

TC-6000 INFRARED THERMOMETER

-30~ +550°C



Please note that misuse of this device may lead to injury to the user or damage to the device. Please observe all safety precautions and warnings in this instruction manual.

Thank you for purchasing our Infrared Thermometer. Please read this instruction manual carefully before using to ensure the correct usage of this device. Please keep this instruction manual for future reference.

Customer Service

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Safety Precautions

For safe usage of this device, please observe all statements regarding precautions and warnings in this instruction manual.

ATTENTION

Warning

- This unit emits a laser light when used. Please do not point the laser light directly to human or animal eye.
- Do not look directly at the laser light.
- When measuring objects with mirrorized or reflective surfaces, avoid looking directly at the reflection of the laser light.
- Do not aim or point the laser light at inflammable gases or objects.

Caution

- Do not use this device near machines that emit strong electromagnetic fields or objects that store static electricity.
- Do not use this device in places where corrosive or explosive gases are present. This may cause damage or explosion of the device.
- Do not use or store this device where it can be exposed to direct sunlight, dust, high temperature and high humidity.
- Do not expose the lens directly to sunlight or strong light, this may cause damage to the sensor.
- Dirt, stain, scratch, or foreign objects on the lens may cause error or wrong measurement. Make sure that objects being measured does not come into contact with the lens.
- Do not drop or subject this device to strong impact.
- Do not use or store this device where it will be exposed to water or in places with wet conditions.
- See the battery case markings to ensure that the battery is properly installed.
- Remove the battery when the device will not be used for a long period of time.
- Do not attempt to disassemble or modify this device.
- The temperature of the user's hands may affect or influence the measurement of the device, avoid touching or holding the head (sensor part) of the device.
- In cases where there is a sudden change of temperature of the environment where the device is being used (from a hot place to a cold place or from a cold place to a hot place), do not operate the unit and leave the device as is for approx. 20 mins. until the temperature of the devices fully adjusts to the new environment before using the device.
- When the device is brought from a cold place to a hot place, dew may form on the lens, in this case, leave as is the device for approx. 10 min. or until the dew is completely disappeared on the lens.
- In case the surface of the object to be measured is frosted, wipe out the frost from the surface before measuring.
- In case the surface of the object to be measured reflects a strong light, stick a matte black colored masking tape on the surface to be measured.

1. Functions

a. Measuring Procedure

- 1.) Press the trigger button.
- 2.) Aim the device at the object being measured.
- 3.) Then, the temperature reading will be displayed.

b. Auto Power Off

This unit will automatically switch off if none of the buttons are pressed for approx. 8 seconds. To measure again, simply pull the trigger button.

c. Power

The device will be switched on when the trigger button is pulled.

d. Laser Sight

The laser sight will be activated when the trigger button is pulled when making measurement. It will be indicated by a symbol on the upper left corner of the display.

e. Backlight

The backlight is activated automatically when the trigger button is pulled when making measurement.

f. Battery Replacement

The symbol on the display indicates a low battery condition. Replace the battery when this occurs. Remove the cover of the battery compartment. Replace the old battery with a new one. After installing new battery, replace the cover.

* The instrument cannot measure accurately after low battery indicator is displayed. Please replace the battery immediately.

g. Storage

For proper storage, avoid places where the device can be exposed to direct sunlight, high humidity, high temperature, vibration and shock, dust, rust, corrosion, etc. Remove battery when the device will not be used for a long period of time.

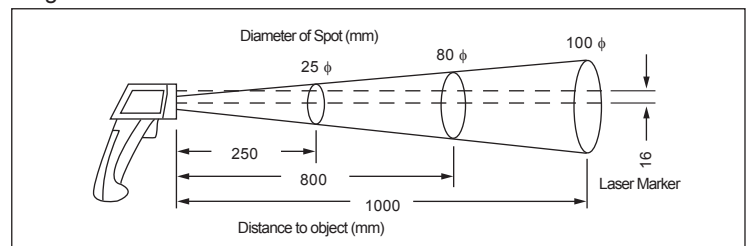
2. Measurement Theory

- Energy is emitted by all objects in proportion to its temperature. The hotter the object, the greater energy it emits. This permits the measurement of the object's temperature by measuring the emitted energy, particularly the infrared portion of the spectrum of the emitted radiation.
- Infrared radiation is part of the electromagnetic waves spectrum, which is easily transmitted through the atmosphere and be easily absorbed by any solid object. An infrared thermometer can absorb this emitted infrared energy from any object and use it to accurately measure an object's temperature.
- The ratio of the infrared energy radiated by an object at a given temperature to the energy emitted by a perfect radiator, or Blackbody, at the same temperature is called the Emissivity. The emissivity of a blackbody is 1.00. All values of emissivity fall between 0.00 and 1.00. Thus, depending on the object's material and/or surface, the emissivity value varies. The TC-6000 has a fixed emissivity setting of 0.95, which covers 90% of typical objects.

3. General Specifications

● Main Unit	
MODEL	TC-6000
SENSOR TYPE	Thermopiles
MEASURING RANGE	-30°C ~ +550°C
RESOLUTION	0.5°C/1°C (auto change)
ACCURACY	±2% rdg or ±3°C whichever is higher
SAMPLING TIME	4 cycles/seconds
EMISSIVITY	0.95 fixed
LASER SIGHTING	Spot Laser
TARGET SPOT SIZE & DISTANCE	φ100mm at 1000mm
DISPLAY	3.5 digits LCD
OPERATING TEMP./HUMIDITY	0°C ~ 50°C, 70%RH max. (non-condensing)
STORAGE TEMP./HUMIDITY	-20°C ~ 60°C, 80%RH max. (without batteries)
AUTO POWER OFF	approx. 8 sec. after last button pressed
POWER	006P (9V) battery x 1 pc.
DIMENSIONS/WEIGHT	148 (W) X 105 (H) X 42 (D) mm approx. 157g (including battery)
CONTENTS	Instruction Manual x 1 pc. 006P (9V) battery x 1 pc. Vinyl Cover x 1 pc. Sensor Cover x 1 pc.

Target Size and Distances:



Above diagram shows the Field of View (Spot Size) increases when distance from the sensor tip to the object increases.