

# INFRARED THERMOMETER TM0819

## Instruction Manual



**Perfect  
Prime**

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# 1. Production Introduction

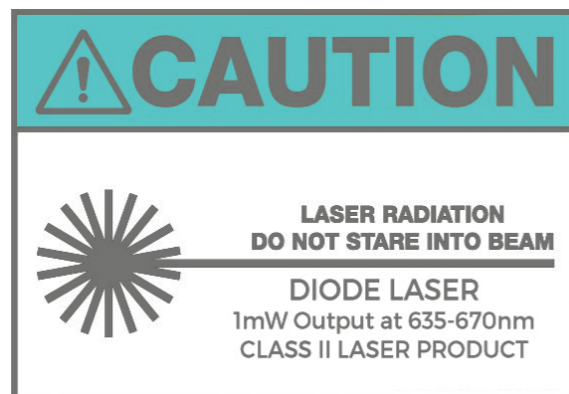
Many thanks for choosing our product. TM0819 is an infrared thermometer that can provide an accurate result of temperature measurement with the help of laser beam.

The following are the major features of TM0819:

- **High accuracy:** Equipped with high-quality sensor to measure the amount of infrared radiation from objects.
- **Time-saving :** Only a press on the trigger is needed for measurement.
- **User-friendly :** Laser beam allows you to aim at objects more easily.
- **Adjustable:** Maximum and minimum temperatures can be displayed.

TM0819 is the ideal selection for electrician, maintenance personnel, technicians and even the emergency personnel.

# 2. Safety



**Be cautious when laser is working**



**Do not point directly into eyes or anything that can reflect the laser beam into eyes.**



**Do not point the laser directly at the explosive gas or flammable goods.**



## 3. Product Description

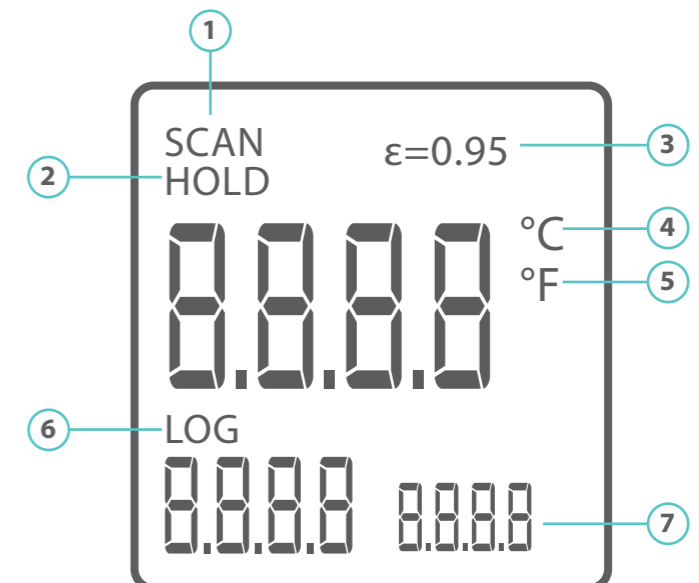
1. Dual Laser Targeting
2. LCD display
3. Function Menu
4. Measuring trigger
5. Battery cover



## 4. Show

1. Scanning and measuring procedure
2. Hold and keep the last measuring data
3. Emissivity setting
4. °F and °C swift

5. Main temperature display
6. Low voltage warning
7. Function transformation zone





## 5. Operation Instruction

### 5.1 Temperature Measuring

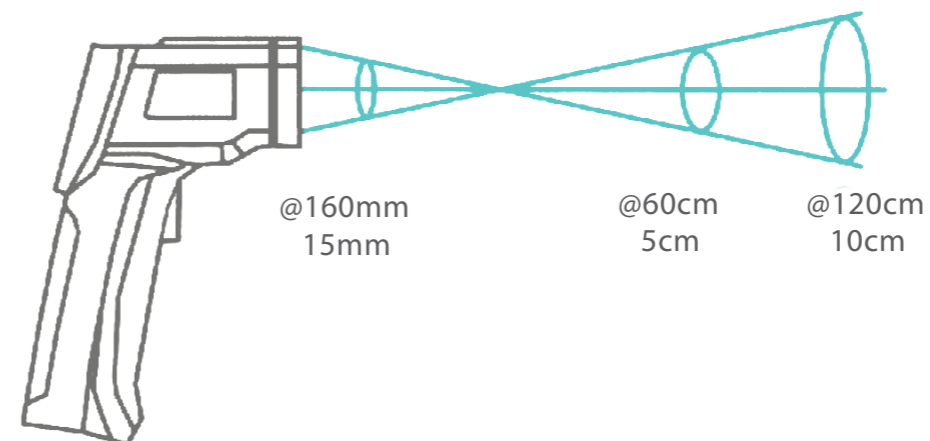
1. Point the instrument to the surface of the object and press the trigger.
2. It can display temperature, max temperature, min temperature, difference value, average value, max warning point, min warning point, external probe (not included in this product) measurement unit.
3. The measuring result will stay on the screen for 7 sec after the trigger is released and it will power off if there is no other operation. **Notice:** Press the "MODE" button for 2 sec when the instrument is on to swift between °F and °C.

### 5.2 Dual laser spot

Dual laser distance is within 120cm, the temperature measured is 10cm in diameter at this distance.

### 5.3 Dual laser's on and off

1. Press and release the trigger
2. When "hold" is displayed, press the laser backlit button to power on and off the laser and to switch the backlit.





## 5. Operation Instruction

### 5.4 Max Temperature Display

The max temperature is displayed in "MAX" after the temperature measurement is finished.

### 5.5 Backlight

1. Press and release trigger
2. Press the backlit button when the screen shows "HOLD" to switch backlit.
3. When the backlit is on, it will light up the screen.
4. Backlit will be remained stored stage until it change to another model.

Press up and down button to adjust emissivity when it shows "HOLD". The emissivity of this instrument is between 0.1-1.0.

Remark: backlit will consume the power of battery. Turn it off when you need not.

### 5.6 MODE menu operation

1. It can enter max value, min value, average value, max alarm point, min alarm point, external probe (not used).
2. Press and release the trigger when it shows "HOLD". Press the "MODE" to enter the next program.



## 5. Operation Instruction

<b>Max Data</b>	Only shows the max data when measuring.
<b>Min Data</b>	Only shows the min data when measuring.
<b>Difference</b>	Shows the difference between the first and subsequent data.
<b>Average data</b>	Shows the average between the first and subsequent data.
<b>HAL</b>	To set the max alarm temperature, press the up and down menu.
<b>LAL</b>	To set the min alarm temperature, press the up and down menu.

This product can alarm when the temperature is too high or too low. It can make a sound to remind the users. You can set the alarm temperature through the "MODE" menu. Setting will be saved even when device is turned off.

### 5.7 Temperature Unit

°F and °C can be set by the temperature unit switch menu, press the MODE menu for 2 sec.

### 5.8 Above read range function

If the temperature is beyond the read range, it will shows "----" on the screen.



## 5. Operation Instruction

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### 5.9 Battery replacement

When it shows low power signals "LOG", please replace battery (9V). The battery is located under the trigger.

Properly dispose of the battery.

## 6. Attention

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The object being measured must be larger than the vision field of the instrument.

Keep the object surface clean and free from frost, oil and dirt etc. when measuring.

If the object's surface is reflective, cover with adhesive tape or black paint before measuring.

If the object is transparent such as glass it may not have an accurate result.

Steam, dust, smog etc. will influence the measuring result.

This instrument can adjust the environment temperature deviation. But if the deviation is huge it may take about 30 minutes to adjust.

To find the hot spot please point the object from top to bottom and from left to right until found.





## 7. Distance Coefficient Ratio

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The distance coefficient ratio of this product is 12.1. For example, if the object to be measured is 72cm far from the instrument, then the diameter of the object must be larger than 6cm. It can measure proper distance but can be influenced by other light source.

## 8. Emissivity and Infrared Temperature Measurement Principle

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Infrared thermometer is an instrument that measures the surface temperature. It is through infrared emission, reflection and then converted into energy. Thermometer converts the electrical signals into temperature reading displayed on the LCD.

The infrared energy released is in direct proportion with its temperature and emissive power. This is called emissivity. It is related to the material and gloss of the object. The emissivity value ranges from 0.1 to 1.0. The emissivity of most organic material; paint and the surface be oxidized is 0.95. If there is a problem please set the emissivity to be 0.95.



## 9. Emissivity values of common materials

Material Under Test	Emissivity	Material Under Test	Emissivity
Asphalt	0.90-0.98	Cloth (black)	0.98
Concrete	0.94	skin (human)	0.98
Cement	0.96	Lather	0.75-0.80
Sand	0.90	Charcoal (powder)	0.96
Soil	0.92-0.96	Lacquer	0.80-0.95
Water	0.92-0.96	Lacquer (matte)	0.97
Ice	0.96-0.98	Rubber (black)	0.94
Snow	0.83	Plastic	0.85-0.95
Glass	0.90-0.95	Timber	0.90
Ceramics	0.90-0.94	Paper	0.70-0.94
Marble	0.94	Chromium oxides	0.81
Plaster	0.80-0.90	Copper oxides	0.78
Mortar	0.89-0.91	Iron oxides	0.78-0.82
Brick	0.93-0.96	Textiles	0.90



## 10. Specification

<b>Max Data</b>	TM0819
<b>Range</b>	-50 to 1050°C -58 to 1922°F
<b>Resolution</b>	0.1° < 1000°, 1° > 1000°
<b>Accuracy</b>	-50°C to -23°C (-58°F to -10°F) ±7°C/14°F (Typical) -23°C to -2°C (-10°F to 28°F) ±4°C/8°F -2°C to 94°C (28°F to 200°F) ±2.5°C/4.5°F 94°C to 204°C (200°F to 400°F) ±(1.0%rdg + 1°C/2°F) 204°C to 426°C (400°F to 800°F) ±(1.5%rdg + 1°C/2°F) 426°C to 1050°C (800°F to 1922°F) ±(3%rdg + 1°C/2°F) Note: Accuracy is specified for the following ambient temperature range: 23 to 25°C (73 to 77°F)
<b>Emissivity</b>	0.10 to 1.00 adjustable
<b>Field of View</b>	D/S = Approx. 12:1 ratio (D = distance; S = spot or target)
<b>Laser pointer</b>	Dual, Class 2 laser < 1mW power; Wavelength is 630 to 670nm
<b>IR Spectral response</b>	8 to 14 μm (wavelength)
<b>Repeatability</b>	± 0.5% of reading or ± 1°C (1.8°F) whichever is greater



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## 11. General Specifications



**Display** ▶ Backlit LCD display with function indicators

**Response Time** ▶ 150ms

**Beyond Read Range Indication** ▶ "-----"

**Operating Temperature** ▶ 0°C to 50°C (32°F to 122°F)

**Operating Humidity** ▶ 10% to 90% RH operating, <80% RH storage

**Storage Temperature** ▶ -10 to 60°C (14 to 140°F)

**Power Supply** ▶ 9V battery

**Automatic Power Off** ▶ 7 seconds, with LOCK to disable

**Weight** ▶ 150g

**Dimensions** ▶ 180 x 107 x 40mm



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## CONTACT US

WHATEVER YOUR QUESTION, WE'RE HERE TO HELP

### CUSTOMER SERVICE INQUIRIES

Your emails are important to us so we strive to reply all inquiries and emails within **24 hours**. In exceptional cases, we may require more time to respond. Thank you for your understanding.

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