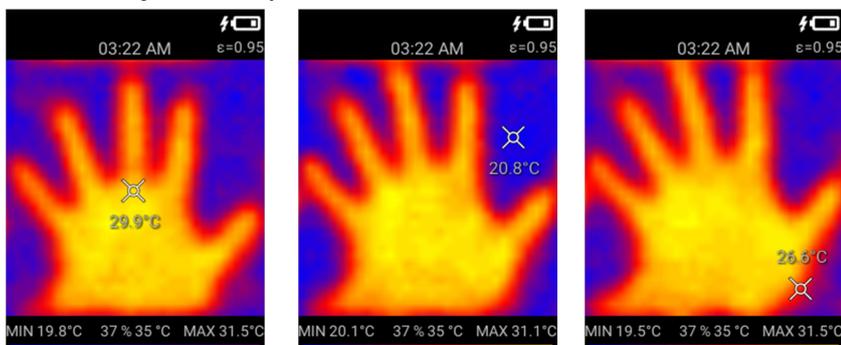


- a. The image saved in the internal memory, if the SD card is not present.
- b. If the SD card presented, it saved the image in the SD card.



- c. The recording icon appear to indicate the video recording. The video is saved in mp4 format. When the Measure button release, it stopped the recording, and save in the memory.

2.5.6 Touchable object temperature mark



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Touch the screen to move the object temperature mark, and show the temperature of that location.

2.6 Display Brightness

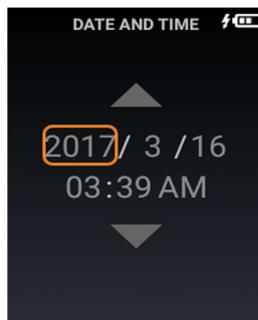


2.6.1 Press Left/Right button to increase/decrease the % of display brightness.

2.6.2 Press Measure to confirm and back to the previous screen.

2.6.3 Press Menu to back to the previous screen.

2.7 Date and Time

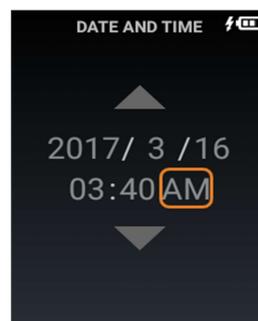
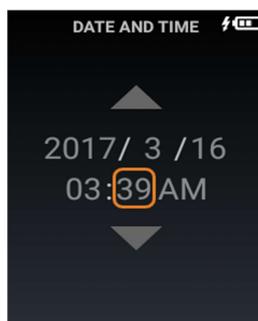
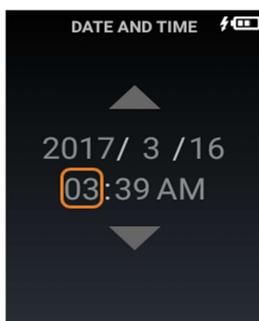
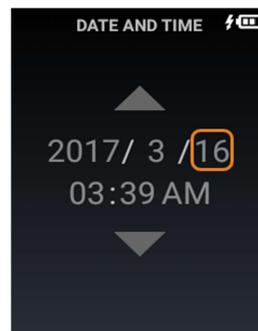
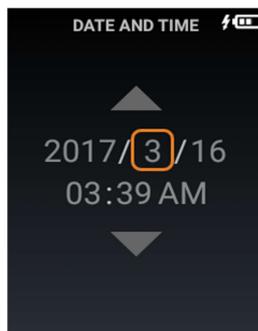
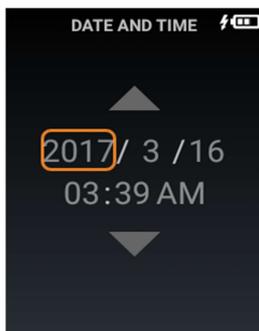


2.7.1 Press Up/Down button to increase/decrease the selected item.

2.7.2 Press Left/Right button to select the item for change.

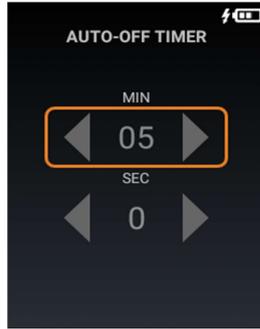
2.7.3 Press Measure to confirm and back to the previous screen.

2.7.4 Press Menu to back to the previous screen.



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2.8 Auto-off Timer

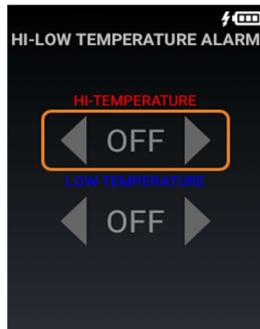


- 2.8.1 Press Left/Right button to increase/decrease the selected item.
- 2.8.2 Press Up/Down button to select the Minute or Second.
- 2.8.3 Press Measure to confirm and back to the previous screen.
- 2.8.4 Press Menu to back to the previous screen.

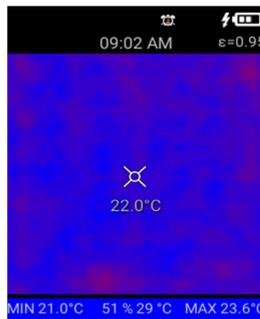
Remark:

- a. The minimum Auto-off timer is 0min,30sec.
- b. The maximum Auto-off timer is 30min,0sec.
- c. The timer is for Display OFF only.

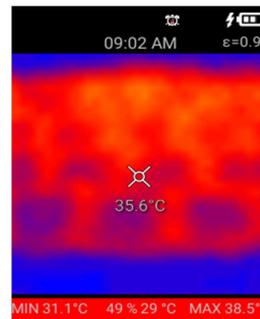
2.9 Hi-Low Temperature Alarm



- 2.9.1 Press Left/Right button to increase/decrease the selected item.
- 2.9.2 Press Up/Down button to select the Minute or Second.
- 2.9.3 Press Measure to confirm and back to the previous screen.
- 2.9.4 Press Menu to back to the previous screen.



Low Temperature Alarm
Palette guide (Blue color)



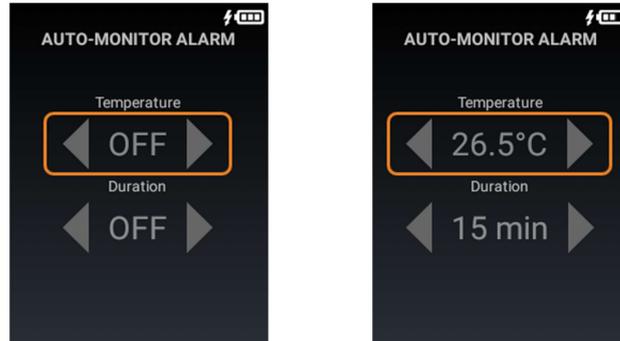
High Temperature Alarm
Palette guide (Red color)

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Remark:

- a. The default Hi-Low Temperature Alarm is OFF.
- b. Press and Hold Measure button to turn ON or OFF the Hi-Low Temperature Alarm.

2.10 Auto-Monitor Alarm



2.10.1 Press Left/Right button to increase/decrease the selected item.

2.10.2 Press Up/Down button to select the Minute or Second.

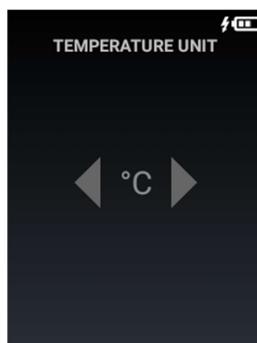
2.10.3 Press Measure to confirm and back to the previous screen.

2.10.4 Press Menu to back to the previous screen.

Remark:

- a. Duration is from 15min, 30min, 45min, 60min, 90min and 120min.
- b. The default is Auto-monitor Alarm Duration is OFF.
- c. Press and Hold Measure button to turn ON or OFF the Auto-Monitor Alarm.

2.11 Temperature Unit

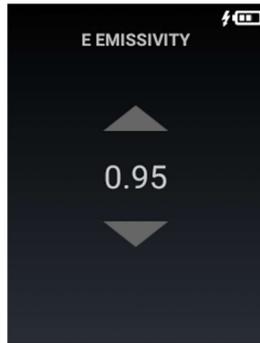


2.11.1 Press Left/Right button to select degree C or degree F.

2.11.2 Press Measure to confirm and back to the previous screen.

2.11.3 Press Menu to back to the previous screen.

2.12 Emissivity

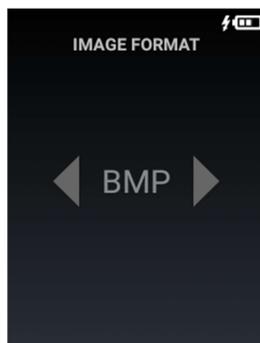


2.12.1 Press Up/Down button to adjust the emissivity.

2.12.2 Press Measure to confirm and back to the previous screen.

2.12.3 Press Menu to back to the previous screen.

2.13 Image Format



2.13.1 Press Left/Right button to select BMP or JPG image format.

2.13.2 Press Measure to confirm and back to the previous screen.

2.13.3 Press Menu to back to the previous screen.

2.14 Factory Reset



2.14.1 Press Left/Right button to select YES or NO.

2.14.2 Press Measure to confirm.

2.14.3 Press Menu to back to the previous screen.

2.15 Color Palette

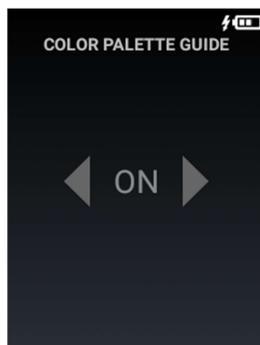


2.15.1 Press Up/Down button to select the color palette.

2.15.2 Press Measure to confirm and back to the previous screen.

2.15.3 Press Menu to back to the previous screen.

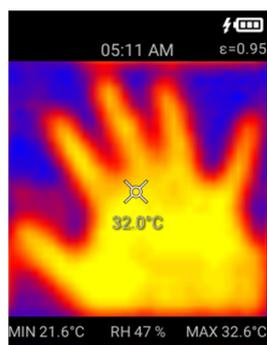
2.16 Color Palette Guide



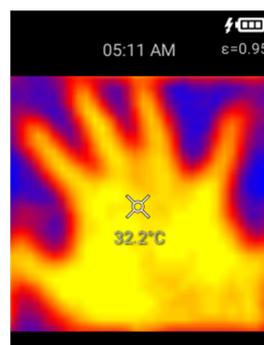
2.16.1 Press Left/Right button to select ON or OFF.

2.16.2 Press Measure to confirm and back to the previous screen.

2.16.3 Press Menu to back to the previous screen.

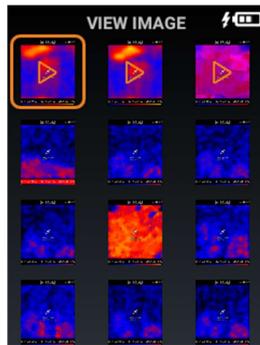


Palette guide ON



Palette guide OFF

2.17 View Image

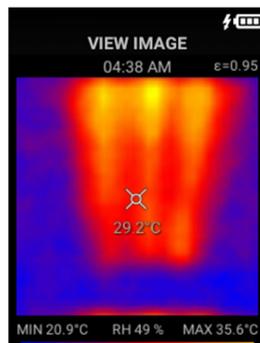


2.17.1 Press Up/Down/Left/Right button to select Image Icon.

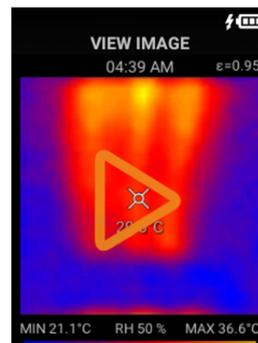
2.17.2 Press Measure to open the image or video; Press and Hold Measure to delete the selected item.

2.17.3 Press Menu to back to the previous screen.

a) View Image or Video



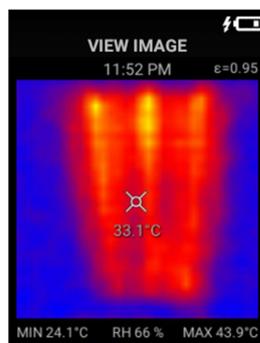
Image



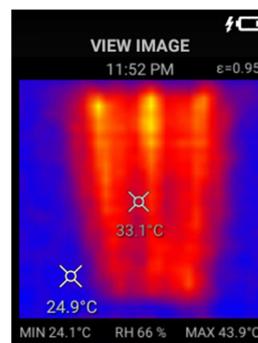
Video

- For the video, press Measure button to start the video.
- Press Left/Right button for Previous/Next Image or Video.
- Press Menu button back to previous screen.

b) View Image with touchable object temperature mark



Original Image

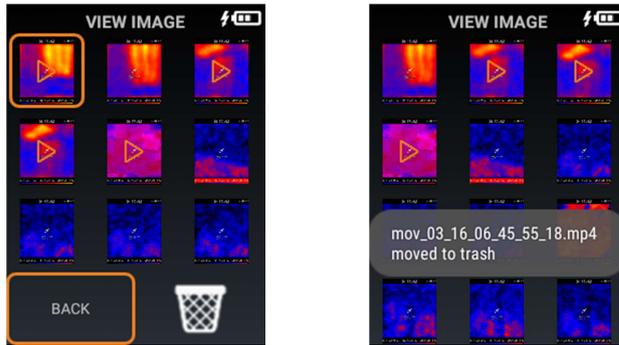


New movable temperature mark

- Touch the screen to show the temperature of that location.

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c) Delete Image or Video

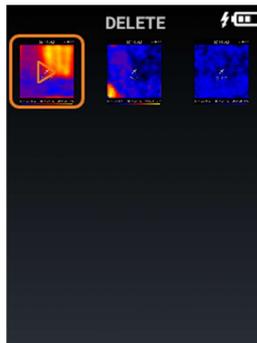


- The pop-up menu appears for delete the selected image.
- Press Left/Right button to selected BACK or Trash icon.
- Press Measure to confirm.

Remark:

The deleted items is not deleted. It will move to the Trash.

2.18 Delete

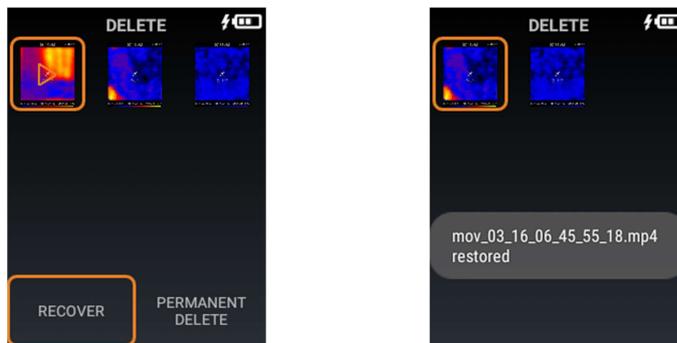


2.18.1 Press Up/Down/Left/Right button to select Image Icon.

2.18.2 Press Measure to open the image or video; Press and Hold Measure to pop-up the recover or permanent delete menu.

2.18.3 Press Menu to back to the previous screen.

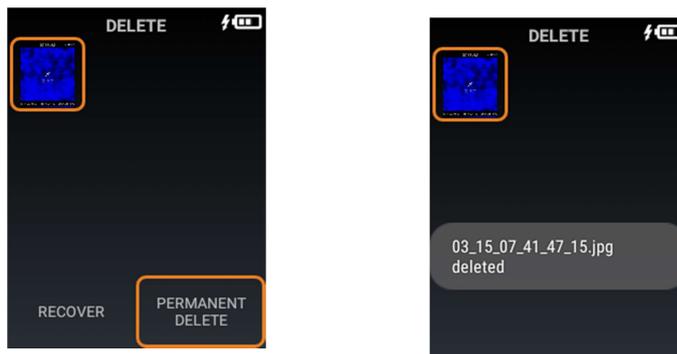
a) Recover Image



- Select the Recover, and press Measure to confirm.
- The selected item will be recovered.

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b) Permanent delete image



- Select the Permanent Delete, and press Measure to confirm.
- The selected item will be deleted permanently.

TVT280 Visual IR Thermometer – Technical Specifications

Product Specification		
1	Power Supply	3.7V Li-ion rechargeable battery, 2500mAh, Size 18650
2	Panel	2.8" color LCD display
3	Touch Panel	Resistive type Touch Panel
4	Keys	7 keys (Power, Up/Down/Left/Right, Menu, Measure)
5	Sensors	32 x 32 Thermal Array, Humidity Sensor, CMOS sensor
6	Internal memory	1GB memory
7	External memory (micro SD slot)	Up to 64GB
8	USB connection	Photo upload to PC, and USB charging battery
9	Battery life	6hrs (T.B.D)
10	Auto Power-off time	5min (T.B.D)
11	Operating temperature	-10°C ... +50°C
12	Storage temperature	-20°C ... +60°C
Thermal Image Specification		
1	Resolution of infrared image	32*32(1024) pixel
2	Resolution of visible image	0.2 megapixels
3	Field angle/shortest focal distance	33°x33°/5.0mm

4	Thermal sensitivity	0,15°C
5	Range of temperature measurement	-30°C ... +1000°C
6	Measure accuracy	±2%/±2°C (±2%/±4°F)
7	Emissivity	0.1 – 1.0
8	Image capturing frequency	6Hz
9	Range of wave length	8-11.5µm
10	Focal distance	Fixed
11	Vision option	5 variants
12	Image format	PNG, JPG
13	Video format	MP4
Humidity Specification		
1	Measure accuracy	+/- 3%RH, 0 – 80% RH
2	Operating range	0% - 100% RH
3	Display Resolution	1%
Software Features (To be defined)		
1	Blending mode	Hue blending
2	Temperature Alert	High or Low Temperature Alert
3	Image & Video recording	PNG/JPG (Image), MP4 (Video)
4	Brightness	Adjustable Brightness
5	Auto off function	Adjustable Auto-off function