ATE-2520

INFRARED THERMOMETE

USER'S MANUAL

CONTENTS

1. SAFETY INFORMATION

* Please read the following information carefully before using the meter.
* Do not clear the meter using solvents.

Safety symbols:

⚠ Important safety information, refer to the operating manual.

CE Comply with European CE safety standards

This instrument is compatible with the following standards:

* EN61326-1
* EN61010-1
* EN60825-1

⚠ **Warning: Do not point laser directly at eye or indirectly off reflective surfaces.**

2. CAUTIONS

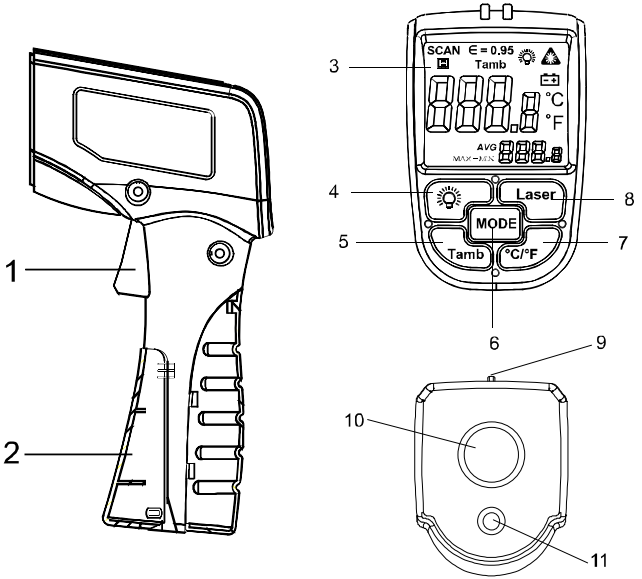
When ambient temperature changes quickly, it must wait 30 minutes to balance the heat of the instrument before use.

Avoid EMF (electromagnetic fields) from arc weld, induction furnace, etc…

Do not leave the unit on or near high temperature objects.

Keep the instrument clean, and do not get dust into detecting hole.

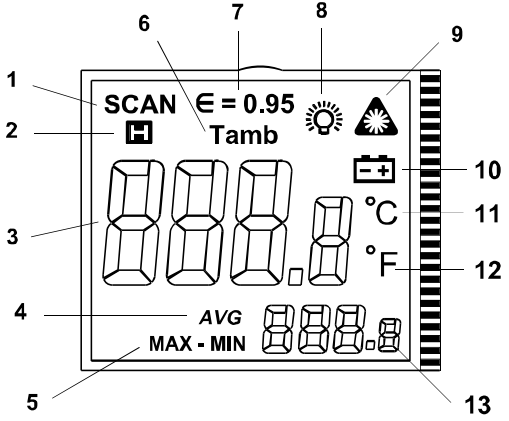
3. NAMES OF COMPONENTS



1. Trigger
2. Battery cover
3. LCD display
4. Back light button
5. Ambient temperature button
6. Mode button
7. °C/°F selection button
8. Laser button

9. Collimator
10. Temperature detect hole
11. Laser emission orifice

4. LCD illustration



1. Measurement indication
2. Data hold
3. The first temperature display
4. Average value indication
5. Max/Min/Max-Min value indication
6. Ambient temperature measurement indication
7. Emissivity display

8. Back light indication
9. Laser emission indication
10. Low power indication
11. °C temperature unit
12. °F temperature unit
13. The second temperature display

5. MEASUREMENT PRINCIPLE

Non-contact Thermometer detects the infrared ray that an object emits, The instrument focalizes infrared energy of the object onto a sensor through a lens, changes the surface temperature into electric signal, a microcomputer calculates and displays the measurement temperature on the LCD. The method can measure object's surface temperature without contact. The laser is used to aim target only.

6. OPERATING INSTRUCTION

1. To measure the temperature of an object, point the unit at it, press the trigger down and keep, you can measure the temperature continuously. After releasing trigger, LCD will hold the result of measurement. The first temperature indicates the current measurement value; the second temperature indicates the calculated value.

2. When an object is far from the thermometer, by pressing laser button to light the laser to aim at object.

3. To measure in the night, by pressing backlight button to light the backlight.

4. By pressing “MODE” button to change the mode of the second temperature, it can show AVG (average), MAX (maximum), MIN (minimum), MAX-MIN value.

5. By pressing °C/°F button to choose °C or °F temperature unit to show temperature.

6. To measure the ambient temperature, just press “Tamb” key, and then press the trigger down and keep, you can get the measurement result from LCD directly. After releasing trigger, LCD will hold the measurement result.
The first value indicates the temperature of an object; the second value indicates the ambient temperature.

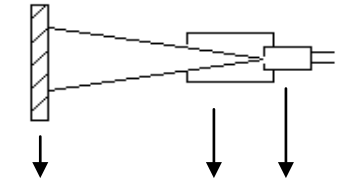
NOTE:

(1) To get an accurate measurement result, refer to D:S ratio, Emissivity sections.

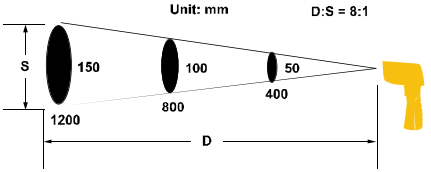
(2) After releasing the trigger, the unit automatically turns off after about 25 seconds of inactivity.

7. D:S RATIO

The thermometer has a visual angle and visual spot size; a drawing shows it as following:



Make sure that the target is larger than the unit’s visual spot size. The smaller the target, the closer you should be to it. The relationship between distance and spot size is 8:1, the drawing as following:



Distance (D) Spot size (S)

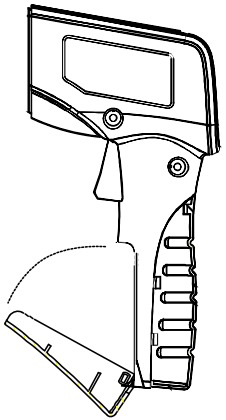
8. EMISSIVITY

Emissivity is used to describe the energy-emitting characteristic of materials. The greater the emissivity, the stronger the emission capacity of the object is. Most organic materials and oxidized metal surfaces have an emissivity

between 0.85 to 0.98. The thermometer is designed according to that emissivity equals 0.95. When the Emissivity of an object is less than 0.95, the measurement temperature is less than the actual temperature; and the emissivity of an object is more than 0.95, the measurement temperature is more than the fact temperature. A shiny metal or a polished object surface has a low emissivity. Please pay attention to the effect of emissivity of objects.

9. CHANGING THE BATTERY

When the battery voltage is lower, the battery symbol appears; it indicates that we must change the battery. Pinch OPEN characters on the battery cover, then pull it and can change a new battery. See the drawing as the following:



10. SPECIFICATIONS

LCD display: Double temperature 4 digitals LCD
Field of view: 8:1
Emissivity: 0.95
Spectral response: 8 -14 um
Measure range: -50°C ~ 500°C (-58°F ~ 932°F)
Ambient temperature range: 0°C ~ 50°C
Accuracy: -50°C ~ -20°C: ± (5°C/9°F)
-20°C ~ 500°C ± (reading×1.5% + 2°C/4°F)
Response time: 0.5 second
Laser power: Less than 1 mw
Auto power off: 25 seconds
Backlight: White
Operation surrounding: 0~50°C, 10 ~ 90%RH
Storage surrounding: -10°C ~ 60°C, ≤75%RH
Battery: 9V (6F22)
Size: (Length) 120 × (Width) 45 × (high) 180mm
Weight: Approximately 205g (including battery)
Accessories: Battery 9V, operation manual, bag