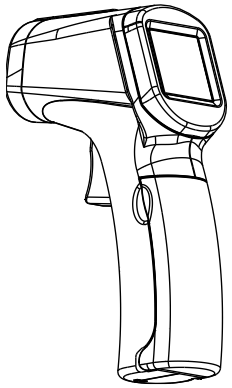
User's Manual
Compact Infrared Thermometer



Please read this user's manual thoroughly before using this unit and keep it properly for your future reference.

1. Introduction

Congratulations on your purchase of our professional non-contact infrared thermometers.

These units can provide fast, easy and accurate temperature readings. With the non-contact (infrared) technology, they can be used to measure the surface temperature of hard-to-reach objects like electrified equipment or moving objects, without any damage or pollution to them.

2. Features

- Compact size
- Fast and easy measurement
- Precise non-contact measurement
- The built-in laser pointer increases the target accuracy
- Backlight LCD display
- Automatic measurement range selection with resolution 0.1℃/0.1℉
- Data hold
- Auto power off
- User selectable units
- D:S=12:1

3. Application

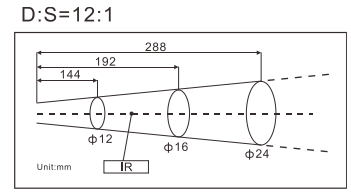
These units are widely used in food preparation, safety and fire inspection, plastic moulding applications, construction, marine, printing processes and vehicle maintenance.

4. Safety

- Use extreme caution when using the laser pointer.
- Do not point the laser towards people or animals.
- Do not allow the laser to inadvertently reflect off surfaces into eyes.
- Do not use the laser near explosive gases.

5. Optical Resolution

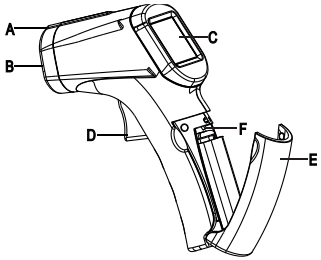
The meter's optical resolution is 12:1, for example, if the meter is 260mm from the target spot (D), the diameter of the target (S) must be at least 20mm.(See diagram.)



6. Specifications

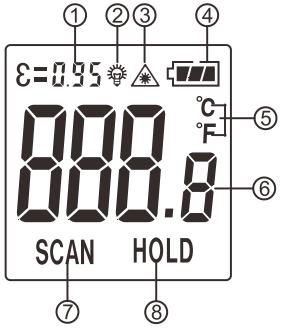
Range	**38/703/0:** -50~500℃/-58~932℉ **38/704/0:** -50~800℃/-58~1472℉
Accuracy	**38/703/0:** -50~0℃ / -58~32℉ :±4℃ / 7℉ 0~500℃/32~932℉:±2% ±2℃/4℉
	38/704/0: -50~0℃ / -58~32℉ :±4℃ / 7℉ 0~800℃/32~1472℉:±2% ±2℃/4℉
Optical Resolution	D:S= Approx. 12:1 (D=distance, S=spot)
Response Time	<1s
Emissivity	fixed at 0.95
Resolution	0.1℃/℉
Spectral Response	8~14um
Over-Range Indication	"HI" indicates exceed upper temperature limitation. "LO" indicates exceed low temperature limitation.
Polarity Display	Auto display, "-"indicates negative, while positive with no sign.
Diode Laser	Output<1mW,630~670nm,class2(II)
Automatic Power Off	Switches off after 20 seconds of inactivity
Operating Temperature	0℃~50℃ / 32 ~ 122℉
Storage Temp	-20 ~ 60℃ /-4 ~ 140℉
Relative Humidity	Operating Humidity:10 to 95%RH;Storage Humidity:<80%RH
Power Supply	9V battery
Weight	145g
Dimensions (H*W*D)	134*88.5*36mm

7. Meter Description



A. Laser pointer beam
B. IR sensor
C. LCD display
D. Measurement trigger
E. Battery compartment cover
F. ℃/℉ switch button

8. LCD Display Description



1. Emissivity Icon
2. Backlit Icon
3. Laser Icon
4. Battery Icon
5. Temperature Unit (℃/℉)
6. Current Reading
7. Measurement Icon
8. Data Hold Icon

9. Operating Instruction

A. Operating steps:

① Hold the meter by its handle and point it towards the surface to be measured.

② Pull and hold the trigger to turn the meter on, the "SCAN" icon will appear and readings can be taken.

③ The surface temperature seen by the sensor will be displayed on the LCD screen.

④ Release the trigger, the "HOLD" icon will appear, and the reading will appear for several seconds.

⑤ The meter will automatically shut off after 20 seconds if no more readings are taken..

Measurement Notes: If the meter is used in an area where the ambient is significantly different to where it has been stored, allow it at least 30 minutes for the device to adjust to the new room temperature.

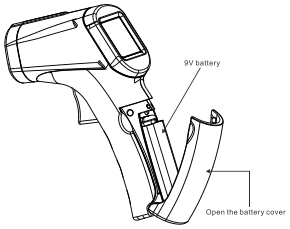
B. Button Function

℃/℉ button: In Measurement Mode, press ℃/℉ to switch the temperature unit between ℃ and ℉.

C. Battery Replacement

①When the low battery icon " " appears, replace the battery.

②Open the battery compartment, replace the 9V battery and close the battery compartment cover.



10. Notes

(1) Principles of Operation

- The infrared thermometer is designed for measuring surface temperature of an object.
- The optical sensor collects energy which it focuses onto a detector. It then electronically translates this into a temperature reading which is displays on the LCD screen.
- The laser is used for aiming at the target object only and plays no other part in the measurement process.

(2) Optical Resolution (Field of View)

- As distance (D) from the object increases, the spot size (S) of the area measured by the unit becomes larger.
- The object under test should be larger than the spot size calculated by the optical resolution diagram.
- The smaller the target object is, the closer the meter should be to it for accurate measuring.
- When accuracy is critical, make sure the target is at least twice as large as the spot size.

(3) Locating a hot spot

To find a hot spot, first aim the thermometer to the outside of target area, then scan slowly across in an up and down motion until the hot spot is located.

(4) Emissivity

- The device is not recommend for measuring shiny or polished metal surfaces like stainless steel, aluminum as the emissivity values for these materials will be different to the fixed value (0.95) used by the thermometer.
- Do not take measurement through a transparent surface such as glass as this will measure the temperature of the glass rather than what is behind the glass.
- If the surface of the object under test is covered with frost, oil, grime, etc., clean before taking measurement.

(5) Maintenance

- Do not use volatile liquids to clean the unit, wipe it with dry soft cloth.
- The unit contains no user serviceable parts, repairs should be carried out by qualified personnel.
- Do not immerse it in water.
- Do not store it in high temperature or high humidity environment.

11. Accessories

- User's Manual
- 9V Battery

Brannan Thermometers & Instrumentation

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