Fluke TC01A

Thermal Camera for Smartphone

Users Guide

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Introduction

The TC01A (the Product or Camera) is a Thermal Camera that attaches to a smartphone. You can get thermal images and conduct non-contact temperature measurement from the Camera on your smart devices using the iSee™ App. Use the Product for many applications, such as equipment troubleshooting, preventive and predictive maintenance, buildings diagnostics, and more.

Contact Fluke

Fluke Corporation operates worldwide. For local contact information, go to our website: www.fluke.com.

To register your product, view, print, or download the latest manual or manual supplement, go to our website.

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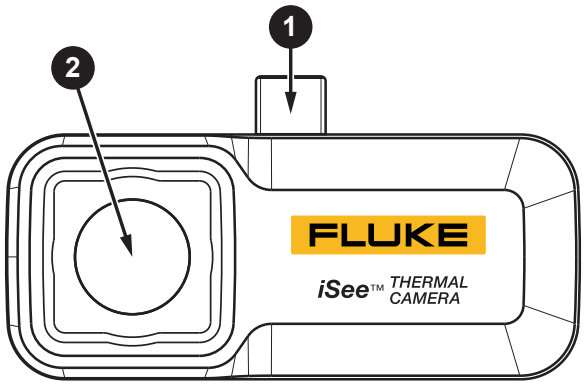
Main Features

- Take, edit, and share infrared pictures.
- Take and share infrared video.
- Non-contact temperature measurement up to 550 °C (1022 °F).
- Field monitoring (interval captures).
- Customized palette.
- Analyze dot, line, and zone temperature.
- Alarm for the area over or below preset temperature range and take photo or video automatically.
- Infrared report generation for one or several infrared pictures.

Product Diagram

Table 1. Product Diagram



Item	Description
1	Type-C connector
2	Infrared Lens
Note: This product does not include Smart devices.	

Operating Instruction

- The Product requires a smart device such as a smartphone. Download and install Fluke iSee™ App on your smart device. To download the software. See Figure 1.

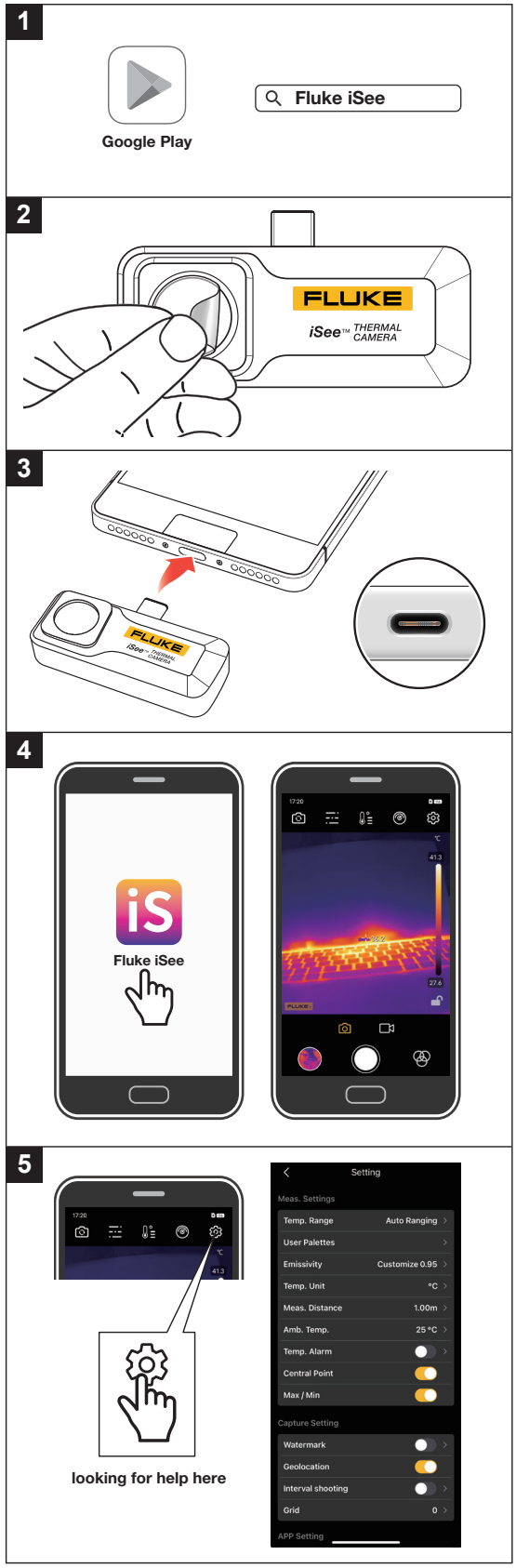
Required Equipment

- The Fluke iSee App™ supports Android 6.0/ HarmonyOS 2.0 and above versions. Enable the OTG feature of your smartphone.
- The Product does not contain a battery. The Product is powered by the smart devices.
- To prevent damage to the connector and USB port, be gentle when you plug and unplug the Product.
- For more accurate measurements, do a manual nonuniformity correction (usually called NUC or shutter) before you take an infrared picture.

To use the Product

1. Remove the protective film from the infrared lens. See Figure 2.
2. Plug in the product to your smart devices. See Figure 3.
3. Run the App (When the Product is plugged in, the App will auto pop-up if it is already installed on your smart devices. See Figure 4.)
4. To make an accurate measurement, you must properly set the measuring parameters. For example emissivity, measuring distance, ambient temperature, and others. Refer to the help file in the App. See Figure 5.

   To provide an optimal image, the Camera automatically refreshes the image periodically by a internal mechanical shutter, it makes a clicking sound when it activates and the image might freeze briefly. You can also use the iSee App to manually activate the shutter.



Cleaning the Lens

Always keep the lens clean. A clean lens is important to good pictures and accurate measurements. To clean the lens:

1. Lightly blow off loose particles with canned air or a small squeeze bellows.
2. Gently brush off any remaining particles with a soft camel hair brush or a soft lens tissue.
3. Clean remaining dirt using a cotton swab or soft lens tissue dampened in distilled water. Do not scratch the surface.
4. For fingerprints or other grease, apply Ethanol or denatured alcohol to the lens. Wipe gently with a soft, clean cloth until you see colors on the surface, then allow to air dry.
5. If silicones (used in hand creams) get on the window, gently wipe the surface with Hexane. Allow to air dry.

Specifications

General Specifications

Connector	Type-C
Operating Temperature	0 °C to +40 °C (32 °F to 104 °F)
Storage Temperature	-30 °C to +60 °C (-22 °F to 140 °F)
Operating Humidity	10% to 90% RH, Non condensing
Power Consumption	350 mW (Typical)
Ingress Protection (IP) Rating	IEC 60529: IP54 (with type-C connector covered)
Operating Altitude	2000 m
Storage Altitude	12000 m
Size (L x W x H)	60 x 33.5 x 11.2 mm
Weight	22 g
Electromagnetic Compatibility (EMC)	
International	IEC 61326-1: Portable Electromagnetic Environment CISPR 11: Group 1, Class A
Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself. *Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a lowvoltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.* *Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.*	
Korea (KCC)	Class A equipment (Industrial Broadcast & Communications Equipment)
Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.	
USA (FCC)	47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.

Optical Performance

Image Resolution	256 x 192
Pixel Size	12 µm
Measuring Range	-10 °C to 150 °C, 100 °C to 550 °C (14 °F to 302 °F, 212 °F to 1022 °F)
Accuracy	± 2% of reading / ±2 °C (3.6 °F), whichever is greater (at 23 ±5 °C, 73 ± 9 °F ambient)
Distance	0.25 m to 5 m [1]
Frame Rate	25 Hz / 9 Hz
Warm Up	1 minute
Focus	Fixed 3.2 mm
Nonuniformity correction (NUC)	Auto or manual
NETD	50 mK
Spectral Range	8 to 14 µm
Field of View (H x V)	56° x 42°
Spatial Resolution (IFOV)	3.81 mrad
[1] -10 °C to 10 °C (14 °F to 50 °F) applicable only for 0.25 m to 3 m.	