



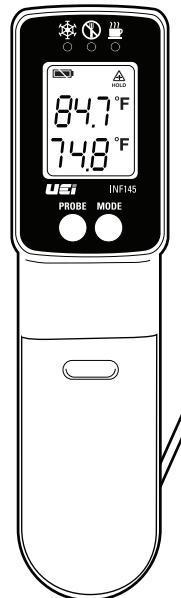
INF145

TEST INSTRUMENTS™

## NSF Infrared Thermometer w/ Folding Probe

### INSTRUCTION MANUAL

ENGLISH



#### FEATURES

- Circular laser targeting
- Dual display
- Selectable emissivity level: 0.1 to 1.0
- Min/Max/Hold
- Lock
- HACCP zone check
- Colored HACCP backlit display
- Auto power off
- Hi/Lo alarm
- Celsius or Fahrenheit
- Low battery indicator

#### FUNCTIONS

- 8:1 Distance-to-spot ratio
- Temperature range: -76° to 662°F (-60° to 350°C)
- Temperature probe

#### GENERAL SPECIFICATIONS

- Operating Temperature: 32° to 122°F (0° to 50°C)
- Backlight: Yes
- Certifications: CE Conformity, NSF, IP 54 (splash proof)
- Battery Type: (AAA) 2
- Accuracy: ± (% of reading + # of least significant digits)

#### IMPORTANT SAFETY WARNINGS

##### **WARNING**

Read entire Safety Notes section regarding potential hazard and proper instructions before using this meter. In this manual the word "**WARNING**" is used to indicate conditions or actions that may pose physical hazards to the user. The word "**CAUTION**" is used to indicate conditions or actions that may damage this instrument.

##### **NOTE:**

*The INF145 is not recommended for use on shiny surfaces such as chrome, mirrors or polished surfaces.*

##### **WARNING**

- To avoid thermal shock, the instrument should be stored at room temperature between 32° and 122°F (0° to 50°C).
- After measurement of high temperatures, the probe may be hot for a while.
- The probe of contact thermometer may be damaged if the specification of the measurement range is exceeded.

## IMPORTANT SAFETY WARNINGS (CONTINUED)

**WARNING :**

To avoid electrical shock and thermometer damage, do not measure live circuit where voltage exceeding 24V AC RMS or 60V DC with the temperature probe.

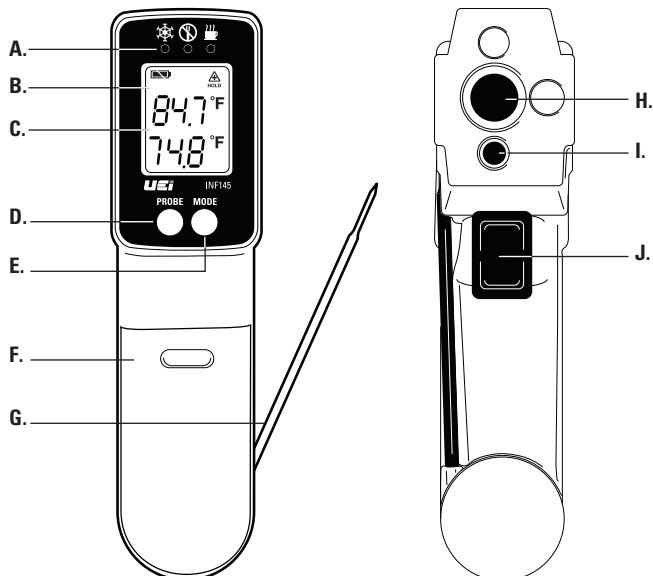
**WARNING :**

DO NOT look directly into the laser beam. Permanent eye damage may result.

## SYMBOLS

<b>MIN</b>	Minimum measured value displayed	<b>MAX</b>	Maximum measured value displayed
<b>LOCK</b>	Lock	<b>PROBE</b>	Probe
<b>E</b>	(E) Emissivity		Low battery
<b>Hold</b>	Hold/Capture value		Warning or Caution
<b>°F</b>	Degree Fahrenheit		Degree Celsius
	HACCP Zone 1		HACCP Zone 2
	HACCP Zone 3	<b>Hi</b>	Hi
<b>Lo</b>	Lo	<b>Er</b>	Er
<b>Er2</b>	Er2	<b>Er3</b>	Er3

## OVERVIEW



**A. HACCP Zone Check LED**

**B. Display**

**C. HACCP Back Light**

**D. Probe Button:**

Press x1 to switch to Probe mode

Press x1 in Probe mode to enter Hold mode.

**E. Mode Button:** does not work in Probe mode

Press x1 = Minimum value

Press x2 = Maximum value

Press x3 = Lock mode press Trigger x1

Press x4 = Temperature Scale Press Trigger to switch between Celsius and Fahrenheit

Press x5 = Emissivity level Default = 0.95; (variable 0.10 to 1) Press Trigger x1 for each 0.01 step

Emissivity level changes should only be done by experienced personnel.

**F. Battery Cover**

**G. Probe**

**H. Infrared Lens**

**I. Circular Laser**

**J. Laser Trigger**

- The thermometer will display the minimum or maximum value during the measurement period or until the **Mode button** is pressed again.

- The lock mode is particularly useful for continuous monitoring of temperatures. The thermometer will continuously display the temperature (for up to 60 minutes) or

## TAKING MEASUREMENTS

### Laser:

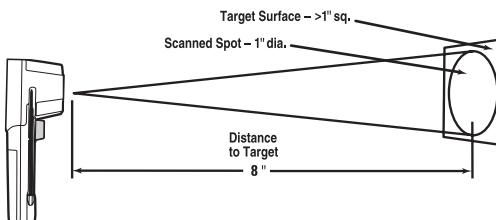
- To take a measurement with your INF145 using the laser, simply point the aperture at an object and pull the trigger. The object's temperature will show up on the display and update at a rate of approximately two times per second.
- There will be a delay of approximately one second between the time you pull the trigger and the time the display comes on. There is a 15 second auto hold/auto power off if left idle.

### Releasing the Trigger will enter Hold mode.

Follow these guidelines to ensure you get the most accurate reading possible:

- Be sure the measured object fills the "spot" seen by the laser targeting. The distance to-spot ratio of the INF145 is 8:1.
- This shows a one-foot spot fitting within the one-foot target area. At this distance, and anything closer, the targets temperature will be accurately measured.

**NOTE:** If the two-foot diameter spot includes unwanted objects in the background that are not part of the one-foot square target; the temperature of the background objects will be figured into the target temperature causing inaccurate readings.



Laser temperature value is displayed in upper display.

### Probe:

Probe temperature value is displayed in lower display.

- To take a measurement with your INF145 using the probe, touch the probe at the measure target and press the **Probe button** to display the temperature. Press and Hold **Probe button** to Hold reading in probe mode. There is a 4 minute auto hold/auto power off if left idle, to preserve the battery life.
- To re-enter laser mode, press **Probe button** again

### **WARNING** :

1. Do not twist the probe or rotate in the wrong direction.
2. Over stressing the probe may cause it to break.
3. After measuring high temperatures, the probe may remain hot for a while.
4. Probe is dangerous in the OPEN position. Fold the probe back into the CLOSED position when not in use.

### HACCP CHECK

The "HACCP Check" is incorporated into our thermometer to indicate critical temperature zone. The HACCP zone display LED's and back light indicate a food product stays in the safe or unsafe HACCP "Danger Zone" temperature. The green and red LED light will always be lit before power off.

### HACCP Zone Display

A green LED appears with icon  indicates a safe cool or frozen condition below 40°F (4°C) or appears with icon  indicates a safe holding temperature above 140°F (60°C). When temperature is in between 40°F (4°C) and 140°F (60°C) the red LED with the icon  will appear and indicate the temperature has fallen within the HACCP "Danger Zone".

	Zone 1	Zone 2	Zone 3
LED/Back light	Green	Red	Green
Fahrenheit	 40°F	40° to 140°F	 140°F
Celsius	 4°C	4° to 60°C	 60°C

### HACCP Display Back Light

A green display back light indicates a safe cool or frozen condition or a safe warm or hot condition. A red display back light indicates that the temperature has fallen into the HACCP "Danger Zone".

## SPECIFICATIONS

	Infrared Mode	Probe Mode
Measurement Range	-76° to 662°F (-60° to 350°C)	-76° to 662°F (-60° to 350°C)
Operating Range	32° to 122°F (0° to 50°C)	
Accuracy ( $T_{obj}$ = 59° to 95°F, $T_{amb}$ =77°F)	$\pm 1.1^{\circ}\text{F}$ (0.6°C)	$< 23^{\circ}\text{F} \pm 1.8^{\circ}\text{F}$ $23^{\circ}$ to $149^{\circ}\text{F} \pm 0.9^{\circ}\text{F}$ $> 150^{\circ}\text{F} \pm 1\%$ of rdg
Accuracy ( $T_{amb}$ =73.4°F( $\pm 5.4^{\circ}$ ))	-76° to 32°F ( $\pm (1.8+0.1*(32-\text{rdg}))^{\circ}\text{F}$ ) 32° to 149°F $\pm 1.8^{\circ}\text{F}$ 150° to 662°F $\pm 1.5\%$ of rdg  -60° to 0°C $\pm (1+0.1*(0-\text{rdg}))^{\circ}\text{C}$ 0° to 65°C $\pm 1^{\circ}\text{C}$ 65° to 350°C $\pm 1.5\%$ of rdg	$< -5^{\circ}\text{C} \pm 1^{\circ}\text{C}$ $-5^{\circ}$ to $65^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ $> 65^{\circ}\text{C} \pm 1\%$ of rdg
Emissivity Range	0.95 Default, Adjustable 0.1 to 1 (.01 steps)	
Resolution (-9.9° to 199.9°F/C)	0.5°F (0.2°C) otherwise 1°F/C	
Distance-to-Spot Ratio	8:1	
Dimensions	6.62" x 1.55" x 2.08"	
Weight	5.11 oz	
Battery Life	Typical 14 hrs and 18 min., continuous use (alkaline, with laser) (Auto power off after 15 seconds)	

### LCD ERROR MESSAGES

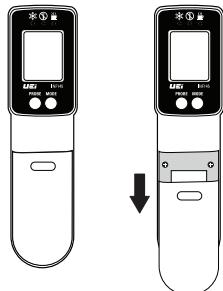
The thermometer incorporates virtual diagnostic messages as well.

**Hi** or **Lo** is displayed when the temperature being measured is outside the temperature range stated in the in the specifications section of this manual.

**Er2** or **Er3** is displayed when the thermometer is exposed to rapid temperature changes in ambient temperatures. **Er3** is displayed when ambient temperature exceeds 32° to 122°F (0° to 50°C). The thermometer should be allowed plenty of time (minimum 30 minutes) to stabilize in working/room temperatures.

**Er** For all other error messages it is necessary to reset the thermometer. To reset, wait for auto power off, remove the batteries and wait for one minute. Reinsert the batteries, and turn on the thermometer. If the error message remains please contact UEl Service Center for assistance.

### BATTERY REPLACEMENT



When the batteries are too low for safe operation, the Low Battery indicator will display.

- Remove battery cover.
- Replace the batteries 2 (AAA).
- Replace the battery cover

### ⚠ EMC/RFI

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

### WARRANTY

The INF145 is warranted to be free from defects in materials and workmanship for a period of 1 year from the date of purchase. If within the warranty period your instrument should become inoperative from such defects, the unit will be repaired or replaced at UEl's option. This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Batteries and consequential damage resulting from failed batteries are not covered by warranty.

Any implied warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the express warranty. UEl shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expenses or economic loss.

A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered. Instruments out of warranty will be repaired (when repairable) for a service charge.

For more information on warranty and service, contact:

This warranty gives you specific legal rights. You may also have other rights, which vary from state to state.



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