

INFRARED THERMOMETER INSTRUCTION MANUAL



1. Safety notices

- Before using the thermometer, please read the manual carefully.
- Do not use any solvent to clean the thermometer.

Warning!

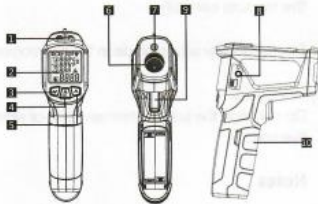
Do not align the laser to human eyes or reflective surface.

2. Notes

- When the ambient temperature changes in a sudden, it is required to place the thermometer in the environment for 30 minutes, and measure when internal and external temperatures of the thermometer coincide.
- Try to avoid any electromagnetic field caused by electric welding and induction heating.
- Do not place the thermometer close to or on a high temperature object.
- Keep the thermometer clean, and avoid dust from entering the tube.

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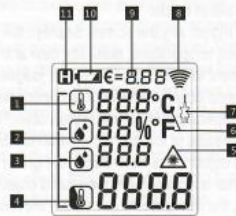
3. Appearance Description



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

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4. Description of LCD Screen



- 1: Environmental temperature
- 2: Environmental humidity
- 3: Dew temperature
- 4: Surface temperature
- 5: Laser on indication
- 6: Temperature unit
- 7: K-type thermocouple
- 8: Measurement Instructions
- 9: Radiance
- 10: Battery undervoltage alarm
- 11: Data Retention

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5. Measurement methods

1. Mildew alarm mode:

Press the trigger key, the screen displays the current environment temperature, humidity, dew and surface measurement temperature. The meter judges whether the measured object mildews or not according to the surface temperature of the measured object and the dew temperature of the current environment. When the measured object does not mildew, the green light of the thermometer is on; when the measured object has mildewed, the red light is on; when the measured object has a tendency to mildew, the yellow light is on.



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2. Temperature difference alarm mode

Press the MODE key shortly to switch to the temperature difference alarm mode, and press the trigger key. The thermometer displays the current environment temperature and surface measurement temperature. The meter judges according to the temperature difference between the surface temperature of the measured object and the current environment temperature. When the temperature difference between the temperature of the object to be measured and the environment temperature is less than 5°C/41°F, the green light is on; when more than 5°C/41°F, red light is on; otherwise, yellow light is on.

3: Temperature Measurement of K-Type Thermocouple



Press the MODE key shortly to switch to the K-type thermocouple temperature measurement mode, and the symbol will be displayed. Insert the K-type thermocouple probe into

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the thermocouple socket of the thermometer, and press the trigger key. The thermometer displays both the K-type temperature and the surface temperature.


4: Set the the radiance

Press the MODE key shortly to switch to the state of setting the radiance. Then, the radiance indication 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 .

5: Set the instrument temperature unit (°C/°F)

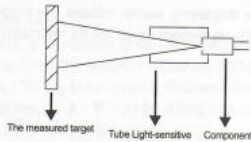
Press the MODE key for 2 seconds to enter the unit setting state, press the MODE key to switch to setting the temperature measurement unit, the unit icon on the display screen flashes, and press the ▲ / ▼ key to change the icon unit. Press the MODE key shortly to switch the degree-day, the unit icon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

6: Turn on and off the laser

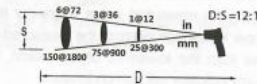
Press MODE for 2 seconds to turn on or off the laser, and the meter displays the laser symbol ()

6. Target distance ratio (D:S ratio)


The thermometer has a certain visual angle and visual field, as shown in the following figure.

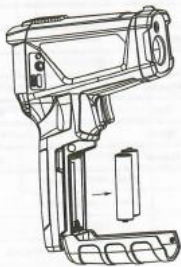


In order to guarantee the measured object fills in the visual field of the thermometer, which means the thermometer only "sees" the measured object rather than other objects. Larger objects may cause larger temperature measurement distances; for smaller objects, the measurement distances must be close. The ratio of measurement distance to the measured target (D:S) is 12:1, as shown in the following figure:



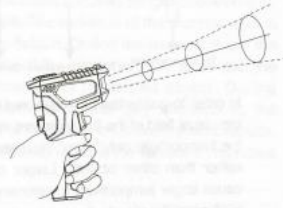
8. Replacement of battery

When battery is low, the battery symbol  will light up, in this case, it is required to replace the battery. Open the battery cover with your hands, and replace with a new 1.5Vx2AAA battery. Refer to the following figure:



7. Non-contact temperature measurement:
Aim the thermometer at the object, and hold the trigger, to conduct continuous measurement of temperature.

After displaying stably, release the trigger, and the measurement result will be maintained.



When holding the trigger, the secondary display of the instrument will display the maximum value of the measured temperature.

When the measured value is greater than the upper limit of high alarm or the measured value is less than the lower limit of low alarm, the red alarm indicator will turn on to alarm.

7. Radiance

The radiance characterizes the ability of an object to radiate infrared ray. Larger radiance will lead to stronger radiation ability on the object surface.

Radiance of the majority of organic matters or metal oxidized surfaces ranges between 0.85 and 0.98. The radiance of the thermometer is 0.95 by default. During measurement, set the radiance of the instrument the same with the radiance of the measured object. During measurement, please pay attention to the impact of emissivity on measurement results. The following table is the radiance reference table.

Measured surface	Radiance	
Aluminum	Oxidized	0.2~0.4
	A3003 alloy (oxidized)	0.3
	A3003 alloy (coarse)	0.1~0.3
Brass	Polishing	0.3
	Oxidized	0.5
Copper	Oxidized	0.4~0.8
	Electrical terminal board	0.6
Hastelloy	0.3~0.8	

9. Technical indexes

LCD display		Color LCD display
D:S		12: 1
Radiance		0.10~1.00
Response spectrum		8~14um
Laser		<1mW / 630-670nm Level 2
Response time		<0.5S
Automatic shutdown		30 seconds
Service temperature		0° C~40° C (-58° F~104° F)
Storage temperature		-10° C~60° C (14° F~140° F)
Power supply		1.5Vx2AAA battery
Measurement Temperature	Range	-50° C~800° C (-58° F~1472° F)
	Precision	-50° C~0° C (-58° F~32° F) : ±3° C 0° C~800° C (32° F~1472° F) : ± (1.5%~reading + 2° C/4° F)
Ambient Temperature	Range	-10° C~60° C (14° F~140° F)
	Precision	±1° C(0° C~40° C) / ±1.5° C(10° C~40° C) / ±2° F(32° F~113° F) / ±3° F(14° F~113° F~140° F)
Ambient Humidity	Range	0%~99% RH
	Precision	±4% RH (20%~80%) ±5% RH (1%~20%, 80%~99%)