

Ti200, Ti300, Ti400, Ti450, Ti450SF6, Ti480 Thermal Imagers

Safety Information



2-Year Limited Warranty.
See the Users Manual for the full warranty.

Go to www.fluke.com for more information.

To view, print, or download the latest manual supplement, visit
<http://us.fluke.com/usen/support/manuals>.

A **Warning** identifies hazardous conditions and procedures that are dangerous to the user. A **Caution** identifies conditions and procedures that can cause damage to the Product or the equipment under test.

Warning

To prevent possible electrical shock, fire, or personal injury and for safe operation of the Product:

- Read all safety information before you use the Product.
- Carefully read all instructions.
- Do not alter the Product and use only as specified, or the protection supplied by the Product can be compromised.
- Replace the batteries when the low battery indicator shows to prevent incorrect measurements.
- Do not use the Product if it operates incorrectly.
- Do not use the Product if it is altered or damaged.
- Disable the Product if it is damaged.

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Specifications are subject to change without notice.

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Ленинградский проспект дом 37,

корпус 9, подъезд 4, 1 этаж

- See emissivity information for actual temperatures. Reflective objects result in lower than actual temperature measurements. These objects pose a burn hazard.
- Do not put battery cells and battery packs near heat or fire. Do not put in sunlight.
- Do not disassemble or crush battery cells and battery packs.
- Remove batteries to prevent battery leakage and damage to the Product if it is not used for an extended period.
- Connect the battery charger to the mains power outlet before the charger.
- Use only Fluke approved power adapters to charge the battery.
- Keep cells and battery packs clean and dry. Clean dirty connectors with a dry, clean cloth.
- Batteries contain hazardous chemicals that can cause burns or explode. If exposure to chemicals occurs, clean with water and get medical aid.
- Do not disassemble the battery.
- Repair the Product before use if the battery leaks.
- Use only the external mains power supply included with the Product.
- Do not put metal objects into connectors.
- Use only specified replacement parts.
- Have an approved technician repair the Product.
- Remove the batteries if the Product is not used for an extended period of time, or if stored in temperatures above 50 °C. If the batteries are not removed, battery leakage can damage the Product.
- Disconnect the battery charger and move the Product or battery to a cool, non-flammable location if the rechargeable battery becomes hot (>50 °C) during the charge period.
- Replace the rechargeable battery after 5 years of moderate use or 2 years of heavy use. Moderate use is defined as recharged twice a week. Heavy use is defined as discharged to cutoff and recharged daily.
- Do not short the battery terminals together.
- Do not keep cells or batteries in a container where the terminals can be shorted.
- Do not look into the laser. Do not point the laser directly at persons or animals or indirectly off reflective surfaces.














- Do not look directly into the laser with optical tools (for example, binoculars, telescopes, microscopes). Optical tools can focus the laser and be dangerous to the eye.
- Do not open the Product. The laser beam is dangerous to eyes. Have the Product repaired only through an approved technical site.
- Do not use laser viewing glasses as laser protection glasses. Laser viewing glasses are used only for better visibility of the laser in bright light.



Caution

Storage and/or continual operation of the Imager in extreme ambient temperature conditions can result in temporary interruption of operation. If this occurs, let the Imager stabilize (cool down or warm up) before you resume operation.

Symbols

The table below lists the symbols that can be used on the Product or in this document.

Symbol	Description
	Consult user documentation.
	WARNING. RISK OF DANGER.
	WARNING. HAZARDOUS VOLTAGE. Risk of electric shock.
	WARNING. LASER RADIATION. Risk of eye damage.
	Connected to ac power. Battery removed.
	Battery status. Battery charging when animated.
	On/Off
	Conforms to European Union directives.
	Certified by CSA Group to North American safety standards.
	Conforms to relevant Australian Safety and EMC standards.
	Conforms to relevant South Korean EMC standards.
	Japan Quality Association
	This Product contains a lithium-ion battery. Do not mix with the solid waste stream. Spent batteries should be disposed of by a qualified recycler or hazardous materials handler per local regulations. Contact your authorized Fluke Service Center for recycling information.

Symbol	Description
	This product complies with the WEEE Directive marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 "Monitoring and Control Instrumentation" product. Do not dispose of this product as unsorted municipal waste.
	Indicates a Class 2 laser. DO NOT STARE INTO BEAM The following text may appear with the symbol on the product label: "IEC/EN 60825-1:2014. Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice 50, dated June 24, 2007." In addition, the following pattern on the label will indicate wavelength and optical power: $\lambda = xxxnm, x.xxmW$.

Specifications

Temperature

Operating	-10 °C to +50 °C (+14 °F to +131 °F)
Storage	-20 °C to +50 °C (-4 °F to +122 °F) without batteries

Relative Humidity 10 % to 95 % non-condensing

Altitude

Operating	2000 m
Storage	12 000 m

Power

Batteries 2 Lithium-ion rechargeable smart battery packs with 5-segment LED to show charge level.

Battery Life

Ti200, Ti300, Ti400, Ti450, Ti450SF6	3 hours to 4 hours continuous use for each battery pack (Actual life depends on settings and usage.)
Ti480	2 hours to 3 hours continuous use for each battery pack (Actual life depends on settings and usage.)

Battery Charge Time 2.5 hours to full charge

Battery Charge

Temperature 0 °C to +40 °C (+32 °F to +104 °F)

AC Battery Charge Ti SBC3B Two Bay Battery Charger (110 V ac to 220 V ac, 50/60 Hz, included), or in-Imager charging. AC universal adapters included. Optional 12 V automotive charging adapter

AC Operation AC operation with included power supply: 110 Vac to 220 Vac, 50/60 Hz ac universal adapters included

Power Save User-selectable Sleep and Power Off modes

Vibration	0.03 g2/Hz (3.8 gm), 2.5 g, IEC 68-2-6
Shock	25 G, IEC 68-2-29
Drop	1 meter (with standard lens)
Size (H x W x L)	27.7 cm x 12.2 cm x 16.7 cm (10.9 in x 4.8 in x 6.5 in)

Weight

(includes batteries) 1.04 kg (2.3 lb)

Enclosure Rating..... IP54

Safety

IEC 61010-1: Pollution Degree 2

Wireless Radio

Frequency..... 2412 MHz to 2462 MHz

Output Power..... <100 mW

Laser..... IEC 60825-1:2014, Class 2

Wavelength..... 650 nm

Max Output Power..... <1 mW

Electromagnetic Compatibility (EMC)

International..... IEC 61326-1: Portable Electromagnetic Environment; IEC 61326-2-2
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 low-voltage 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 Broadcasting & Communication 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 C Sections 15.207, 15.209, 15.249.