

1 Document

This document describes the specifications of thermal imaging camera, Thermal expert TE-SQ1

2 Summary

TE-SQ1 is a portable thermal imaging camera that combines a micro-bolometer IR sensor (320x240, 12 μ m pixel pitch) and a visible sensor. TE-SQ1 applied with Android 8 version and 5 inch large display, can take both thermal images and visible images at the same time, and can share images through Wi-Fi communication. Using Analysis tool in SQ1, users can generate and submit reports immediately, and analysis software for Windows OS will be provided as well.



FIGURE 1 : Thermal Expert SQ1

3 Product Specification

3.1 TE-SQ1

Specification		TE-SQ1	
Major Specification	Detector type		Micro-Bolometer (uncooled)
	Array format and Pitch		320x240, 12μm
	Thermal sensitivity(NETD)		55mK / F#1.0, (20°C~30°C)
	Operability(Based on dead)		≥ 99.0%
	Spectral range		7.5 ~ 14μm
	Lens Spec.		Focal Length 5.7mm, f/1.1, Manual Focus
	Field Of View		38°(H) × 29°(V) – 47°(V)
	Visible sensor		3MP
	Frame rate	Standard	<9Hz
		Performance	Equal to or Above 15Hz
Display		5' Display	
Temperature Measurement	Scene Range Temperature		Maximum 350°C, Minimum -40°C -40 ~ 100°C, 100 ~ 350°C
	Temperature accuracy		Target object Temperature 20 ~ 60°C : ± 2°C 0~20°C, 60 ~ 350°C : ±3°C or ± 3%
	Measurement Function		Point, Line, Rectangle, Maximum/Minimum
	Measurement correction		Emissivity Correction
Additional Function	LED Flash		LED Flash
	Laser Pointer		Laser Pointer for targeting
	WiFi		802.11
	Storage		Internal 32GB, Micro SD Card port Supported
	Tripod Mount		Supported
	Colormap		12 colors Supported
Physical Specification	Size		34mm x 38mm x 24.5mm
	Weigh		375g
Power	Battery Type		Built in rechargeable Li-ion Battery, 4200mA
	Battery Life		3hours
	Charging Time		3hours
	Charging Device		5V DC Power charger, USB-C cable included

Durability	Impact Test	IEC 60068-2-29
	Vibration Test	IEC 60068-2-6
	Storage Temperature	-20 ~ 60°C
	Operating Temperature	-10 ~ 50°C
	IP Code	IP54

1) Temperature accuracy can be further calibrated through blackbody and software processing

3.2 Product image



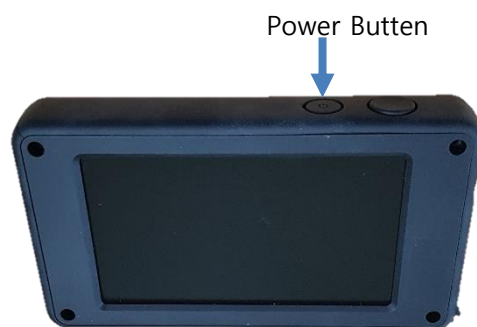
FIGURE 2 : Thermal Expert SQ1

4 Item in the box

4.1 Item in the box

 <p>TE-SQ1</p>	 <p>DC Power Supply</p>
 <p>Charging cable</p>	 <p>Wrist strap</p>

5 TE-SQ1 Product User Guide



1. Hold Power Button for 2~3 seconds to turn on the Camera

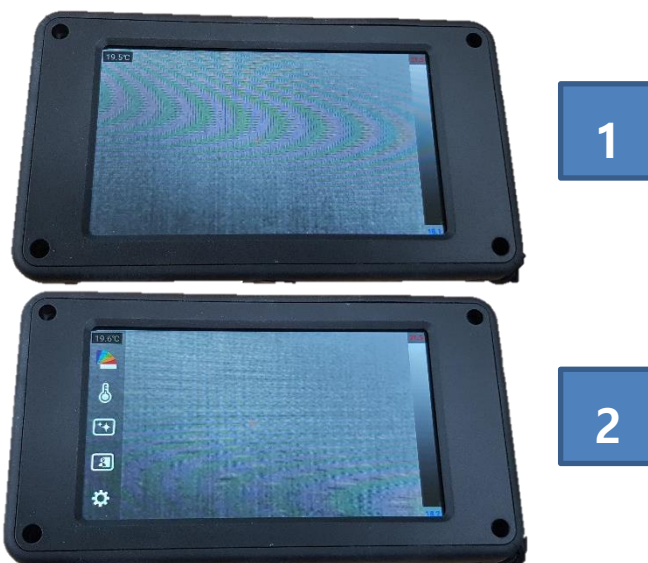


2. As soon as the camera is turned on, device will show lock screen as it is above.

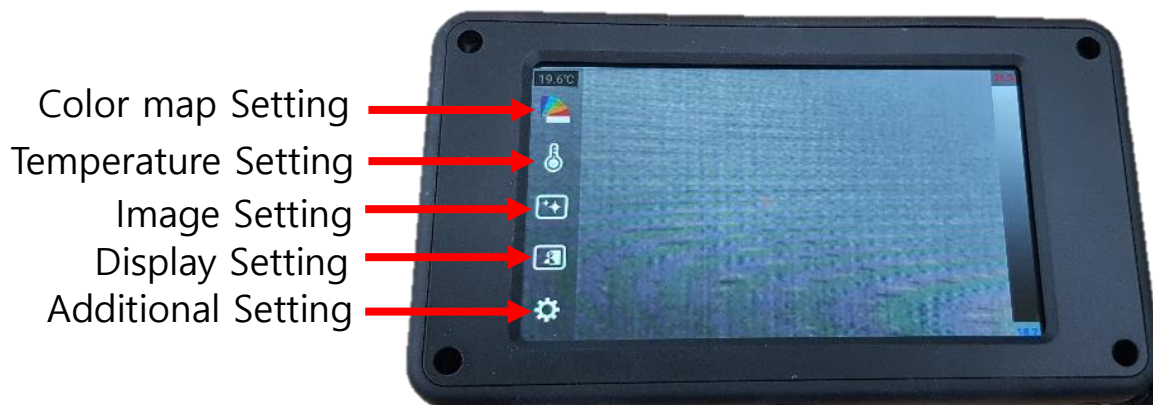


3. Unlock the device and open the TE-SA application on the app menu

3.1 As soon as app is opened, Image #2 will be on the display.



4. When the app runs, IR image is on the display. When you click the screen once, product menu appears on the left side of the screen



6 Cautions

6.1 Cautions for the product

6.1.1 To prevent damage to the product, do not drop or attempt to impact the product.

6.1.2 Do not put pressure on the infrared lens as the lens may break.

6.1.3 Be careful not to damage coating on the infrared lens

6.1.4 Do not expose the product to high-temperature environments or heat sources such as the sun, laser, and etc.

- When exposed to heat sources, the thermal sensor inside the product may get damaged or the thermal image quality may get degraded.

6.1.5 Always operate the product in the specified operating temperature range. Failure to use the product within the specified operating temperature range may result in the damage to the thermal sensor and electronic parts of the product.

6.1.6 Do not expose the product to water, rain, dust etc. as the product is IP54 rated.

6.1.7 Do not use compressed air for cleaning.

6.1.8 To charge the product, connect only 5V DC power of the USB Connector. Using other types of power may cause damage to the product.

6.1.9 This product does not support Bluetooth Communication.

6.2 Warranty

TE-SQ1 is a thermal imaging camera designed for thermography, and when using it for other purposes, prior consultation with the manufacturer is required. The warranty period is 12 months and begins on the date of shipment. Product issues occurring within the warranty period will be repaired or replaced free of charge. However, damages caused by user's negligence, physical impact on the product or disassembly of the product are not covered by the free repair, and in this case, certain amount of cost can be charged to the user according to the manufacturer's internal RMA policy even within the warranty period.

7 Notification

7.1 Notification for User

- 7.1.1 As the mini HDMI port on the right side of the product is for the administrator, the user can't use this Mini HDMI for data transmission or any other developments.
- 7.1.2 Sellers and users should be aware of that this product is a business (CLASS A) electromagnetic wave compliant device, and the product is designed and intended to be used outside the home.

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

Any changes or modifications (including the antennas) to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.