

No Touch Thermometer[®] Rapid



**Non-contact Infrared Thermometer
Model:NT-001**

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SAFETY PRECAUTIONS

- Follow the maintenance advice stipulated in this instruction manual.
 - This device may be used for professional purposes or for personal home use.
 - This device must only be used for the purposes described in this instruction manual.
 - This device must only be used at the ambient temperature range of 10°C and 40 °C.
 - This device must always be kept in a clean, dry area.
 - Do not expose this thermometer to electric shocks.
 - Do not expose this thermometer to extreme temperature conditions of >55°C or <-20°C.
 - Do not use this device in relative humidity higher than 85%.
 - The protective glass over the lens is the most fragile part of the thermometer.
 - Do not touch the glass of the infrared lens with your fingers.
 - Clean the glass with a cotton bud lightly moistened with 70% alcohol.
 - Do not expose the thermometer to sunlight or to water.
 - Do not use this device outdoors.
 - Never drop the device.
 - Should a problem occur with your device, please see warranty section.
- Do not attempt to repair this device yourself.

THE MANUFACTURER RESERVES THE RIGHT TO ALTER
THE SPECIFICATIONS OF THE PRODUCT WITHOUT PRIOR NOTIFICATION

INTRODUCTION

The No Touch Thermometer[®] Rapid has been developed by using the latest infrared technology. This technology allows temporal artery (TA) temperature to be taken at a distance of about 3~5cm away from the forehead. Precise, Instantaneous and without Contact, the NT-001 thermometer is currently the most suitable thermometer for no risk temperature measurement. It has been demonstrated that this method of TA temperature measurement is more precise than tympanic thermometry and better tolerated than rectal thermometry (1). However, as with other types of thermometers, it is essential to use the NT-001 thermometer properly in order to obtain reliable and stable results. You are therefore advised to read this instruction manual and the safety precautions carefully before use.

(1)Greenes D, Fleisher G. Accuracy of a Noninvasive Temporal Artery Thermometer for Use in Infants. Arch Pediatr Adolesc Med 2001;155:376.

PRECAUTIONS BEFORE USE

<p>The NT-001 thermometer is pre-set at the factory. It is not necessary to calibrate the device when starting it up.</p>

In order to obtain reliable and stable results, you are advised each time there is a significant change in the ambient temperature due to a change in environment, to allow the NT-001 thermometer to acclimatise to this ambient temperature for 15 to 20 minutes before using it. It is important to allow 3~5 second intervals between two measurements.

OPERATING PRINCIPLES

All objects, solid, liquid or gas, emit energy by radiation. The intensity of this energy depends on the temperature of the object. The No Touch Thermometer[®] Rapid is therefore able to measure the temperature of a person by the energy the person emits. This measurement can be taken due to an external temperature probe on the device which permanently analyses and registers the ambient temperature. Therefore, as soon as the operator holds the thermometer near the body and activates the sensor, the measurement is taken instantly by detection of the infrared heat generated by the arterial blood flow. Body heat can therefore be measured without any interference from the heat of the surrounding environment.

THE DIFFERENT METHODS OF TEMPERATURE MEASUREMENT

Core temperature

Core temperature is the most precise measurement and involves measuring the temperature in the pulmonary artery by means of a catheter equipped with a thermal probe which can read the temperature in situ. The same method is employed for probes measuring the oesophageal temperature. However, such invasive temperature measurement methods require specific equipment and expertise.

Rectal thermometry

Rectal temperature adjusts slowly in comparison to the evolution of the body's internal temperature. It has been demonstrated that rectal temperature remains raised long after the internal temperature of the patient has started to drop and vice versa. Furthermore, rectal perforations have been known to occur as a result of this method and without appropriate sterilization techniques, rectal thermometry can spread germs often found in Faeces.

Oral thermometry

Oral temperature is easily influenced by recent ingestion of food or drinks and by breathing through the mouth. To measure oral temperature, the mouth must remain closed and the tongue lowered for three to four minutes which is a difficult task for young children to accomplish.

Axillary (underarm) temperature

Although it may be easy to measure axillary temperature, it has been proven that it does not provide an accurate measurement of the child's internal temperature. To take this type of temperature, the thermometer must be wedged tightly over the axillary artery. Despite the low sensitivity and relative inaccuracy of axillary temperature in detecting fever, this method is recommended by The American Academy of Pediatrics as a screening test for fever in Newborns.

Tympanic (Ear) Thermometry

In order to obtain a precise temperature reading, good command of the measurement technique is required. The thermometer probe must be placed as close as possible to the warmest part of the external ear canal. An incorrectly placed probe could lead to a false temperature reading.

NORMAL TEMPERATURES ACCORDING TO MEASUREMENT METHOD

Measurement Method	Normal Temp°
Rectal	36.6°C-38°C
Oral	35.5°C-37.5°C
Axillary	34.7°C-37.3°C
Tympanic	35.8°C-38°C
Temporal	35.8°C-37.8°C

The temperature of the human body varies throughout the day. It can also be influenced by numerous external factors: age, gender, type and thickness of skin.

ADVANTAGES OF TEMPORAL ARTERY (TA) TEMPERATUERE

Infrared arterial temperature can be measured using a device placed on the forehead, in the Temporal artery region. It has been demonstrated that this relatively new method of measuring temperature is more precise than tympanic thermometry and better tolerated than rectal thermometry.

The NT-001 thermometer has been designed to produce an instant forehead temperature reading without any contact with the temporal artery. The temporal artery is quite close to the surface of the skin and therefore accessible and given the blood flow is permanent and regular, it allows precise measurement of the temperature. The temporal artery is linked to the heart by the carotid artery which is directly linked to the aorta. It forms part of the main trunk of the arterial system. The efficiency, speed and comfort of taking a temperature from this area makes it ideal compared with other thermometry methods.

NORMAL TEMPERATURES ACCORDING TO AGE

Age	°C	°F
0-2 years	36.4-38.0	97.5-100.4
3-10 years	36.1-37.8	97.0-100.0
11-65 years	35.9-37.6	96.6-99.7
>65 years	35.8-37.5	96.4-99.5

PRACTICAL CONSIDERATIONS WHEN TAKING A TEMPERATURE

-In order to ensure that precise and accurate temperature measurements are obtained, it is essential that each user has received adequate information on and training in the temperature measurement technique when using such a device.

-It is essential to remember that although procedures such as taking a temperature may be simple they must not be trivialised.

-Temperature should be taken in a neutral context. The patient must not have undertaken vigorous physical activity prior to taking his/her temperature and the room temperature must be moderate.

-Be aware of physiological variations in temperature which must be taken into consideration when evaluating the results: temperature increases by 0.5°C between 6am and 3pm. Women have a temperature that is higher, on average, by around 0.2°C . Their temperature also varies in accordance with their ovulation cycle. It rises by 0.5°C in the second half of the cycle and at the early stages of pregnancy.

-When sitting, temperature is lower by about 0.3°C to 0.4°C than when standing.

HOW TO TAKE A TEMPERATURE

Aim at the FOREHEAD, over the right or left temporal region, from a distance of about 3~5cm (1.2in~2in), press the thermometer's Measuring Button and the temperature is instantly displayed. The thermometer will switch off automatically after 30 seconds. The thermometer cannot be switched off manually.



The reliability of the measurement cannot be guaranteed if the temperature is measured over another part of the body (e.g. arm, torso...)

CONSTRAINTS

Please observe the following before any temperature measurement to ensure a stable and reliable result:

- Push back hair from the forehead
- Wipe away any perspiration from the forehead
- Avoid any drafts (e.g. air conditioning)
- Allow 3~5 second intervals between two measurements.
- Each time there is a significant change in the ambient temperature due to a change in environment, wait 15 minutes for the thermometer to acclimatise to the new ambient temperature.

DEVICE LAYOUT



FUNCTIONS

1. Especially designed to take the Human Body Temperature from a distance.
2. Reliable and stable measurement, due to the Infrared Detection System.
3. Audible alarm if temperature is too high.
4. Recall of the last 32 temperature measurements.
5. Backlit LCD digital display screen.
6. Temperature can be displayed in either Celsius or Fahrenheit.
7. Automatic power-off to conserve energy.
8. Longevity use (40,000 readings).
9. Practical, easy to use.

ADDITIONAL USAGE:

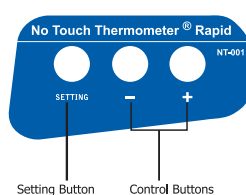
NT-001 thermometer can also be used to measure the temperature of a baby-bottle or bath, or room temperature (by using the Surface Temp function). This function is in accordance with the Directive 89/336/EEC Electromagnetic Compatibility.

USAGE

1. Install battery.
2. For the first use or when inserting new batteries wait 10 minutes for warm-up of the apparatus.
3. Aim towards the left or right temporal region (see the diagram to the right for correct positioning) from a distance of 3cm ~ 5cm (1.2in ~ 2in) press the Measuring Button, the temperature is displayed in 1 second.
4. Before taking the temperature, make sure to remove hair and perspiration from the forehead. The thermometer will switch off automatically after 30 seconds. It cannot be switched off manually.



MENU AND SETTING FUNCTION



SWITCH ON THE DEVICE

Press the "Measuring Button", one second after the LCD screen is in full display, it will enter the standby mode with the sign "---- C" or "--- F". The thermometer is now ready to use and will automatically switch off after 30 seconds of no activity.

CHOOSING THE TEMPERATURE SCALE—F1 FUNCTION

Press SETTING button for 3 seconds, the screen displays: F1, Select "-" for Celsius scale, "+" Fahrenheit scale.
Confirm by pressing SETTING button.

ALARM SETUP – F2 MENU

Press SETTING button for 3 seconds, the screen displays: F1.
Press SETTING button to get F2.
Select "+" to increase the threshold by 0.1 C (0.1 F), "-" to reduce it by 0.1 C (0.1 F).
Confirm by pressing SETTING button.

Note: The alarm threshold default value is 38°C (100.4°F)

CHOICE OF DISPLAY MODE: BODY OR SURFACE TEMP – F3 MENU

The NT-001 thermometer is specially designed to take the body temperature of a human being.
FOR this, use the BODY mode.
Measurement range for Body mode: 32°C~42.9°C(89.6°F~109.2°F)

You can also use the NT-001 thermometer to measure the temperature of an area or an object, a food, a liquid or a room temperature. For this, use the SURFACE TEMP mode.
Measurement range for Surface TEMP mode: 0°C~60°C (32°F~140°F)

Press SETTING button for 3 seconds, the screen displays: F1.
Press SETTING button twice to get F3.
Select 0 by pressing "-" button to get the BODY mode.
Select 1 by pressing "+" button to get the SURFACE TEMP mode
Confirm by pressing SETTING button.

Note: The NT-001 thermometer is automatically set to BODY

Important: The surface temperature differs from the internal body temperature. To obtain the internal temperature always use the BODY mode.

Please make sure to select the BODY mode for an internal temperature reading and the SURFACE TEMP mode for an external area reading (bottle, bath, Room...).

TOTAL DIFFERENCE – F4 MENU

To adjust total variation of your NT-001 thermometer

Press SETTING button for 3 seconds, the screen displays: F1.
Press SETTING button three times to get F4.
Select "+" to increase the difference by 0.1°C (0.1°F), "-" to reduce it by 0.1°C (0.1°F).
Confirm by pressing SETTING button.
If in doubt, you are advised to leave the total variance at + 0.0°C (original setting).

SOUND ON/OFF – F5 MENU

Press SETTING button for 3 seconds, the screen displays: F1.

Press the SETTING button four times to get F5.

Select "+" to activate the sound (a sound icon is displayed on the LCD screen), press "-" to de-activate the sound (the icon disappears) .

Confirm by pressing SETTING button.

EXITING THE SETTING MODE

Press SETTING button until the screen turns off.

DATA MEMORY

To display the last temperature measurement, press the "-" and "+" buttons simultaneously. The last reading will appear on the screen.

To scroll through the readings use the "-" to decrement and the "+" to increment. A long press on the "+" or "-", when scrolling through the memory readings, will display the measurement reading count so that the user can identify which reading was first, second, third, etc.

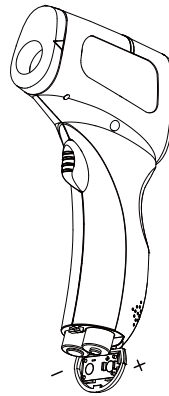
To exit the Data Memory press the Measuring Button or allow the device to switch off, this will occur automatically after 30 seconds.

CHANGING THE BATTERIES

Display: when the LCD screen displays "Battery", the battery has a low voltage and requires replacement.

Operation: Open the lid and change the batteries, taking great care with the correct positioning. A mistake could cause damage to the apparatus and compromise the warranty of your NT-001 thermometer.

Never use rechargeable batteries. Use only batteries for single usage.



TECHNICAL CHARACTERISTICS AND PRECISION

1. Normal use conditions

Ambient temperature: 10 °C ~ 40 °C (50 °F ~ 104 °F)

Relative humidity: ≤ 85%

2. Batteries: DC 3V (2 pcs AA batteries)

3. Package Size: 193×150×50mm (L×W×H)

4. Unit Weight: 125g (without batteries)

5. Display Resolution: 0.1 °C (0.1 °F)

6. Measuring range:

In Body mode: 32 °C ~ 42.9 °C (89.6 °F ~ 109.2 °F)

In Surface Temp mode: 0 °C ~ 60 °C (32 °F ~ 140 °F)

7. Precision: 32 °C ~ 36 °C (89.6 °F ~ 96.8 °F) = ±0.3 °C (±0.6 °F)

36 °C ~ 39 °C (96.8 °F ~ 102.2 °F) = ±0.2 °C (±0.4 °F)

39 °C ~ 42.9 °C (102.2 °F ~ 109.2 °F) = ±0.3 °C (±0.6 °F)

8. Consumption: ≤ 150mW

9. Measuring distance: 3cm ~ 5cm (1.2in ~ 2in)

10. Automatic power-off: 30secs

LONGEVITY USE

The NT-001 thermometer is guaranteed for 40,000 takings.

NT-001 thermometer PRECISION

From 34°C to 35.9°C = ±0.3°C From 93.2 °F to 96.6°F = ±0.6°F	According to ASTM Standard E 1965-1998 (2009)
From 36 °C to 39°C = ±0.2°C From 96.8 °F to 102.2°F = ±0.4°F	
From 39.1 °C to 42.5°C = ±0.3°C From 102.2 °F to 108.5°F = ±0.6°F	

The NT-001 thermometer can take temperature readings below 32 °C or above 42.9 °C (89.6 °F to 109.2 °F) but precision is not guaranteed outside of this range.

MAINTENANCE

- The protective glass over the lens is the most important and fragile part of the thermometer, please handle with extreme care.
- Clean the lens with a cotton swab and alcohol (70% concentration).
- Only use 2 X AA batteries, do not recharge non rechargeable batteries, do not throw in fire.
- Remove the batteries when thermometer is not used for an extended period of time.
- Do not apply a strong shock to, drop, step on, or vibrate the thermometer, as this will cause damage.

ACCESSORIES SUPPLIED

User manual 1 pc AA alkaline batteries 2 pcs Carry bag 1 pc

TROUBLESHOOTING AND WARRANTY

WARRANTY

Limited 12 Month Warranty

This No Touch Thermometer[®] Rapid is guaranteed for 12 months from the date of purchase against any defects that are due to faulty material or workmanship under normal use and in accordance with the Instruction Manual. However, always check battery condition first. The warranty does not cover damage to the thermometer due to improper handling. All parts are covered by this warranty, excluding the batteries.

In order for warranty claims to be honoured, the consumer must provide a purchase receipt to prove date and place of purchase.

The Limited Warranty only applies to consumers who purchase the No Touch Thermometer[®] Rapid in Australia, New Zealand and the South Pacific region.

For all warranty claims, send the No Touch Thermometer[®] Rapid to :
No Touch Thermometers[®] Australia
2/11 Evans Street
Burwood, VIC, 3125

TROUBLESHOOTING

THE SCREEN DISPLAYS TEMPERATURE LOWER THAN 32°C

The thermometer may be in Surface Temperature mode. In this instance it will display the external temperature of the body rather than the internal temperature. Refer to page 10 for instructions on how to change mode of temperature between Body and Surface.

THE SCREEN DISPLAYS THE MESSAGE HI

When using the No Touch Thermometer[®] Rapid, the message HI can show on the screen. In this case, the temperature reading is above the measurement range selected, either above 42.9°C in "Body" mode or above 118°C in "Surface Temp" mode.

THE SCREEN DISPLAYS THE MESSAGE LO

When using the No Touch Thermometer[®] Rapid, the message LO can show on the screen. In this case, the temperature analyzed is under the measuring range selected, either less than 32°C in "Body" mode or less than 0°C in "Surface Temp" mode.

Reasons for LO Message display	Advice
Temperature reading hampered by hair or perspiration.	Make sure there is no obstruction or dampness prior to taking temperature.
Temperature reading hampered by an air draft or dramatic change in ambient temperature.	Make sure there is no air blowing in the area of use; this could affect the infrared reading.
Temperature readings are too close together, and the thermometer did not have time to reboot.	Pause for 15 seconds minimum between readings; a 1-minute pause is recommended.
The measuring distance is too far.	Take measurements at the recommended distance between 3 and 5 cm.

No Touch Model: NT-001
Thermometer[®] Rapid
***Non-contact
Infrared Thermometer***

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