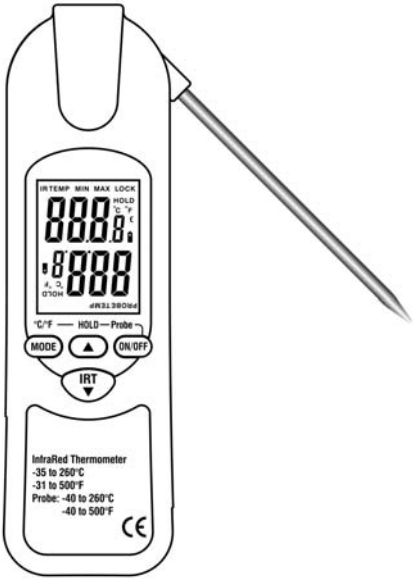
Thermometers

Operation Manual



INTRODUCTION

Thank you for purchase of the this Thermometer. This device is a non-contact(infrared) thermometer and contact(probe) thermometer .To use the non-contact(infrared) thermometer. Simply aim the thermometer at the target and press the “IRT” button to display the surface temperature. The distance to target ratio is 1:1 therefore the thermometer should be positioned as close to the target as possible. To use the contact(probe) thermometer, open the probe, press the “ON/OFF” button and insert at least “1/2” of the stem into the testing area. The current temperature will be displayed.

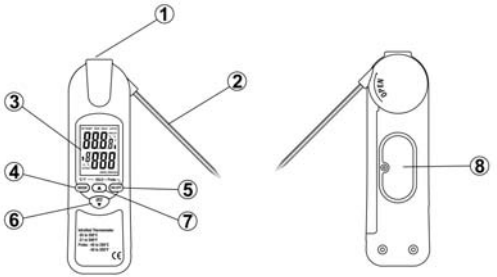
1. FEATURES

- User selectable °C or °F
- Data Hold
- Overrange indication
- Automatic Power Off
- Emissivity Digitally adjustable from 0.10 to 1.00
- MAX,MIN ,LOCK modes
- Resolution 0.1°C (0.1°F)

2. WIDE RANGE APPLICATION

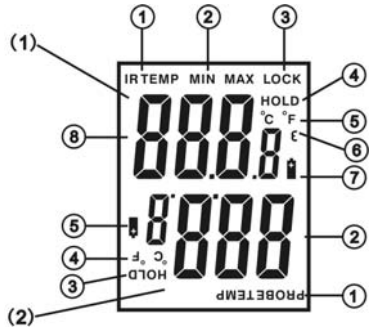
Food preparation, Safety inspectors, Plastic molding, Asphalt, Marine and Screen printing, measure ink and Dryer temperature, HVAC/R, Diesel and Fleet maintenance.

3. FRONT PANEL DESCRIPTION



① IR sensor
② Probe Temperature
③ LCD Display
④ MODE button
⑤ Probe Temperature switch
⑥ IR Measurement button
⑦ UP button
⑧ Battery Cover

4. INDICATOR



(1) IR Temperature indication

① IR Measuring indication
② max/min indication
③ lock symbols
④ Data hold
⑤ °C /°F symbol
⑥ Symbols for EMS
⑦ Low battery indication
⑧ Current temperature value

(2) PROBE Temperature indication

① probe Measuring indication
② Current temperature value
③ Data hold
④ °C /°F symbol
⑤ Low battery indication

5. SPECIFICATION

IR TEMP. Range	-35°C to +260°C / -31°F to 500°F
IR Response Time	less than 500 ms
Infrared Accuracy	±2% of reading ±2°C / (±4°F)
Optical Resolution	1:1 Distance to Spot size
Emissivity	Adjustable 0.10～1.00
Probe Temperature Range	-40°C to 260°C / -40°F to 500°F
Temperature Accuracy :	
-40 to -10°C (-40 to 14°F)	**±5°C (9°F)**
-10 to 180°C (14 to 356°F)	**±2 % ±2°C / (±4°F)**
180 to 260°C (356 to 500°F)	**±3 % ±2°C / (±4°F)**
Overrange Indication	Display " ---- "
Operating Temperature	0°C to 50°C
Resolution	0.1°C / 0.1°F
Weight	83g.
Size	140×42×25mm

6. MIN or MAX Mode

To utilize this thermometer MIN(minimum) or MAX(maximum) mode, firstly turn the instrument on by pressing the “IRT” button, release the “IRT” button to hold measuring data. Then press the “MODE” button once for MIN or twice for MAX function. The “MIN” or “MAX” icon will flash, then press the “IRT” button to confirm the “MIN” or “MAX” mode. The thermometer will display the MIN or MAX reading only. Press the “△” button to cancel the MIN or MAX function,and the “MIN” or “MAX” icon will disappear.

7. LOCK Mode

The LOCK mode is particularly useful for continuous monitoring of temperatures . To utilize this thermometer’s LOCK mode. firstly turn the instrument on by pressing the “IRT” button, release the “IRT” button to hold measuring data.Then press the “MODE” button three times for the LOCK mode function. The “LOCK” icon will flash, then press “IRT” button to confirm the LOCK measurement mode. The thermometer will continuously display the temperature. Press the “△” button to cancel the LOCK function,and the “LOCK” icon will disappear.

8. °C or °F Mode

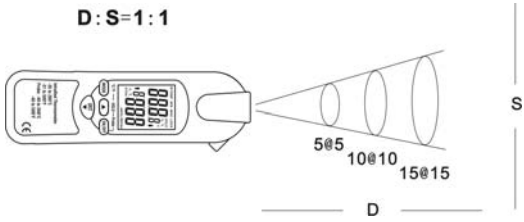
To change this thermometer from °C to °F, when you using infrared to measuring, firstly turn the instrument on by pressing the “IRT” button, release the “IRT” button to hold measuring data. Then press the “MODE” button four times, the °C or °F icon will flash, press the “IRT” button to change the scale and measuring. When you using Probe to measuring, you can directly press “MODE” button once to change the scale.

9.Data Hold Mode

When you using infrared to measuring, turn the instrument on by pressing the “IRT” button,release the “IRT” to hold measuring data.When you using Probe to measuring, you can press “△” button to hold measuring data.

10.Distance & Spot Size

As the distance (D) from the object increases, the spot size (S) of the area measured by the unit becomes larger. The relationship between distance and spot size for each unit is listed below



11. Emissivity Adjustment Mode

The Emissivity Adjustable Mode useful for adjustable the emissivity. firstly turn the instrument on by pressing the “IRT” button, release the “IRT” button to hold measuring data.Then press the “MODE” button five times for the Emissivity Adjustable Mode function. press the “△” button or “IRT” button to adjust the Emissivity.

Most (90% of typical applications) organic materials and painted or oxidized surfaces have an emissivity of 0.95 (pre-set in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate, cove the surface to be measured with masking tape or flat black paint. Allow time for the tape to reach the same temperature as the material underneath it. Measure the temperature of the tape or painted surface.

AUTO POWER OFF:

To save battery life, When the thermometer in data hold mode, it will automatically turn off after approximately 15 second.When the thermometer work on the Probe measuring mode , it will automatically turn off after approximately 20 minutes.

WARNING:

1. Don't to inserted probe in the hard objects.
2. As battery power is not sufficient, LCD will display "  ", the battery should be replaced at this time.

Emissivity Values

Substance	emissivity	Substance	emissivity
Asphalt	0.90 to 0.98	Cloth (black)	0.98
Concrete	0.94	Human skin	0.98
Cement	0.96	Lather	0.75 to 0.80
Sand	0.90	Charcoal(powder)	0.96
Earth	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	Lron oxides	0.78 to 0.82
Brick	0.93 to 0.96	Textiles	0.90