



THE TIME & TEMPERATURE COMPANY®

Infrared Gun

-76 to +1022°F/-60 to +550°C

Perfect For

- Non-contact surface temperatures

Easy To Use

- 1-second response
- 8-beam laser target illumination
- Backlit
- Data-hold
- One-button operation

Features

- Shatterproof
- Memory
- Maximum, minimum, difference, average with lock for continuous scanning
- High and low alerts
- Distance:spot = 12:1
- Battery status indication
- ABS plastic
- Auto-off
- Batteries and instructions included

Get Professional Results Every Time!

Monitoring temperature is essential to keeping food safe. The versatile IN1022 is perfect for any application. Simply point the infrared sensor lens toward the target and press the trigger to get a quick reading of surface temperatures.

Maximum, Minimum, Difference and Average Modes

The IN1022 also offers Maximum, Minimum, Difference and Average modes. Maximum mode displays the highest temperature among multiple targets. Minimum mode displays the lowest temperature among multiple targets. Difference mode displays the difference between the maximum and minimum temperature measurements of multiple targets. While Average mode displays the average temperature measurements of multiple targets.

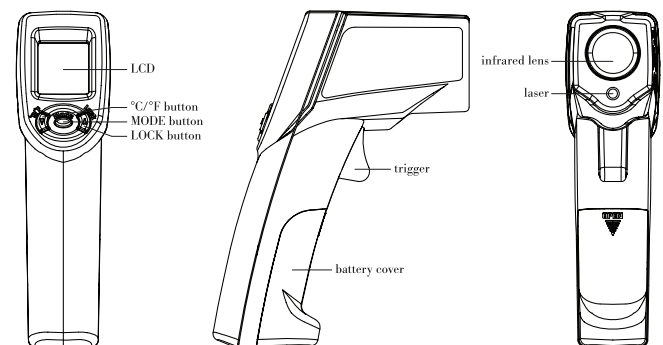
Lock Mode

Lock mode continuously measures the temperature for up to 60 minutes. This is particularly useful for continuous temperature monitoring.

High and Low Alerts

The IN1022 provides a programmable high and low alert for measurements that are out of the desired range.

Note: Remove sticker from display before use.



Note: In the following instructions, names of the control buttons are shown in CAPS. Function information that appears on the display is shown in **BOLD CAPS**.

Battery Installation

Replace battery when LCD becomes dim or alarm level declines. Power off the unit before installing the batteries. A malfunction may occur if the power is on when the battery is installed. If a malfunction occurs, restart the device.

1. Remove battery cover by sliding it in the direction of the arrow.
2. Install two 1.5V AAA batteries observing polarity shown in compartment.
3. Replace the battery cover until it clicks shut.

Operating Instructions

Mode Selection: E > ↓E↑ > MAX > MIN > DIF > AVG > HAL > LAL

A. Temperature Scale

To select temperature reading in Fahrenheit or Celsius:

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the °C/°F button to change the scale.

B. Backlit Display

To turn the backlit display on and off:

1. Press the MODE button or trigger to turn the thermometer on.
2. Press and hold the trigger and then also press the LOCK button to turn the backlit display on and off. The **BACKLIGHT icon** (☼) appears in the top portion of the display when on.

C. Laser Light

To turn the laser light on and off:

1. Press the MODE button or trigger to turn the thermometer on.
2. Press and hold the trigger and then also press the C°/F° button to turn the laser light on and off. The **LASER icon** (▲) appears in the top portion of the display when on.

CAUTION: Never point the unit and/or laser towards anyone's eyes. Do not look directly into the laser beams — permanent eye damage may result. Keep away from children.

E. Lock Mode

This is particularly useful for continuous temperature monitoring for up to 60 minutes and can be used with Minimum, Maximum, Difference and Average modes.

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the LOCK button. **LOCK** appears in the top portion of the display when on.
3. The thermometer continuously displays the temperature for up to 60 minutes or restarts the time if the trigger is pressed again.

F. Infrared Thermometer

Note: The IN1022 is intended for food service use — do not use for safety related applications.

1. Infrared Scanning

1. Distance:Spot = 12:1

For example, if the surface area being measured is 10" in diameter, then the thermometer must be within 120" of the target for an accurate reading.

2. Aim the infrared lens at the target and press the trigger to display the surface temperature. If on, the laser light automatically illuminates the target.

Distance:Spot (FOV)= 12:1
Emissivity = 0.1~1, Step .01
Wave Length = 8µm-14µm

3. The 8-beam laser light forms a circle that defines the area of measure. Make sure the circle is smaller than the area being measured. If the laser light circle is larger than the area being measured, the reading will include ambient temperatures and make the reading inaccurate.
4. Measurement continues as long as the trigger is pressed. The newest reading updates the display.
5. When the trigger is released, **HOLD** appears on the display and the last reading remains visible for 60 seconds before the unit automatically powers off.

2. Emissivity

Everything gives off a certain amount of radiation. Emissivity is the measure of this thermal radiation. The infrared thermometer is supplied with a default emissivity of 0.95, which standard for most uses. The emissivity of the thermometer can be changed from 0.1 (10E) to 1 (100E). **Only experienced personnel should attempt to make changes.** For information relating to the emissivity of specific materials, please contact CDN.

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the MODE button until **E** appears in the lower left corner of the display. The current emissivity setting appears in the lower right corner of the display
3. Press the MODE button again to adjust the emissivity value in 0.01 (1E) increments in the Emissivity Edit Mode. ↓E↑ appears in the lower left corner of the display.
4. Press the °C/°F button to decrease the emissivity value. Press the LOCK button to increase the emissivity value. Press and hold for fast advance.
5. Press the MODE button again to exit Emissivity Edit Mode and enter MAX Mode.

Note: Non-contact infrared thermometers are not recommended for use in measuring the temperature of shiny or polished metals.

3. Maximum Mode

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the MODE button repeatedly until **MAX** appears in the lower left portion of the display.
3. Aim the infrared lens at the target and press the trigger to display the surface temperature.
4. Measurement continues as long as the trigger is pressed or for 60 minutes in Lock Mode. The MAX reading displays the highest temperature among multiple targets.

4. Minimum Mode

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the MODE button repeatedly until **MIN**

- appears in the lower left portion of the display.
3. Aim the infrared lens at the target and press the trigger to display the surface temperature.
 4. Measurement continues as long as the trigger is pressed or for 60 minutes in Lock Mode. The MIN reading displays the lowest temperature among multiple targets.

5. Difference Mode

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the MODE button repeatedly until **DIF** appears in the lower left portion of the display.
3. Aim the infrared lens at the target and press the trigger to display the surface temperature.
4. Measurement continues as long as the trigger is pressed or for 60 minutes in Lock Mode. The DIF reading displays the difference between the maximum and minimum temperatures of multiple targets.

6. Average Mode

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the MODE button repeatedly until **AVG** appears in the lower left portion of the display.
3. Aim the infrared lens at the target and press the trigger to display the surface temperature.
4. Measurement continues as long as the trigger is pressed or for 60 minutes in Lock Mode. The AVG reading displays the average temperature of multiple targets.

7. Error Messages

The IN1022 incorporates visual diagnostic messages as follows:

1. **HI** or **LO** is displayed when the temperature being measured is outside the infrared range of the instrument.
 - Hi** a. **HI** indicates that the temperature is higher than +1022°F/+550°C.
 - Lo** b. **LO** indicates that the temperature is lower than -76°F/-60°C.
2. Allow a minimum 30 minutes for the thermometer to stabilize to the working/room temperature.
 - Er 2** a. **ER2** is displayed when the thermometer is exposed to rapid changes in the ambient temperature.
 - Er 3** b. **ER3** is displayed when the ambient temperature exceeds 32°F/0°C OR 122°F/50°C.
3. For all other error messages it is necessary to reset the thermometer.
 - a. Wait for the thermometer to power off.
 - b. Remove the battery and wait for a minimum of one minute.

- c. Reinstall the battery (see **Battery Installation**).
- d. Press the MODE button or trigger to turn the thermometer on.
- e. If the error message remains, please contact CDN for further assistance.

G. Temperature Alerts

1. High Alert

An alert will sound when the measured temperature exceeds the alert temperature setting.

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the MODE button repeatedly until **HAL** appears in the lower left portion of the display.
3. Press the °C/°F button to decrease the High Alert temperature. Press the LOCK button to increase the High Alert temperature. Press and hold for fast advance.
4. Press the trigger to confirm the High Alert temperature setting.




2. Low Alert

An alert will sound when the measured temperature exceeds the alert temperature setting.

1. Press the MODE button or trigger to turn the thermometer on.
2. Press the MODE button repeatedly until **LAL** appears in the lower left portion of the display.
3. Press the °C/°F button to decrease the Low Alert temperature. Press the LOCK button to increase the Low Alert temperature. Press and hold for fast advance.
4. Press the trigger to confirm the Low Alert temperature setting.

H. Battery Status

The thermometer incorporates visual battery status indication:

1.  **Battery OK:** measurements are possible
2.  **Battery Low:** replace battery with two 1.5V AAA Alkaline cells; measurements are possible
3.  **Battery Exhausted:** replace battery; measurements are not possible

EMC/RFI

Readings may be affected if the unit is operated within a radio frequency electromagnetic field strength of approximately 3 volts per meter, but the performance of the instrument will not be permanently affected.

Care of Your Product

- The sensor lens is the most delicate part of the thermometer and should be kept clean at all times. Take care when cleaning the lens. Use only a soft cloth or cotton swab with water or rubbing alcohol. Allow the lens to dry fully before using the thermometer.
- Do not submerge any part of the thermometer in water. Wipe clean with a damp cloth.
- Store the thermometer at room temperature within 32 to 122°F/0 to 50°C.

Precautions

- Dispose of used battery promptly and keep away from children.
- Keep the batteries and unit away from children.
- Do not clean the case with abrasive or corrosive compound, which may scratch the plastic and corrode the electronic circuits.
- Do not subject the unit to excessive force shock, dust, temperature or humidity, which may result in malfunction, shorter electronic life span, damaged battery and distorted parts.
- Do not tamper with the unit's internal components. Doing so will invalidate the warranty on the unit and may cause unnecessary battery damage and distorted parts.
- Do not subject the unit to excessive exposure to direct sunlight. The unit is not waterproof – do not immerse it into water or expose to heavy rain.
- To avoid deformation, do not place the unit in extreme temperatures.
- Do not use the thermometer in a microwave oven.
- Always read the users manual thoroughly before operating.

CAUTION: Avoid keeping the thermometer too close to objects that continuously generate high heat for long periods (i.e., hot plate). This can cause the thermometer to overheat.

CE Note: This device could be sensitive to electrostatic discharge. If electrostatic discharge or malfunctioning occurs, please re-install the battery to reset this unit.

Specifications

Measurement Range	-76 to +1022°F/-60to +550°C
Operating Range	32 to 122°F/0 to 50°C
Accuracy, (Tobj=59-95°F/15-35°C, Tamb=77°F/25°C)	±2.7°F/±1.5°C
Accuracy, (Tamb=73 ±37.4°F/23 ±3°C)	Tobj=-76 to +32°F/-60 to 0°C: ±(3.6°F/2°C + 0.05/degree C) Tobj=32 to 1022°F/0 to 550°C: ±2% of reading or 4°F/2°C whichever is greater
Emissivity Range	0.95 default; adjustable 0.1 to 1, step .01
Resolution (14.18 to 392°F/-9.9 to 199.9°C)	0.1°F/0.1°C
Response Time (90%)	1 second
Distance:Spot	12:1
Power Supply	2 DC 1.5V AAA Alkaline batteries
Battery Life	Typ. 18, min 14 hours continuous use
Dimensions	4.43 W x 5.82 H x 1.63 D (inches)/112.58 W x 147.93 H x 41.36 D (mm)
Weight	5.1 oz/145 g (including batteries - AAA x 2 pcs)

USDA SAFE FOOD TEMPERATURES

- * Beef, Veal, Lamb – well 160°F . . . 71°C
- * Beef, Veal, Lamb – medium. 145°F . . 63°C
- * Beef, Veal, Lamb – rare 140°F . . 60°C
- Poultry 165°F . . . 74°C
- * Pork/Ham – pre-cooked . . . 145°F . . 63°C
- Ground Meat 160°F . . . 71°C
- * 3 minutes rest time

CANDY TEMPERATURE GUIDE

- Jelly 220°F 104°C
- Thread 230–234°F . . . 110–112°C
- Soft Ball 234–240°F . . . 112–115°C
- Firm Ball 244–248°F . . . 118–120°C
- Hard Ball 250–266°F . . . 121–130°C
- Soft Crack 270–290°F . . . 132–143°C
- Hard Crack 300–310°F . . . 149–154°C
- Caramelize 316–338°F . . . 158–170°C

HIGH ALTITUDE ADJUSTMENT FOR CANDY-MAKING

STAGE	2,000 feet	5,000 feet	7,500 feet
Soft Ball	230–236°F	224–230°F	219–225°F
Firm Ball	238–244°F	232–238°F	227–233°F
Hard Ball	246–264°F	240–258°F	235–253°F
Soft Crack	266–286°F	260–286°F	255–275°F
Hard Crack	296–306°F	290–300°F	285–295°F

OIL TEMPERATURE GUIDE

325–375°F/163–190°C is the normal desired temperature for deep fry cooking.

Note: When food is added to hot oil, the temperature of the oil immediately drops at least 50°F/28°C. You will need to bring the oil temperature back to the desired cooking temperature. Frying at lower temperatures results in lighter color, less flavor development and increased oil absorption.

DEEP FRY TEMPERATURE GUIDE

- Deep Fry Lo 325–340°F . . . 163–170°C
- Deep Fry Hi 340–365°F . . . 170–185°C
- Shrimp 350°F 177°C
- Chicken 355°F 180°C
- Onions 370°F 188°C
- Fish 375°F 191°C
- Doughnuts/Fritters . . . 375°F 191°C
- French Fries 380°F 193°C

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1-Year Limited Warranty: Any instrument that proves to be defective in material or workmanship within one year of original purchase will be repaired or replaced without charge upon receipt of the unit prepaid at: CDN, PO Box 10947, Portland, OR 97296-0947. This warranty does not cover damage in shipment or failure caused by tampering, obvious carelessness or abuse.



For more detailed information on our products, please visit cdn-timeandtemp.com.



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