

INFRARED THERMOMETER

User Manual



English and Deutsche Language

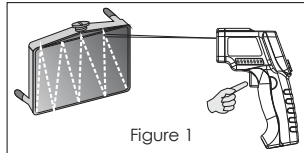


Material	Emissivity	Material	Emissivity	Material	Emissivity
Aluminum	0.30	Dirt	0.94	Paper	0.95
Asbestos	0.95	Frozen Food	0.90	Plastic	0.95
Asphalt	0.95	Hot Food	0.93	Rubber	0.95
Basalt	0.70	Glass (plate)	0.85	Sand	0.90
Brass	0.50	Ice	0.98	Skin	0.98
Brick	0.90	Iron	0.70	Snow	0.90
Carbon	0.85	Lead	0.50	Steel	0.80
Ceramic	0.95	Limestone	0.98	Textiles	0.94
Concrete	0.95	Oil	0.94	Water	0.93
Copper	0.95	Paint	0.93	Wood	0.94

OPERATION

1. OPERATING THE UNIT

- Open battery door and insert the battery.
- Pull the trigger to turn on the unit.
- Aim at the target surface and pull the trigger, then temperature will be shown on the LCD. This unit is equipped with a laser, which is only used for aiming.



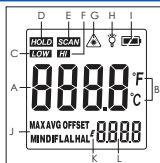
2. LOCATING A HOT SPOT

To find a hot spot, aim the thermometer outside of interest, then scan across with an up and down motion until you locate the hot spot. (Figure 1)

LCD DISPLAY AND BUTTONS

• LCD DISPLAY

- A - measuring reading
- B - measuring unit
- C - low temperature alarm icon
- D - data hold icon
- E - scanning icon
- F - high temperature alarm icon
- G - laser on icon
- H - backlight on icon
- I - battery power icon
- J - mode
- K - emissivity indicator
- L - functional value



• DIAGRAM DESCRIPTION

1 - TRIGGER

Press it to display temperature value with SCAN appears at meantime. Release the trigger and enter into HOLD mode to save the data automatically, and the unit turns off automatically if there is no further operation.

2 - LASER POSITIONING

Press the trigger and then press (M) to turn on/off the laser positioning function with an icon displaying on LCD.

3 - TEMPERATURE UNIT SHIFT

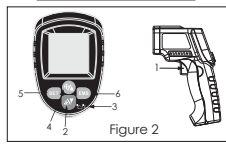
Press (U) to shift the temperature unit between the Celsius and the Fahrenheit.

4 - BACKLIGHT

Press the trigger first and then press the (L) to turn on/off the backlight with an icon displaying on LCD.

5 - PRESS THE SET KEY

To display MAX □ AVG □ MIN □ DIF □ LAL □ HAL □ OFFSET □ E on the LCD in sequence repeatedly, press SET key again to select the desired function. This device has memory function; the measuring mode will be displayed next time after turning on.



ENGLISH

INTRODUCTION

This infrared thermometer is used for measuring the temperature of the object's surface, which is applicable for various hot, hazardous or hard to reach objects without contact safely and quickly.

This unit consist of Optics, Temperature Sensor Signal amplifier, Processing circuit and LCD Display. The Optics collected the infrared energy emitted by object and focus onto the Sensor. Then the sensor translates the energy into an electricity signal. This signal will be turned out to be digital shown on the LCD after the signal amplifier and processing circuit.

WARNING AND CAUTIONS

1. WARNING

To avoid the potential situation that may cause harm or damage to people, please pay attention to the following items:

- ◆ Do not point laser directly at eye or indirectly off reflective surfaces.
- ◆ The unit cannot measure through transparent surfaces such as glass or plastic. It will measure the surface temperature of these materials instead.
- ◆ Steam, dust, smoke, or other particles can prevent accurate measurement by obstructing by the units optics.

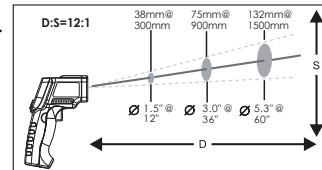
2. CAUTIONS

Infrared thermometer should be protected for the following:

- ◆ EMF (electro-magnetic fields) from arc welders, induction heaters.
- ◆ Thermal shock (cause by large or abrupt ambient temperature changes allow 30 minutes for unit to stabilize before use).
- ◆ Do not leave the unit on or near objects of high temperature.

D : S (DISTANCE TO SPOT SIZE)

- When take measurement, pay attention to the Distance to Spot Size. As the Distance (D) from the target surface increases, the spot size (S) of the area measured by the unit becomes larger. The Distance to Spot size of the unit is 12:1. This unit is equipped with a laser, which is used for aiming.
- Field of view: Make sure the target is larger than the unit's spot size. The smaller the target the closer measure distance. When accuracy is critical, make sure the target is at least twice as large as the spot size.



EMISSIVITY

Emissivity: Most organic materials and painted or oxidized surfaces have an emissivity of 0.95(preset in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate for this, adjust the units emissivity reading or cover the surface to be measured with masking tape or flat black paint. Measure the tape or painted surface when the tape or painted reach the same temperature as the material underneath.

- 1 -

- MAX** : Measuring maximum temperature.
- MIN**: Measuring minimum temperature.
- DIF** : Figure out the difference between the MAX and MIN
- AVG** : Measuring average temperature.
- HAL** : High temperature alarm - when selected HAL, press (M) and (L) to set high temperature alarm trigger and confirmed by pressing SET key. When reading over trigger, LCD display HI icon with BiBi audio sounds. Alarm works in other function modes as well.
- LAL** : Low temperature alarm - when selected LAL, press (M) and (L) to set low temperature alarm trigger and confirmed by pressing SET key. When reading over trigger, LCD display LOW icon with BiBi audio sounds. Alarm works in other function modes as well.
- OFFSET** : Zero offset adjustment
- E** : Press EMS key and then press (M) and (L) to set up the emissivity, and then press the EMS key to confirm the selected.

MAINTENANCE

- Lens cleaning:** Blow off loose particles using clean compressed air. Gently brush remaining debris away with a moist cotton swab. The swab may be moistened with water.
 - Case cleaning:** Clean the case with a damp sponge / cloth and mild soap.
- Note:**
- Do not use any solvent to clean plastic lens.
 - Do not immerse the unit in water.

SPECIFICATION

Temperature range	-50 ~ 550°C (-58 ~ 1022°F)
Accuracy	0 ~ 550°C (32 ~ 1022°F) : ±1.5°C (±2.7°F) or ±1.5% -50 ~ 0°C (-58 ~ 32°F) : ±3°C (±5°F) Whichever is greater
Resolution	0.1°C or 0.1°F
Repeatability	1% of reading or 1°C
Response time	500 mSec, 95% response
Spectral response	5 ~ 14 um
Emissivity	0.10~1.00 adjustment 0.95 Preset
D : S	12 : 1
Operating Temperature	0 ~ 40°C (32 ~ 104°F)
Operating Humidity	10 ~ 95% RH non-condensing up to 30°C (86°F)
Storage Temperature	-20 ~ 60°C (-4~140°F)
Power	3V (1.5V AAA battery x 2)
Typical Battery life	Non-Laser mode : 22 hours (Alkaline) Laser mode : 12 hours

Specific Declarations:

Our company shall hold no any responsibility resulting from using output from this product as an direct or indirect evidence. We reserves the right to modify product design and specification without notice.

- 3 -

- 2 -