

# Non-Contact Infrared Human Forehead Thermometer Instructions

PRODUCT NUMBER: THDG986

## INTRODUCTION & CLASSIFICATION

This is a non-contact infrared thermometer applicable to forehead measurement. The thermometer measures body temperature by collecting heat radiation emitting from forehead. New probe structure is adopted in this thermometer. It's a simply operated, hygienic, reliable and highly accurate thermometer. Users can get precise reading within one second by one touch. This thermometer is cost-effective and is widely used in schools, customs, hospitals and for family use.

This thermometer is also capable of measuring object temperatures ranging from 32°F–199.4°F (0°C–93°C).

This thermometer is classified as a Class II Medical Device, sorted as internally-powered equipment and type B application device. Water proof rating is: IPX0. It is prohibited to use this thermometer in flammable anesthetic gas or gas mixture of air and oxygen or nitrous oxide. This is a continuous operation equipment. It is classified as II a by EU.

Any object can generate a certain portion of infrared radiant energy per its own temperature. The radiant energy and its wavelength distribution are subjected to its surface temperature. Based on this principle, this thermometer is designed to detect infrared radiation at 5–14um by a highly precise infrared sensor made in Germany. By adopting this high quality sensor plus special calculation and calibration, this thermometer is able to take accurate body temperature.

## FEATURES

- Adopting reliable sensor made in Germany
- All-new, patented probe design to ensure high accuracy
- Excellent adaption to ambient temperature. Accurate and reliable even under complicated surroundings
- Measurement mode for human body and object available, one button to switch measurement mode
- Beeper for fever or high temperature
- °C or °F reading available
- Automatic shut-off
- Storage of last 10 readings
- LCD with 3 backlight color options for easy reading

## TECHNICAL PARAMETERS

<b>Effective Distance</b>	5cm – 8cm	
<b>Measurement Method</b>	Non-Contact	
<b>Range</b>	Human body	95°F–109.2°F (35°C–42.9°C) ≤95°F/35°C: “Lo” Displays >109.9°F/42.9°C: “Hi” Displays
	Object	32°F–199.4°F (0°C–93°C) <32°F/0°C: “Lo” Displays >199.4°F/93°C: “Hi” Displays
<b>Accuracy</b>	Human Body	±0.4°F/0.2°C
	Object	±1.8°F/1.0°C
<b>Resolution</b>	0.1°F/0.1°C	
<b>Working Condition</b>	60.8°F–104°F (16°C–40°C) RH≤85% Non-condensing “ERR” displays when it is not used under working condition	
<b>Storage Condition</b>	-4°F–131°F (-20°C–55°C) RH≤85% Non-condensing	

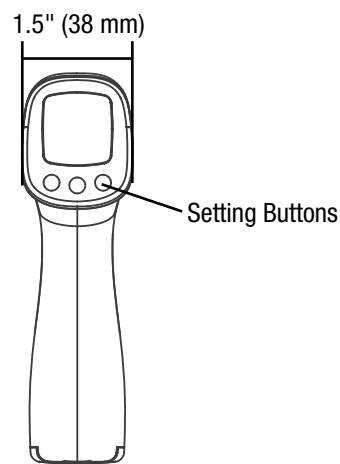
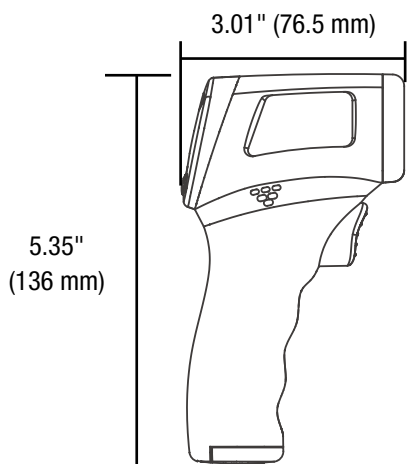
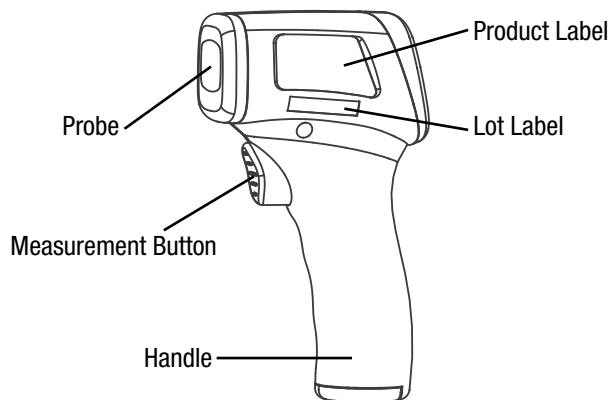
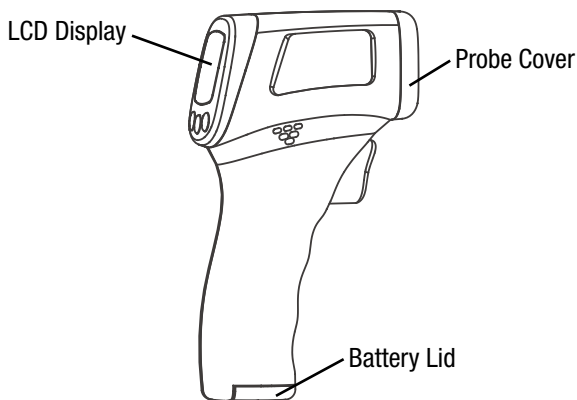
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## TECHNICAL PARAMETERS CONTINUED

<b>Measurement Time</b>	<1 second
<b>Power Supply</b>	d.c. 3V 2 AAA Alkaline Batteries
<b>Power Consumption</b>	When off $\leq 10\mu\text{W}$
	When measurement is $\leq 30\text{mW}$
<b>Power Level Indicator</b>	Indication for low power level
<b>Memory</b>	Storage of last 10 readings
<b>Display</b>	3-color backlight LCD (green, orange, red)
<b>Reading Scale</b>	Fahrenheit or Celsius
<b>Automatic Shut-Off</b>	In 30 seconds
<b>Dimensions</b>	5.35" x 3.01" x 1.5" (136 x 76.5 x 38 mm)
<b>Net Weight</b>	2.65 oz (75 g)
<b>Standards</b>	EN60601-1, EN12470-5, ASTM 1965-98









## ILLUSTRATION



# Non-Contact Infrared Human Forehead Thermometer Instructions

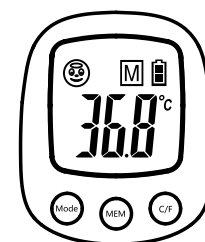
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## DISPLAY & ICONS

Function Definition	Icon	Details	
Battery Level		When it is visible	The battery is in low level, but the thermometer is still functioning properly. Please replace battery ASAP.
		When it flashes	The battery is exhausted and thermometer can not function properly. Please replace battery immediately.
		When it is visible	Battery power is sufficient and it functions properly.
Measurement Mode		Human Body Mode	
		Object Mode	
Reading Scale		Fahrenheit Reading	
		Celsius Reading	
Reading Display		Temperature Value	
Memory		Temperature value of previous measurement	

## FUNCTION OF THE SETTING BUTTONS

Buttons	Description
Mode	To switch measurement mode between human body and object
MEM	To track last 10 readings
C/F	To switch unit of temperature reading



## SETTINGS

User can change reading scale between Celsius and Fahrenheit, and change measurement mode between human body mode and object mode.

### MEASUREMENT MODE SETTING:

When thermometer is on, it displays current measurement mode (Figure 1.1). Press the “Mode” button to change measurement mode (Figure 1.2).

### READING SCALE SETTING:

When thermometer is on, it displays current reading scale. Press the “C/F” button to select reading scale.

### NOTICE:

- Temperature under human body mode is obtained from dynamic compensation of environmental temp and forehead surface temp.
- Object temperature mode is to test surface temperature of an object. The temperature taken from forehead in this mode is merely the temperature of forehead surface but not body temperature.

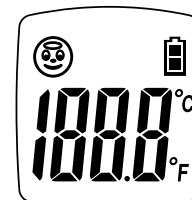


Figure 1.1

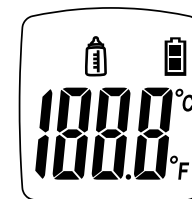


Figure 1.2

# Non-Contact Infrared Human Forehead Thermometer Instructions

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## MEASUREMENT SETTINGS

### BODY TEMPERATURE:

1. Press measurement button to turn on thermometer and display boot screen (Figure 2.1). After POST and two beeps, it will display value of last reading and be ready for measurement (Figure 2.2).
2. Make sure the thermometer is set to body mode.
3. Keep distance 2"–3" (5–8 cm) from the thermometer probe to the middle of the forehead (figure 2.5). Press measurement button and thermometer will give a "beep" to indicate measurement is finished and value will be displayed (figure 2.3). If measurement value exceeds alarm value (default value is 100.4°F or 38°C), it gives three consecutive "beeps" as indication.
4. After measurement is taken, if the thermometer is idle for 30 seconds, it will display "OFF" (figure 2.4) and give a "beep" before shutting off automatically.

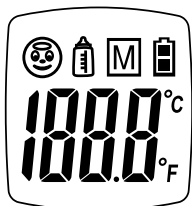


Figure 2.1

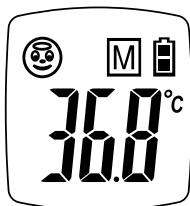


Figure 2.2



Figure 2.3

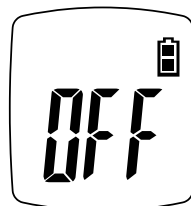


Figure 2.4

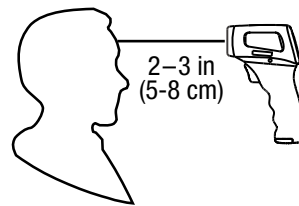


Figure 2.5

### NOTICE:

- Keep the sensor and probe cavity clean before use and after use.
- To ensure the accuracy of measurement, it is recommended to start measurement ten minutes after carrying the thermometer to a new environment.
- Wait for 10 minutes to measure body temperature after measuring objects with extremely high or low temperatures.
- Wait for 5 minutes to start a measurement when a measuring target (object or human) is from an environment with a significant difference in temperature.
- Breezes, water, sweating or cosmetics on forehead may affect measurement. Do not measure body temperature within 30 minutes after exercise, bath or meals.

### OBJECT TEMPERATURE:

1. Press measurement button to turn on thermometer and display screen (Figure 3.1).
2. Make sure the thermometer is set to object mode.
3. Keep vertical distance 2"–3" (5–8 cm) from the object to the measurement probe. Press measurement button and thermometer will give a "beep" to indicate measurement is finished and value will be displayed (Figure 3.2). If measurement value exceeds alarm value (default value is 100.4°F or 38°C), it gives three consecutive "beeps" as indication.
4. After measurement is taken, if the thermometer is idle for 30 seconds, it will display "OFF" (Figure 3.3) and give a "beep" before shutting off automatically.

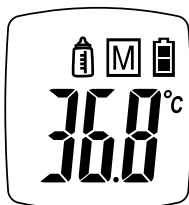


Figure 3.1

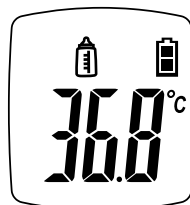


Figure 3.2

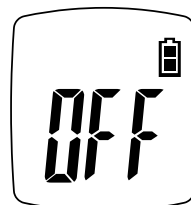


Figure 3.3

### NOTICE:

- The value under this mode is object surface temperature instead of core temperature.
- The default value of edinfrared emissivity is 0.95. The reading will deviate from the real temperature because of different emissivity. For example, the reading on stainless steel is obviously lower than the real temperature. BE CAUTIOUS FOR SCALDING.

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## MEASUREMENT SETTINGS CONTINUED

### EXCEEDING MEASUREMENT RANGE IN BODY MODE:

- When measurement value is lower than 95°F (35°C), it displays Lo (Figure 4.1) and gives 4 consecutive beeps and the backlight on the LCD screen will turn red.
- When measurement value is higher than 109.2°F (42.9°C), it displays Hi (Figure 4.2) and gives 4 consecutive beeps and the backlight on the LCD screen will turn red.

### EXCEEDING MEASUREMENT RANGE IN OBJECT MODE:

- When measurement value is lower than 32.4°F (0.2°C), it displays Lo (Figure 4.3) and gives 4 consecutive beeps and the backlight on the LCD screen will turn red.
- When measurement value is higher than 199.4°F (93°C), it displays Hi (Figure 4.4) and gives 4 consecutive beeps and the backlight on the LCD screen will turn red.

### NOTICE:

- When surrounding temperature is lower than 60.8°F (16°C) or higher than 104°F (40°C), it displays Err (Figure 4.5) and gives 4 consecutive beeps and the backlight on the LCD screen will turn red. Under this condition, it is not advised to use this thermometer and accuracy is not assured.

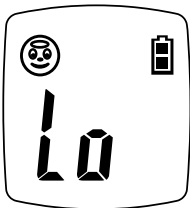


Figure 4.1

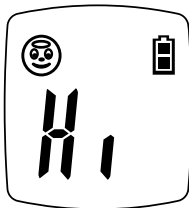


Figure 4.2

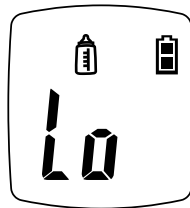


Figure 4.3

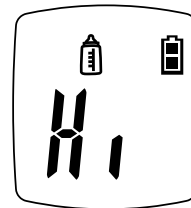


Figure 4.4

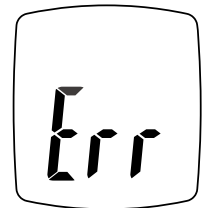
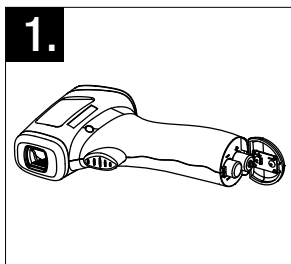
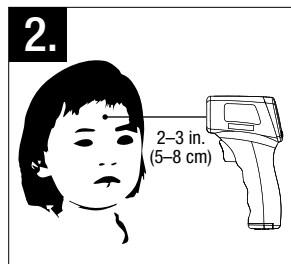


Figure 4.5

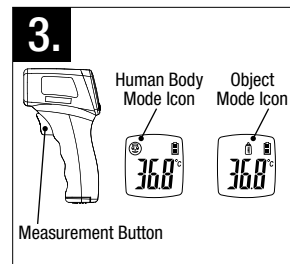
## OPERATING INSTRUCTIONS



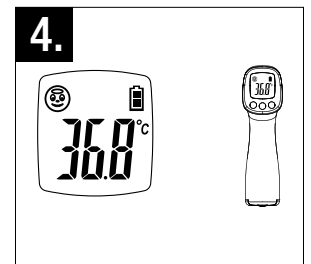
**1.** Open battery lid and install 2 AAA batteries. Make sure the positive and negative poles are facing appropriate direction.



**2.** Keep distance at 2-3 in. (5-8 cm) from thermometer probe to the middle of forehead, without coming into contact with the forehead directly.



**3.** Select measurement mode and click the measurement button to start taking temperature.



**4.** Reading will display on the screen after successful measurement.

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## BATTERY REPLACEMENT

1. Open the battery lid and take out exhausted batteries.
2. Put in 2 AAA alkaline batteries and close up battery lid. After new batteries are installed, the color of the backlight on the LCD screen turns green, then orange, then red, with each color flashing one time with a beep heard. If no beep is heard, check if the positive and negative pole is correct. See Figure 5.1.

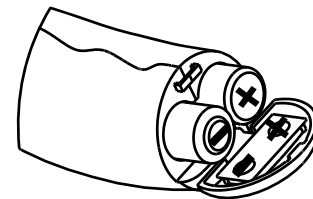


Figure 5.1

### NOTICE:

- Take out batteries if the thermometer will not be used for a long time. Do not put the battery to fire.
- Dispose battery according to local regulations.

## TROUBLESHOOTING

Description	Solutions
LCD Display “Lo” or “Hi”	<ul style="list-style-type: none"><li>• Breezes, water, sweating or cosmetics on forehead may affect measurement.</li><li>• If the testing environment changes drastically or if the thermometer is used directly from high temp objects to very low temp objects, the measurement difference may be inaccurate. The thermometer should be kept in a relatively stable environment for 10 minutes in order for heat to balance before starting a new measurement.</li><li>• Ensure measurement distance is 2–3 in. (5–8 cm).</li></ul>
No response when pressing measurement button	Take out and reinstall batteries.
No display or improper display	Take out and reinstall batteries again.
Shut off right after switching on	Check battery level or take batteries out and reinstall.

## MAINTENANCE & TIPS

- Make sure the sensor and probe cavity are clean, otherwise it will affect accuracy.  
CLEANING METHOD:
  1. Use a cotton stick or soft cloth with water or alcohol to wipe the casing.
  2. Use a cotton stick or soft cloth with alcohol to wipe the sensor surface or probe cavity gently. Don't use thermometer before alcohol is vaporized.
- Read this instruction sheet thoroughly before use. Make sure battery is well installed. It is not advised to put the thermometer in any liquid or expose thermometer to strong sunlight or extremely low temperatures.
- Forceful impact or dropping the thermometer can cause damage.
- Do not dismantle the thermometer by yourself.
- Keep the thermometer out of children's reach
- Do not use the thermometer under any circumstance of strong electromagnetic interference.
- Measurement results will fluctuate due to improper use
- Using the measurement tools accurately will improve skill use of thermometer.
- The measurement results cannot supersede a doctor's diagnosis.
- Special maintenance is unnecessary for this thermometer. Please contact distributor or manufacturer in case of malfunction.

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