



User's Manual Mini Infrared Thermometer

1. Introduction

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

These units can provide fast, easy and accurate temperature readings. Using non-contact (infrared) technology, they can be used to measure the surface temperature of difficult subjects like live electrified equipment or moving objects. As the device is non-contact, sensitive objects will not be damaged or contaminated as a result of the measurement being taken.

2. Features

- Fast and easy measurement
- Precise non-contact measurement
- Built-in laser pointer increases the target accuracy
- Recording of maximum and minimum values
- Backlit LCD display
- Automatic measurement range selection with a resolution of 0.1°C/°F
- Automatic trigger off
- Automatic power off

3. Application

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

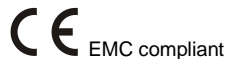
4. Safety

- 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.

CAUTION

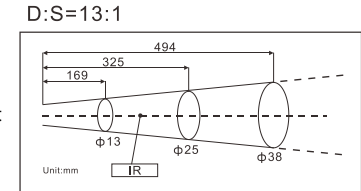
Don't target human and animal eyes

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WAVELENGTH 630-670nm
OUTPUT: < 1mW
CLASS II LASER PRODUCT
EN 60825-1:1994/A11:1996/A2:2001/A1:2002



5. Optical Resolution

The meter's optical resolution is 13:1, 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)

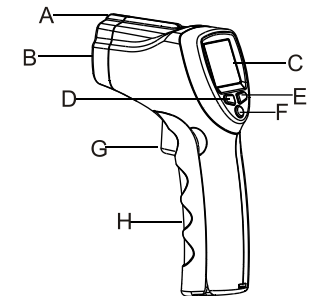


6. Specifications

	38/701/0	38/702/0
Range	-50 to +350°C (-58 to +662°F)	-50 to +550°C (-58 to +1022°F)
Accuracy	-50 to 0°C: ±4°C	-50 to 0°C: ±4°C
	0 to +350°C: ±2% or ±2°C	0 to +550°C: ±2% or ±2°C
Emissivity	fixed at 0.95	
Optical Resolution	D:S=13:1	
Resolution	0.1°C (0.1°F)	
Spectral Response	8 to 14um	
Polarity Display	Auto display, "-" indicates negative, no sign indicates positive.	
Diode Laser	Output < 1mW, 630 to 670nm, class 2(II)	
Auto Power Off	Switches off after 20 seconds inactivity	
Operating Temp.	0 to 50°C / 32 to 122°F	
Storage Temp.	-20 to 60°C / -4 to 140°F	
Relative Humidity	Operating:10 to 95%RH,Storage:<80%RH	
Power Supply	9V battery	
Dimensions	155.5*98.8*27.5mm (L x W x H)	
Weight	176g	

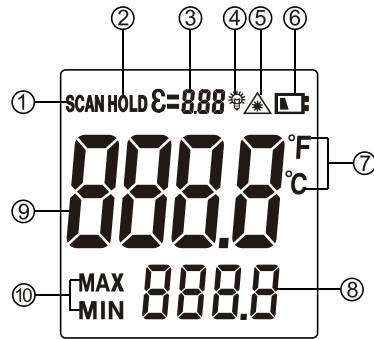
7. Meter Description

- | | |
|------------------------|---------------------------------|
| A. Laser beam pointer | B. IR sensor |
| C. LCD display | D. °C / °F Button |
| E. MAX/MIN button | F. Laser pointer/backlit button |
| G. Measurement trigger | H. Battery compartment cover |



8. LCD Display Description

- | | |
|----------------------------|--------------------------|
| ① Measurement Icon | ② Data Hold Icon |
| ③ Emissivity Icon | ④ Backlit Icon |
| ⑤ Laser Icon | ⑥ Low Battery Indication |
| ⑦ Temperature Unit °C / °F | ⑧ Max/Min Record Reading |
| ⑨ Current Reading | ⑩ Max/Min Icon |



9. Operating Instructions

A. Operating procedure:

- 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 will 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 be held for several seconds.
- ⑤ The meter will automatically shut off after 20 seconds if no more readings are taken.

Measurement Notes:

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

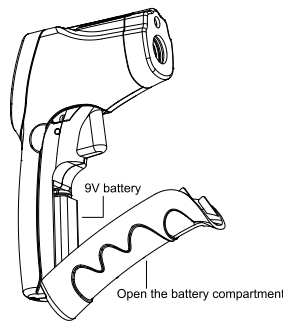
The laser is used purely to help measure the right target area; it can be switched off during operation to save the battery.

B. Button Functions

- ① °C/°F button: In Measurement Mode, press "°C/°F" to switch the temperature unit between °C and °F.
- ② Laser pointer/Backlight button: In Measurement Mode, press "☀/△" to turn the backlight on and off; In "HOLD" Mode, press "☀/△" to turn the laser pointer on and off.
- ③ During measuring, press "MAX/MIN" to display the MAX/MIN readings.

C. Battery Replacement

- ① When the low battery icon "🔋" appears, replace the battery.
- ② Open the battery compartment, replace the 9V battery and close the battery compartment cover.



10. Notes

(1) Principles of operation

- The optical sensor collects energy which it focuses onto a detector. It then electronically translates this into a temperature reading which it displays on the LCD screen.
- The infrared thermometer is designed for measuring surface temperature of an object.
- 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 smaller the target object is, the closer the meter should be to it for accurate measuring.
- The object under test should be larger than the spot size calculated by the optical resolution diagram.
- 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 or aluminum as the emissivity values for these materials will be different to the fixed value (0.95) used by the thermometer.
- Do not make measurements 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 a 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, repair should be carried out by qualified personnel
- Do not immerse in water.
- Do not store in a high temperature or high humidity environment.

11. Supplementary Items

- ☐ User's manual
- ☑ 9V Battery

Brannan Thermometer & Instrumentation

www.brannan.co.uk

Rev:0.2015

