



Non-contact Forehead Thermometer >

# Content

Introduction	1
Parts	2
Safety Precautions	3 - 7
Setting Up Your Non-contact Forehead Thermometer	8
Using Your Non-contact Forehead Thermometer	9 - 12
Specification	13
EMC Table	14 - 19
Problems & Troubleshooting	20 - 21
Explanation of Symbols on Unit	22

## Introduction

- Thanks for choosing the Kinetik Non-contact Forehead Thermometer. Before using this
  product, please read the user manual carefully.
- O Please keep this user manual for later reference.

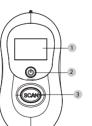
### **Parts**

#### **Product Structure:**



- 1. LCD Display
- 2. ON/Memory Button
- 3. Scan Button
- 4. Sensor Lens
- 5. Battery Cover
- 6. Protective Cap









- 1. Room Temperature Mode
- 2. Surface Measurement Mode
- 3. Body Measurement Mode
- 4. Memory
- 5. Battery
- 6. Temperature Unit
- 7. Temperature Reading

Warning marks and symbols are indicated for safe and proper use of this product and prevention of any injury to you and others.

See Table below for description of warning marks and symbols.

- Read the instructions (actual symbol colours are white on a blue background.)
- MARNING Means a possibility of personal injury if the thermometer is not used correctly.
- NOTICE Means a possibility of personal injury or property damage *if the thermometer is* not used correctly. Property damage refers to any damage to house, family property, domestic animal or pet.
- ATTENTION This symbol indicates a notice with the actual detail expressed in words or figures within or beside the symbol.
- PROHIBITED This symbol indicates that the action is forbidden. The actual details are expressed in words or figures within or beside the symbol.
- MUST OBSERVE This symbol indicates that the action is obligatory. The actual details are expressed in words or figures within or beside the symbol.
- This symbol indicates that this product is a Type BF device.





It is not advisable for users to make a self-diagnosis or administer self treatment based on the temperature results obtained. If in doubt always seek medical attention.

A self - diagnosis may result in deterioration of the condition.

Do not touch or blow the infrared sensor.

- A dirty infrared sensor may lead to reading inaccuracy.
- Always fully close the protective cap when not in use to keep the infrared sensor clean.

If necessary, clean the infrared sensor carefully with a cotton swab or soft cloth moistened with alcohol.

- Cleaning with toilet tissue or paper towels may scratch the infrared sensor, leading to reading inaccuracy. Keep the thermometer out of reach of children.
- If a child accidentally swallows a battery, please consult a doctor immediately.

Do not take a measurement following any outdoor activities.

- Any immediate reading taken after an outdoor activity in cold or hot weather, may cause reading inaccuracy. Condition the thermometer at room temperature for 30 minutes before taking a reading.
- $\bigcirc$  Failing to do so may lead to reading inaccuracy.

The Non-contact forehead thermometer is not waterproof, avoid any liquid immersion, including alcohol and water.



 $Do \ not \ use \ the \ non-contact \ for ehead \ thermometer \ for \ purposes \ other \ than \ those \ for \ which \ it \ was \ designed.$ 

Do not drop, stand on or subject the non-contact forehead thermometer to vibration or impact.



Dispose batteries with care. Do not incinerate used batteries.

Use the NCT2 Thermometer in the draught-free environment, at a constant temperature of between	10°C and
40°C (50°F and 104°F)	

<ul> <li>Do not take</li> </ul>	a temperature reading if the person is sitting in a draught or if the subject has:
0	Been outside, exercised or had excessive movement.
0	Moved from another area that was at a different temperature than the room where the thermometer is located. \\
0	Had the forehead covered by clothing or other types of protective headwear that might affect the

- Recently had a bath or shower, hair drier etc.
- In all the above scenarios, wait a few minutes for the forehead temperature to stabilise before taking a measurement.
- It Is important to always aim the thermometer at the same area ideally in the center of the forehead and keep the thermometer perpendicular to the forehead.
- The temperature reading is of the area where the thermometer is pointed. It is very important to make sure that
  this area is not covered by anything including hair or eyebrows. If necessary brush away any hair from the
  forehead but remember, this must be done a few minutes before taking the temperature.
- When taking a temperature, remember it is possible there will be an unknown variance in temperature due to the presence of oils, make-up or excess skin in the elderly.
- The forehead temperature reading can be affected by:

0	Heavy sweating
0	Superficial wounds

Injuries

- Do not use the thermometer on a sweaty forehead as the temperature reading will be inconsistent.
- The sensor is located at the end of the device and is the most delicate part of the thermometer. It must be kept clean, crystal clear and intact. Any dirt or debris will interfere with the temperature reading.
- Do not use the thermometer in direct contact with the ear or other parts of the body.
- When taking the surface temperature of liquid.
  - Mix the liquid thoroughly beforehand. The temperature taken is based on a single area of the surface of the liquid so may not be representative of the entire volume of liquid present. Extreme caution should be taken and if in doubt use additional temperature measurement methods.
  - O Do not submerge the thermometer.
  - Ensure that condensation has not built up on the lens, as condensation will have an effect on the accuracy of liquid surface temperature readings.
  - Make sure that the thermometer is held 1-3cm away from the single area of the liquid that has
    to be measured.
  - Ensure that the thermometer is in the correct temperature measurement mode.

#### Preparation:

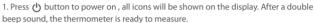
- 1. Insert batteries before use (see page 12).
- 2. For accurate reading, condition the thermometer at room temperature for 30 minutes before use.
- 3. An unexpected change in ambient temperature is likely to reduce the reading accuracy. Any attempt to perform temperature measurment in front of an air conditioning unit will result in inaccurate readings.
- 4. Do not take a temperature check immediately after exercise or bathing.

#### Operation

Forehead measurement mode



Operation of temperature measurement



2. Open the protective cap and hold the thermometer from 2cm before the center of your forehead. Press the (SCAN) button. The scan is complete when a triple beep is heard.







Note: Please open the protective cap fully before use and close fully after use. Failure to do so may lead to inaccurate readings.



#### Note:

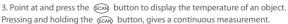
- · Displayed forehead temperature is the same as the oral temperature. This mode converts forehead temperature to the corresponding oral temperature.
- · Before measuring, please put the thermometer in a stable environment for 5 minutes. Avoiding using the product within 30 minutes after eating, exercise or taking a shower.



- · While measuring, please keep your forehead clean. If there is any sweat or make up, please clean first. Avoid measuring areas that contain scar tissue.
- · Always close the probe cap after measuring.
- Surface measurement mode

This mode displays actual and unadjusted temperature, and is different from body measurement mode. It helps monitor object temperatures and is suitable for measuring baby milk or the water temperature of a bath.

- Operation of measuing temperature
- 1. Press (1) button to power on, all icons will be shown on the display. After double beep sound, the thermometer is ready to measure.
- 2. Press and hold (1) then press the (SCAN) button, forehead mode (5) will change to surface mode 🕢 .





Note: This mode displays actual and unadjusted temperature, and is different from body measurement mode.



#### Other operations

- Room temperature mode 🚖
- Operation of measuring temperature
- 1. Press 🖒 button to power on, all icons will be shown on the display. After a double beep sound, the thermometer is ready to measure.
- 2. When there is no operation for 60 seconds, the device will automatically enter room temperature mode. In this mode, the room temperature will be shown on the display.
- Memory function mode
- Thirty forehead measurements can be stored in the memory.
   Surface measurements cannot be stored.
- 1. In standby, press 🖒 . The first stored memory will be displayed. Press (1) again to review subsequent stored results.
- Deleting stored memories
- 1. Press the  $\circlearrowleft$  button to enter memory mode.
- 2. Press and hold the for 8 seconds until the display reads [Lr], then press the (b) button to delete all memories. Three long beeps confirms the memory has been deleted. This process cannot be undone.

Note: Memory function is only for forehead measurement.

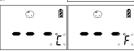
- Changing from L to F
- When completely off, press and hold ひ, and press for four seconds to change from to F











⚠ Note : Memory function is only for forehead measurement. ⊙The default measurment is T

Power off

To fully switch off, press and hold the  $\circlearrowleft$  button for seven seconds.

#### **Changing the batteries**

• The product uses AAA 1.5v x 2.

Open the battery cover and insert 2 x AAA batteries and replace the battery cover.
 Note:

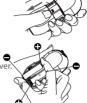


- Please dispose of waste batteries for recycling according local regulations.

Marning: Always keep batteries out of reach from babies and children.

#### **Maintenance and Storage**

- Always close the protective cap when not in use. Failure to do so will affect accuracy.
- The probe lens is the most delicate part of the thermometer, if cleaning is necessary please clean carefully to avoid damage.
- Please use 70% alcohol cotton pad or soft cotton cloth to clean the probe lens and wait for the probe to dry.
- Keep the product dry and keep it away from any liquid and the direct sunlight.
- Storage temperature is between -10°C to 50°C and relative humidity is RH  $\leq\!95\%$  .
- Please don't immerse the product into any liquid.
- Do not hold the thermometer for too long as it will affect thermometer accuracy.



## Specification

- Size: (L)60 x (W)32 x (H)90 mm
- Battery: 1.5V AAA x 2 pcs
- Memory capacity: 30 measured results
- Enclosure Rating: IP22
- Accuracy: Forehead mode: ±0.2°C for 36.0~39.0, others ±0.3°C(0.5°F)
  - Surface mode: ±4% of reading or ±3°C(5°F) whichever is greater
- Range of measured temperature: Forehead mode: 32°C to 43°C (89.6°F-109.4°F)
   -Surface mode: -9.9°C to 100°C (14.2°F-199.7°F)
- Surroundings mode: temperature range of operational surroundings: 0°C to 100°C (32°F-199.7°F)
- Operational surroundings: 10°C~40°C (50°F~104°F) ±4% relative humidity ≤ 95%.
- Battery lifespan: 500 measurements/ 1 year, normal use after activating: 1 year.
- **C**€0197

- Transport and storage :
- Range of storage temperature: between -10°C to 50°C (14°F-122°F), relative humidity≤95%
- Transport temperature: -20°C ~ 70°C;relative humidity ≤ 95%

The product complies with: ASTM E1965-98; EN 60601-1-4:1996; EN 12470-5; EN 60601-1-6:2010; EN 60601-1-2:2007/AC:2010; EN 60601-1 Generic Safety Requirement

### Guidance and manufacturer's declaration – electromagnetic emissions

The NCT2 is intended for use in the electromagnetic environment specified below. The customer or the user of the NCT2 should assure that it is used in such an environment.

Emissions test Compliance		Electromagnetic environment – guidance		
RF emissions CISPR 11 Group 1		The NCT2 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.		
RF emissions CISPR 11	Class B	The NOTO is suitable for use in all seablishments including		
Harmonic emissions IEC 61000-3-2	Not applicable	The NCT2 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings		
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	used for domestic purposes.		

#### Guidance and manufacturer's declaration - electromagnetic immunity

The NCT2 is intended for use in the electromagnetic environment specified below. The customer or the user of the NCT2 should assure that it is used in such an environment.

Immunity test		Compliance level	Electromagnetic environment – guidance	
			Portable and mobile RF communications equipment should be used no closer to any part of the NCT2, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.	
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	Not applicable	Recommended separation distance $d=1,2~\sqrt{P}$ $d=1,2~\sqrt{P}$ 80 MHz to 800 MHz $d=2,3~\sqrt{P}$ 800 MHz to 2,5 GHz	
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).	
			Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the compliance level in each frequency range b.	
			Interference may occur in the vicinity of equipment marked with the following symbol: ((••))	

#### Guidance and manufacturer's declaration – electromagnetic immunity

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

- a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the NCT2 is used exceeds the applicable RF compliance level above, the NCT2 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the NCT2.
- b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

#### Guidance and manufacturer's declaration - electromagnetic immunity

The NCT2 is intended for use in the electromagnetic environment specified below. The customer or the user of the NCT2 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance	
Electrostatic discharge (ESD) IEC 61000-4-2	harge (ESD) 6 kV contact 6 kV contact		Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.	
Electrical fast transient/burst IEC 61000-4-4	transient/burst supply lines Not applicab		Mains power quality should be that of a typical commercial or hospital environment.	
Surge 1 kV line(s) to line(s) 2 kV line(s) to earth Not applicable		Not applicable	Mains power quality should be that of a typical commercial or hospital environment.	

Guidance and manufacturer's declaration – electromagnetic immunity				
Immunity test IEC 60601 Compliance level		Compliance level	Electromagnetic environment – guidance	
	<5 % UT (>95 % dip in UT) for 0,5 cycle			
interruptions and voltage variations on	40 % UT (60 % dip in UT) for 5 cycles	Not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of the NCT2 requires continued operation during power mains interruptions, it is	
power supply input lines IEC 61000-4-11	70 % UT (30 % dip in UT) for 25 cycles	Not applicable	recommended that the NCT2 be powered from an uninterruptible power supply or a battery.	
	<5 % UT (>95 % dip in UT) for 5 sec			
Power frequency (50/60 Hz) magnetic field	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.	
IEC 61000-4-8				

NOTE UT is the a.c. mains voltage prior to application of the test level.

# Recommended separation distances between portable and mobile RF communications equipment and the ME EQUIPMENT or ME SYSTEM

The NCT2 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the NCT2 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the NCT2 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter	Separation distance according to frequency of transmitter m				
W	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2,5 GHz $d = 2,3 \sqrt{P}$		
0,01	N/A	0,12	0,23		
0,1	N/A	0,38	0,73		
1	N/A	1,2	2,3		
10	N/A	3,8	7,3		
100	N/A	12	23		

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

# Problems & Troubleshooting

Message	Solution
Err	The temperature detection circuit is out of operational range, please wait and measure after 30 minutes or more. If the problem persists, please contact the local retailer/agency
Er 1	The frequency of repeat measurements is excessive, please wait 10 minutes and try again.
Er 2	A change in the surrounding temperature is beyond the permitted operational range: please store in 10°C or 40°C (50°F~104°F) indoors for 30 minutes or more and then measure again.
Er 3	The surrounding temperature is beyond permitted operational ranges: please store in 10°C or 40°C (50°F~104°F) indoors for 30 minutes or more and then measure again.
H,	(1)In forehead measurement mode, measured temperature is higher than 43°C (109.4°F) (2)In surface/surroundings measurement mode, measured temperature is higher than 100°C (109.4°F)

# Problems & Troubleshooting

Message	Solution
Lo	(1)In forehead measurement mode, measured temperature is lower than 32°C (89.6°F) (2)In surface measurement mode, measured temperature is higher than -9.9°C (-14.2°F) (3)In surroundings measurement mode, measured temperature is higher than 0°C (32°F)
<sub>r</sub>	Low voltage warning. When the battery voltage is lower than 2.6V $\pm$ 0.1V, the low voltage symbol will flash - please change the batteries.

## **Explanation of Symbols on Unit**

Symbol	Referent	Symbol	Referent
<b>③</b>	Read the instructions (actual symbol colours are white on a blue background)	★	Type BF Equipment
	Manufacturer	X	Collection for electrical and electronic equipment
<b>C</b> € <sub>0197</sub>	CE Mark	Œ	Storage Humidity
$\triangle$	Warning	X	Temperature Limitation
<u>^</u>	Caution, consult accompanying documents		Use by
IP22	Classification for water ingress and particulate matter	SN	Serial number
EC REP	Authorized representative in the European community	REF	Model Reference

Harvard Medical Devices Ltd. Unit 1002, 10th Floor, Railway Plaza, 39 Chatham Road South, Tsimshatsui. Kowloon, Hong Kong.

EC REP Kinetik Medical Devices Ltd. Medicity Nottingham, D6 Building West, Thane Road, Nottingham. NG90 6BH













