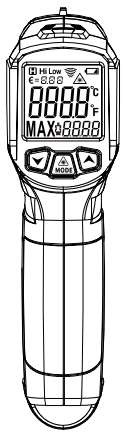
INFRARED THERMOMETER
INSTRUCTION MANUAL



125X85mm

I.Safety information

Please read the manual carefully before using the thermometer.

- Do not use solvents to clean the thermometer.
- Safety icons:

⚠ Warning of Danger

CE Comply with European CE safety regulations

This unit meets the following standards:

■ EN60825-1:2014

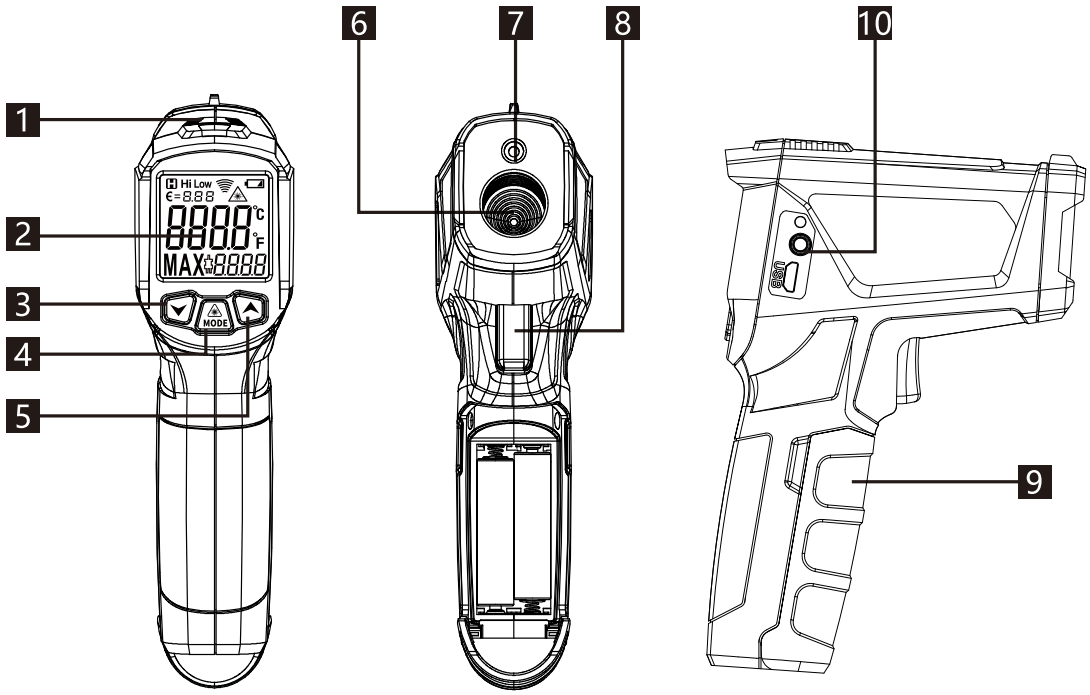
Warning! ⚠

Do not aim the laser at human eyes or reflective planes.

II.Cautions

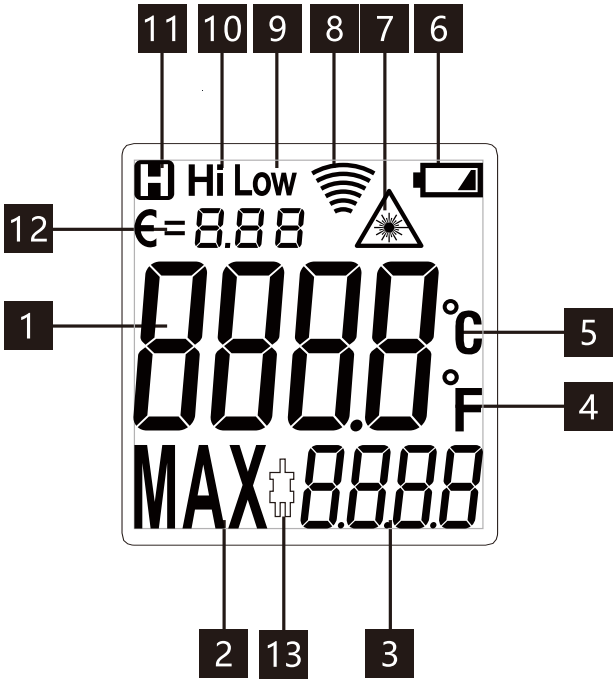
- When the temperature of the operating environment changes suddenly, the thermometer must be stabilized in the environment for 30 minutes until the temperature in and out of the thermometer is the same.
- Avoid electromagnetic fields caused by electric welding and induction heating as much as possible.
- Do not place the thermometer near or on high-temperature objects.
- Keep the thermometer clean and prevent dust from entering the lens.

III. Appearance Description



1. Alarm indicating light
2. LCD screen
3. Down key ▼
4. Mode key/Laser control key
5. Up key▲
6. Infrared sensor sensing area
7. Laser indicating light
8. Trigger key
9. Battery cover
10. K-type thermocouple socket

IV. Description of LCD Screen



1: Measuring temperature value
2: MAX
3: Display Maximum Value
4: Fahrenheit unit
5: Centigrade Unit
6: Battery undervoltage indicator
7: Laser indicator
8: Measurement indicator
9: Low Alarm
10: Hi Alarm
11: Data Retention
12: Radiance indicator
13： K-type thermocouple

V. Measurement methods

1:Set the alarm upper limit value

Press and hold the Mode key for 2 seconds to enter the unit setting state, and press the MODE key to switch to the state of setting the alarm upper limit. Then the unit function indicator area displays Hi and the alarm upper limit value in the display area flashes.Press the ▲/▼ key to increase or decrease the alarm value, and press the ▲/▼ key for a long time to quickly increase or decrease t he set value.

2: Set the low alarm value

Press and hold the Mode key for 2 seconds to enter the unit setting state, and press the MODE key to switch to the state of setting alarm lower limit. Then the unit function indicator area displays Low and the alarm upper limit value in the display area flashes.Press the ▲/▼ key to increase or decrease the alarm value, and press the ▲/▼ key for a long time to quickly increase or decrease the set value.

3: Set the radiance

Press and hold the Mode key for 2 seconds to enter the unit setting state, and press the MODE key to switch to the state of setting unit radiance. Then the unit radiance indicating area flashes.Press the ▲/▼ key to increase or decrease the radiation value, and press the ▲/▼ key for a long time to quickly increase or decrease the set value.

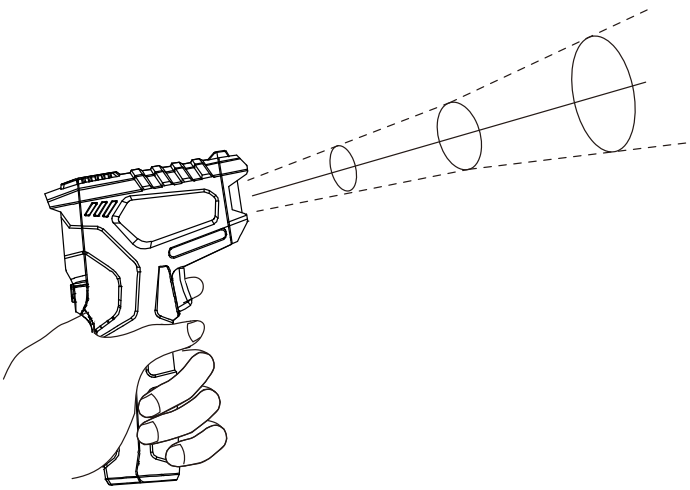
4: Set the degree-day (℃/℉)

Press the MODE key for 2 seconds to enter the unit setting state, press the MODE key to switch to setting the temperature measurement unit, the unit icon on the display screen flashes, and press the ▲/▼ key to change the icon unit.

5: Exit from the set state
Press the trigger key or the MODE key for a long time to exit the unit setting state.

6: Turn on and off the laser
Press MODE shortly to turn the laser on or off, and the meter will display the laser icon

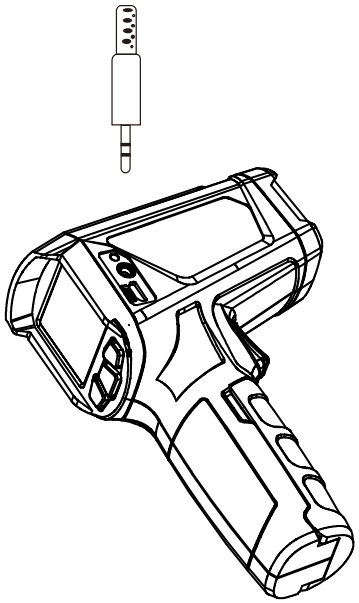
7: Non-contact temperature measurement
Aim the thermometer at the object, pull the trigger key and carry out continuous temperature measurement.After the display is stable, release the trigger key to maintain the measurement result.



When the trigger key is pressed, the sub-display displays the maximum value of the measured temperature.
When the measured value is greater than the high alarm upper limit value or less than the low alarm lower limit value, the unit will give an alarm with a red alarm light on.

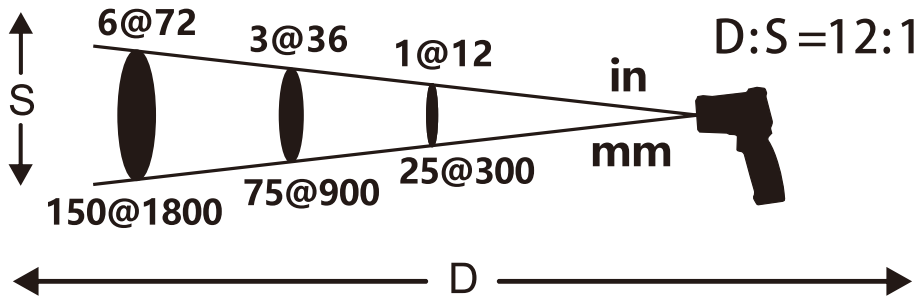
8: K-Type Thermocouple Temperature Measurement

K-Type thermocouple temperature measurement mode, about 5 seconds after the probe is inserted, the unit displays the icon Press the trigger key and the meter displays both K-type temperature and surface temperature.



VI. Target Distance Ratio (D:S)

The thermometer is 12 meters away from the target object. The diameter of the object is 1 meter. The larger the object, the farther the distance from the object surface.The smaller the object, the closer the distance.The distance from the object surface to the spot size of the measured target D:S is 12 :1, as shown in the following figure:



When the meter measures, the meter emits a 12-point indicating ring, and the temperature measured by the surface meter is the temperature inside the ring.

VII. Emissivity

Emissivity: The ability of an object to radiate infrared rays. The higher the radiance, the stronger the radiation capability of the object surface.The emissivity of most organic or metal oxide surfaces is between 0.85 and 0.98.The emissivity of this thermometer defaults to 0.95. During measurement, the radiance of the unit should be set to be consistent with that of the measured object. Please pay attention to the influence of emissivity on measurement results during measurement.

Please refer to the the following emissivity table

Measured surface		Radiance
Metallic aluminum	Oxidation	0.2~0.4
	A3003 alloy (oxidation)	0.3
	A3003 alloy (rough)	0.1~0.3
Brass	Polishing	0.3
	Oxidation	0.5
Copper	Oxidation	0.4~0.8
	Electrical terminal board	0.6
Hastelloy B		0.3~0.8
Ferronickel alloy	Oxidation	0.7~0.95
	Sand blasting	0.3~0.6

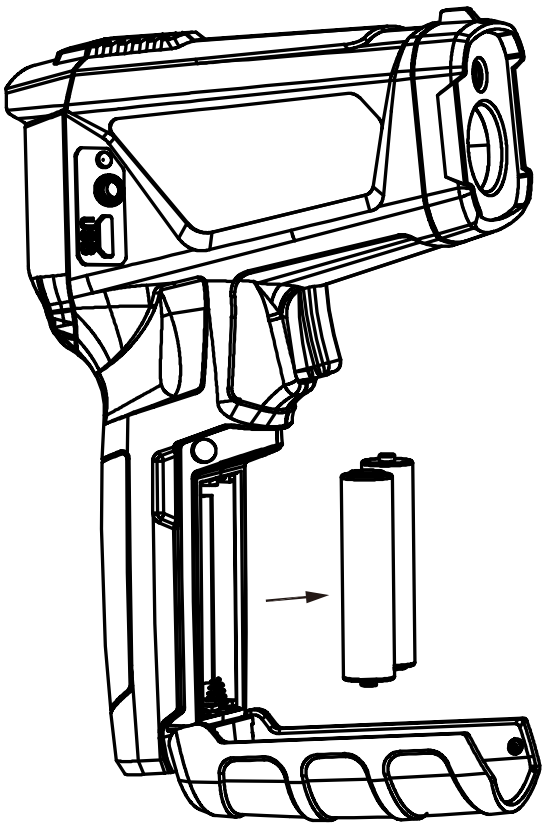
	Electropolishing	0.15
Iron	Oxidation	0.5~0.9
	Rust	0.5~0.7
Iron (Casting)	Oxidation	0.6~0.95
	Unoxidized	0.2
	Casting	0.2~0.3
Iron (Forging)	Passivation	0.9
Lead	Rough	0.4
	Oxidation	0.2~0.6
Molybdenum oxidation		0.2~0.6
Molybdenum oxidation		0.2~0.5
Platinum black		0.9
Steel	Cold rolling	0.7~0.9
	Burnish steel plate	0.4~0.6
	Polish steel plate	0.1
Zinc	Oxidation	0.1
Asbestos		0.95

Asphalt	0.95
Basalt	0.7
Carbon (not oxidized)	0.8~0.9
Graphite	0.7~0.8
Silicon carbide	0.9
Ceramics	0.95
Clay	0.95
Concrete	0.95
Cloth	0.95
Glass pane	0.85
Gravel	0.95
Gypsum	0.8~0.95
Ice	0.98
Limestone	0.98
Paper	0.95
Plastic	0.95
Soil	0.9~0.98

Water	0.93
Wood	0.9~0.95

VIII. Battery Replacement

When the battery power is insufficient, the battery icon lights up, and the battery must be replaced.Open the battery cover by hand and replace it with a new 1.5Vx2AAA battery.See thefollowing figure:



IX. Technical indicators

LCD display	Color LCD display
D:S	12： 1
Radiance	0.10~1.00
Response spectrum	8~14um
Laser	<1mW /620-690nm class II
Reaction time	<0.5S
Automatic shutdown	About 20 seconds
Usage temperature	0~40 degrees
Storage temperature	-10℃~60℃
Power supply	2x1.5V AAA Battery
Measuring range	-50 °C~800 °C（-58°F~1472°F）
Accuracy (Non-contact Temperature Measurement)	-50 °C~0 °C±3 °C 0 °C~800 °C±(1.5%+2°C/4°F)
K-type temperature measurement	-10 °C~500 °C(14°F~932°F) ±(1.5%+2°C/4°F)