Hti

User Manual

Dual Laser Infrared Thermometer
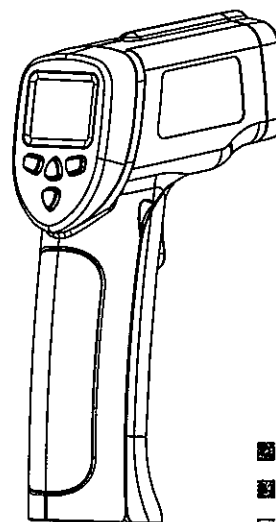
HT-817
HT-818
HT-819

Product Instruction

Many thanks for choosing our product. This is non-contact Infrared
Thermometer and the max temperature can be measured is 1922'F
1050'C). It can measure almost all things surface temperature and
their emissivity characteristic is adjustable. Under the proper
operation and protection it can be used for years.

Safety

* Be cautious when laser is working

* Do not point directly into eyes or
  anything that can be reflect into eyes.

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

CAUTION
LASER RADIATION
DO NOT STARE INTO BEAM
DIODE LASER
1 mW MAX OUTPUT at 635-670 nm
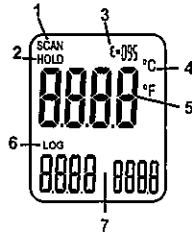CLASS II LASER PRODUCT
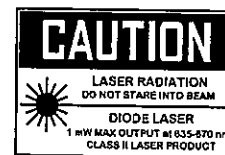
Product Description

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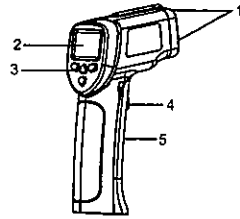
Show

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

Operation Instruction
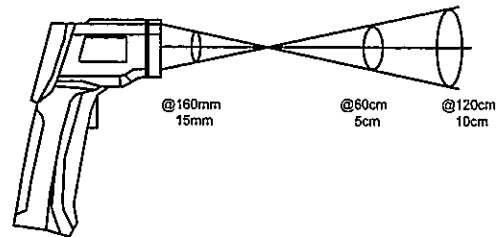
Temperature Measuring
1. Point the instrument to the surface of the object you want to measure and press the trigger.
2. It can display temperature, max temperature, min temperature, difference value, average value, max warning point, min warning point, external probe(not used in this product) measurement unit.
3. The measuring result will stay on the screen for 7 sec after the trigger is loosen and it will be powered off if no operation is done.
   Notice: Press the "MODE" button for 2 sec when the instrument is on to swift between 'F and 'C.

Dual laser spot
Dual laser distance is within 120cm. And the temperature be measured is 10cm in diameter range in this distance.
Dual laser's on and off
1. Press and loose the trigger
2. When "hold" is displayed, press the laser backlit button to power on and off the laser and to switch the backlit.
3. Laser will be remained stored stage until it change to another model.

@160mm 15mm   @60cm 5cm   @120cm 10cm

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

Backlight
1. Press and loose 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.

MODE menu operation
1. It can enter max value, min value, average value, max alarm point, min alarm point, external probe(not be used).
2. Press and loose the trigger when it shows "HOLD". Press the "MODE" to enter the next program.
Max data
    Only shows the max data when measuring
Min data
    Only shows the min data when measuring
Difference data
    Shows the difference between the first and subsequent data.

Average data
    Shows the average between the first and subsequent data.
HAL
    To set the max alarm temperature, press the up and down menu.
LAL
    To set the min alarm temperature, press the up and down menu.
Alarm when temperature is too high or too low
This product can alarm when the temperature is too high or too low. It can release voice to remind users.

You can set the alarm temperature through the "MODE" menu. It can be remain the setting when it is power on until the setting is cancelled.

Temperature Unit
F or C can be set by the temperature unit switch menu, press the MODE menu for 2 sec.

Over Range Alarm Function
If the temperature is beyond the instrument can measured, it will shows "----" on the screen.

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

Do not discard the used battery into the dustbin.

1300 137 753

Attention

The object be measured must 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 to be measured is easy to reflect, covered by adhesive tap or black paint before measuring.The object to be measured is transparent such as glass 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 cost about 30 minutes to adjust. To find a hot spot please point the object from top to bottom from left to right until find out it.

Distance Coefficient Ratio

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 bigger the 6cm. It can measure proper distance but can be influenced by other light source.

Emissivity and Infrared Temperature Measurement Principle

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 object can release 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. As the same with our product. The emissivity of most organic material and paint and the surface be oxidized is 0.95. Once there is a problem please set the emissivity to be 0.95.

Emissivity values of common materials

Material under test	Emissivity	Material under test	Emissivity
Asphalt	0.90 to 0.98	Cloth (black)	0.98
Concrete	0.94	Skin (human)	0.98
Cement	0.96	Leather	0.75 to 0.80
Sand	0.90	Charcoal (powder)	0.96
Soil	0.92 to 0.96	Lacquer	0.80 to 0.95
Water	0.92 to 0.96	Lacquer (matt)	0.97
Ice	0.96 to 0.98	Rubber (black)	0.94
Snow	0.83	Plastic	0.85 to 0.95
Glass	0.90 to 0.95	Timber	0.90
Ceramic	0.90 to 0.94	Paper	0.70 to 0.94
Marble	0.94	Chromium Oxides	0.81
Plaster	0.80 to 0.90	Copper Oxides	0.78
Mortar	0.89 to 0.91	Iron Oxides	0.78 to 0.82
Brick	0.93 to 0.96	Textiles	0.90

Specifications

Model	HT-817	HT-818	HT-819
Range	-50 to 650℃	-50 to 850℃	-50 to 1050℃
	-58 to 1202°F	-58 to 1562°F	-58 to 1922°F
Resolution	0.1° < 1000°, 1° > 1000°		
Accuracy	-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)		
Emissivity	0.10 to 1.00 adjustable		
Field of View	D/S = Approx. 12:1 ratio (D = distance; S = spot or target)		
Laser pointer	Dual, Class 2 laser < 1mW power; Wavelength is 630 to 670nm		
IR Spectral response	8 to 14 µm (wavelength)		
Repeatability	± 0.5% of reading or ± 1°C (1.8°F) whichever is greater		

General Specifications

Display	Backlit LCD display with function indicators
Response time	150ms
Over 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