

Fluke TC01B

Thermal Camera for Smart Devices

Users Guide

September 2023

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Introduction

The TC01B (the Product or Camera) is a Thermal Camera that attaches to a smart device (iPhone and iPad). You can get thermal images and conduct non-contact temperature measurement from the Camera on your smart devices using the iSee™ App for many applications, such as equipment troubleshooting, preventive and predictive maintenance, buildings diagnostics, etc.

Contact Fluke

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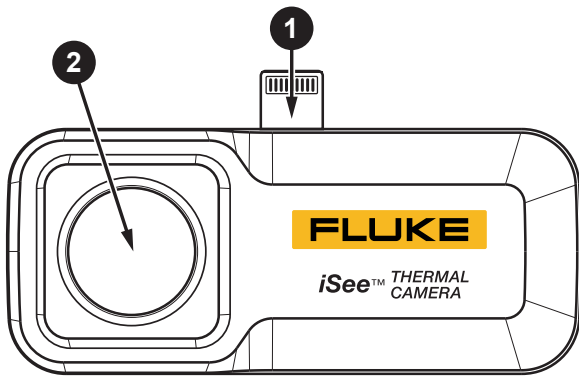
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Main Features

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

Product Diagram

Table 1. Product Diagram

	
Item	Description
①	Lightning connector
②	Infrared Lens
<i>Note: This product does not include Smart devices.</i>	

Operating Instruction

- The Product requires a smart device such as a iPhone or iPad. Download and install Fluke iSee™ App on your smart device. To download the software. See [Figure 1](#).

Required Equipment

- The Fluke iSee™ App (for iOS) support iOS 11.0 and above versions.
- 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 call it NUC or shutter) before you take an infrared picture.

To use the Product

- Remove the protective film from the infrared lens. See [Figure 2](#).
- Plug in the product to your smart devices. See [Figure 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](#).)
- 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	Lightning
Operating Temperature	0 °C to +40 °C
Storage Temperature	-30 °C to +60 °C
Operating Humidity	10% to 90% RH, Non condensing
Power Consumption	200 mW (Typical)
Ingress Protection (IP) Rating	IEC 60529: IP56
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 <i>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.</i> <i>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.</i> <i>Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.</i>
Korea (KCC)	Class A equipment (Industrial Broadcast & Communications Equipment) <i>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.</i>
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	-20 °C to 150 °C, 100 °C to 550 °C
Accuracy	$\pm 2\%$ of reading / ± 2 °C, whichever is greater (at 23 ± 5 °C ambient)
Distance	0.25 m to 5 m ^[1]
Frame Rate	25 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] -20 °C to 10 °C applicable only for 0.25 m to 3 m.	

Appendix - Statement for Accessory made for Apple

Product name: Thermal camera FLUKE-TC01B

Made for:

iPhone 14 Pro Max, iPhone 14 Pro, iPhone 14 Plus, iPhone 14, iPhone SE (3rd generation), iPhone 13 Pro Max, iPhone 13 Pro, iPhone 13, iPhone 13 mini, iPhone 12 Pro Max, iPhone 12 Pro, iPhone 12, iPhone 12 mini, iPhone SE (2nd generation), iPhone 11 Pro Max, iPhone 11 Pro, iPhone 11, iPhone XS Max, iPhone XS, iPhone XR, iPhone X, iPhone 8 Plus, iPhone 8, iPad (9th generation), iPad (8th generation), iPad Pro 10.5-inch, iPad Pro 12.9-inch (2nd generation), iPad Pro 9.7-inch, iPad Pro 12.9-inch (1st generation), iPad Air (3rd generation), iPad mini (5th generation), iPad mini 4, iPad (7th generation), iPad (6th generation), iPad (5th generation)

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