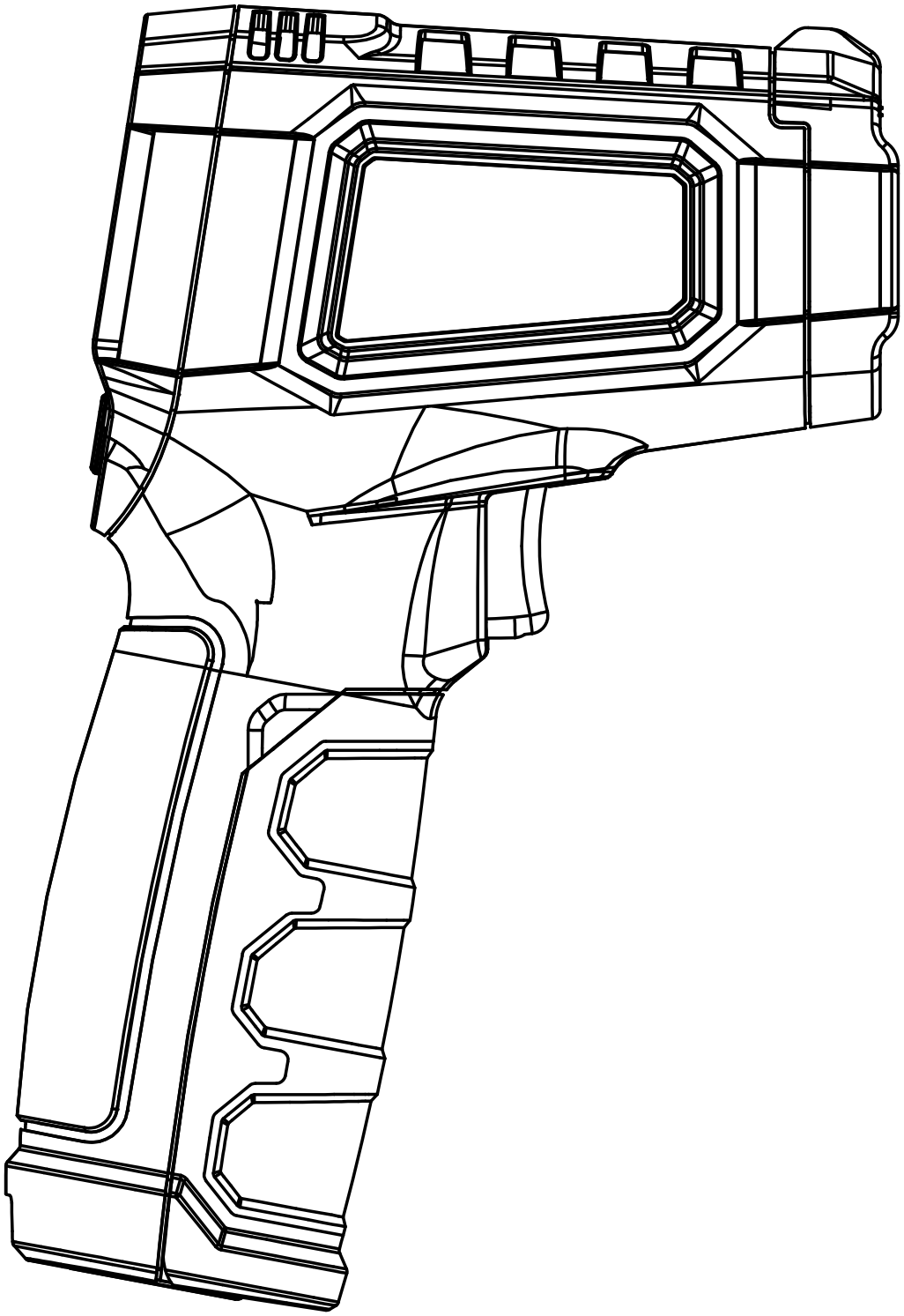
ANENG®

USER MANUAL

HIGH PRECISION



TEMPERATURE GUN

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio firequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation, If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help. Important: Change or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

I. Introduction

This series of infrared thermometers is designed to measure the surface temperature of opaque objects. The optical components of the thermometer can sense the reflected and transmitted energy emitted by the object and focus the energy on the detector, making it suitable for quickly measuring the surface temperature of various high-temperature, toxic, or difficult-to-reach objects.
The thermometer consists of an optical system, a photoelectric sensor, a signal amplifier, a signal processing circuit, and an LCD display. The optical system converges the infrared energy radiated from the object's surface to the photoelectric sensor, which converts the energy into a corresponding electrical signal. This signal is then converted into a reading by the signal amplifier and signal processor circuit and displayed on the LCD.

II. Safety Instructions

1.Warning:

To avoid potential harm to users, please read and follow the instructions below ;

Do not point the laser at eyes or indirectly through reflective surfaces towards eyes when using this device ;

The thermometer cannot measure through transparent surfaces such as glass/ plastic, otherwise the measured value will be the surface temperature of the transparent object ;

Steam/dust/smoke or other particles can create obstacles on the lens of the instrument. affecting the accuracy of the measurement.

2.Attention:

To avoid damaging the thermometer or the measured equipment, please protect them from the following:

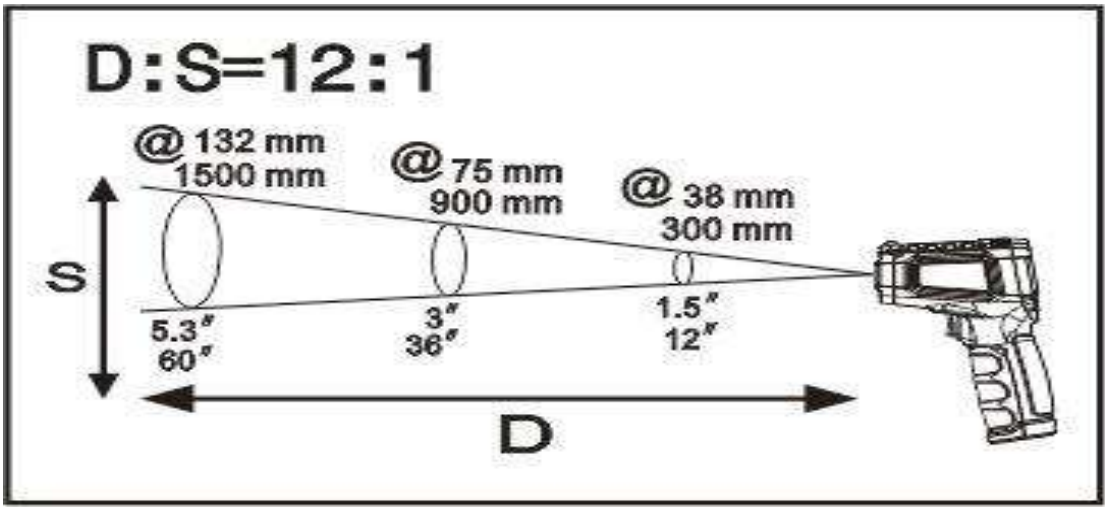
EMF (Electromagnetic Fields) generated by arc welding machines, induction heaters, etc ;

Thermal shock (large or sudden changes in temperature caused by the environment. wait for 30 minutes before use to allow the thermometer to reach a stable state).Do not place or bring the thermometer close to high-temperature objects.

III. Distance -to-Spot Ratio (D:S)

1.When using this device to measure temperature, it is important to consider the ratio between the distance and the size of the measurement area (referred to as the distance-to-spot ratio). As the distance between the device and the object being measured increases, the measurement area will also increase accordingly. (The distance-to-spotratio of this instrument is l2:l, see Figure l). This instrument is equipped with a positioning laser for aiming at the surface of the object being measured.

2.Measurement Range: It is crucial to ensure that the target being measured is larger than the diameter of the light spot of the thermometer. The smaller the target is, the closer it should be to the target, For accurate measurement, ensure that the target being measured is at least twice the diameter of the light spot of the thermometer.



IV. Emissivity

Emissivity describes the characteristics of a material's radiated energy. Most organic materials and painted or oxidized surfaces have an emissivity of 0.95.

The preset emissivity of this series of temperature measurement instruments is 0.95. Measuring a shiny metal surface may result in inaccurate readings. To compensate for the readings, you can cover the surface to be measured with opaque adhesive paper or flat black paint (less than 148°C/300°F), Wait for a while to allow the adhesive paper or paint to reach the same temperature as the covered surface, and then measure the temperature of the adhesive paper or paint surface.

This series of temperature measurement instruments allows you to adjust the emissivity of the thermometer based on the type of surface being measured. Please refer to the reading table for reference.

Material Name	Specification	Emissivity	Material Name	Specification	Emissivity
Lead	Oxidized	0.20-0.40	Human Skin		0. 98
	Polished	0.02-0.04	Graphite	Oxidized	0.20-0.60
Copper	Oxidized	0.40-0.80	Plastic	Transparency >0.5mm	0.95
	Polished	0.02-0.05			
Gold	Oxidized	0.01-0.10	Rubber		0.95
Iron	Oxidized	0.60-0.90	Plastic		0.85-0.95
Steel		0.70-0.90	Concrete		0.95
Asbestos		0.95	Cement		0.96
Gypsum		0.80-0.90	Soil		0.90-0.98
Asphalt		0.95	Stucco		0.89-0.91
Ceramic		0.95	Brick		0.93-0.96
Wood		0.90-0.95	Marble		0.94
Charcoal	Powder	0.96	Textile		0.90
Lacquerware		0.80-0.95	Paper	Various Colors	0.94
	Matte Finish	0.97			0.97
Carbon Rubber		0.90	Sand		0.90
Soap Bubber		0.75-0.80	Mud		0.92-0.96
water		0.93	Gravel		0.95
Snow		0.83-0.90	Glass	Tableware	0.85-0.92
Ice		0.96-0.98	Textile		0.95

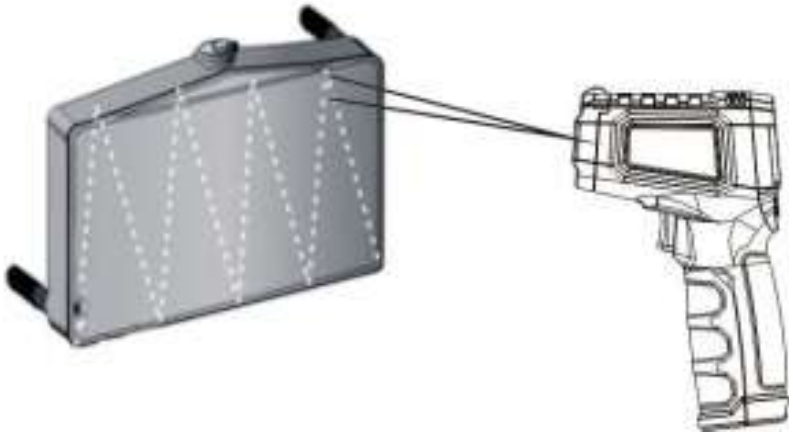
V. **Operating Instructions**

1.Quick Measurement

Open the battery door and install two 1.5V AAA batteries according to their polarities.
Pull the trigger to turn on the device.
Aim the positioning laser at the surface of the object to be measured (if laser positioning is not needed, it can be turned of). Pull the trigger and the target temperature will be displayed on the LCD.

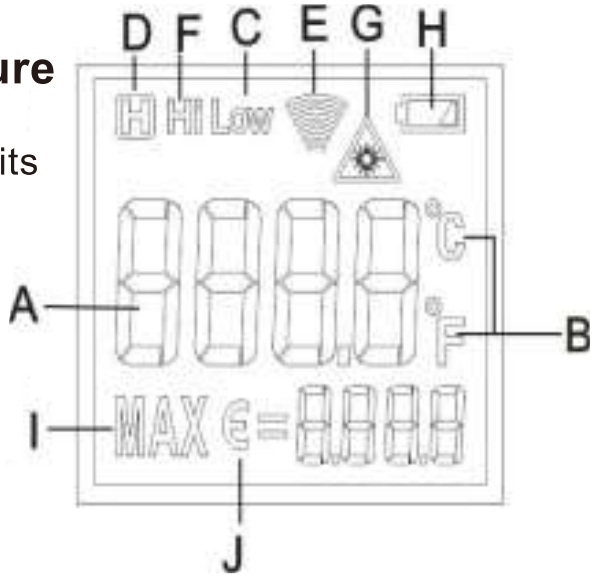
2.Locating Hot or Cold Spots

To find a hot or cold spot, first aim the thermometer at the outer edge of the area to be measured. Then slowly move the thermometer up and down to scan the entire area or unti the location of the hot or cold spot is determined, as shown in the figure.



VI. LCD Display and Buttons

1.LCD Display: As shown in the figure



A. Temperature measurement readings
B. Symbols for temperature measurement units
C. Low temperature alarm symbol
D. Data retention symbols
E. Read data symbols
F. High temperature alarm symbol
G. Laser positioning symbols
H. Low battery sign
I. Maximum Measurement Symbol
J. Emissivity symbols

2.Names and Functions of the Thermometer Parts:

(1) Trigger: When pulled, the temperature value is displayed, and "" is displayed simultaneously. When the trigger is released, the LCD displays the "H" character and saves the current data. If there is no operation within a few seconds, the thermometer will automatically turn off.

(2) Positioning Laser: After pulling the trigger and releasing it, press the "▲▼" button to turn on or off the positioning laser. At the same time, the LCD " " positioning laser symbol will appear or disappear.

(3) Temperature Conversion: After pulling the trigger and releasing it, press the "▲℃/℉ " button to switch between Celsius and Fahrenheit temperature units.

(4) Function Key: After pulling the trigger and releasing it, press the " **MODE** "button to cycle through "ε-MAX-Hi-LOW" displayed at the bottom of the LCD.

ε:Display the current emissivity value set
MAX：Displays the maximum value of measured data
Hi: Displays the current set maximum temperature value
LOW: Displays the current set minimum temperature value
(5) Emissivity Setting: After pulling the trigger and releasing it, press and hold the "MODE "button, The LCD displays =0.95, Press the "▲℃/℉ " or "△▼" buttons to adjust the emissivity.
(6)High Temperature Alarm: After pulling the trigger and releasing it, press and hold the"MODE" button, then briefly press the "MODE" button to select the high temperature alarm setting. The LCD defaults to Hi 380/600'℃. Press the "▲℃/℉" or "△▼" buttons to set the alarm temperature point, When the measured temperature exceeds the set temperature point, the indicator light above the display window will turn on.
(7)Low Temperature Alarm: After pulling the trigger and releasing it, press and hold the" MODE " button, then briefly press the "MODE" button to select the low temperature alarm setting. The LCD defaults to LOW -50'℃. Press the "▲℃/℉" or "△▼" buttons to set the alarm temperature point. When the measured temperature is below the set temperature point, the indicator light above the display window will turn on.
(8) Battery Replacement: When the LCD screen displays the "▭" symbol, it indicates that the battery power is low and should be replaced promptly to avoid affecting measurement accuracy.
Ⅶ. Product Maintenance
1.Lens Cleaning: Use clean compressed air to blow away debris, then use a camel hair brush to remove any residual tiny debris, Finally, use a damp cotton cloth to carefully wipe the surface.
2.Shell Cleaning: Use a wet sponge or soft cloth with soap and water to clean.
Note:(1) Do not use any solvents to clean the plastic lens.
(2)Do not immerse the thermometer in water.