



## Infra-red Ear Thermometer

User Manual

ET-100D



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# Support

Our manual should provide you with all the information you need to set up and use this product.

For further assistance, why not contact our Customer Care team directly? We're here to help!

Our Customer Care team are available from 9am-5pm, Monday to Friday (excluding bank holidays). We promise to respond to all queries and will ensure to resolve any issue you may be having. You can reach us by...

Phone:

+44 1483 937969

Live Chat:

Simply visit [www.kinetikwellbeing.com](http://www.kinetikwellbeing.com) and send us a message.

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# Introduction

**Please read the instructions carefully before using.**

The ear thermometer is a device capable of achieving infra-red temperature measurement when placed in the auditory canal of a user. It is a safe means of measuring human body temperature through the ear.

# Specification

The standard we adopted is EN12470-5:2003 Clinical thermometers – Part 5: Performance of infrared ear thermometers (with maximum device).

This device complies with the requirements of IEC 60601-1, IEC 60601-1-11 and IEC 60601-1-2.

**Range of displayed temperature :** 34°C - 44°C (93.2°F - 111.2°F)

Display L°C (L°F) when the temperature is under 34°C (93.2°F)

Display H°C (H°F) when the temperature is over 44°C (111.2°F)

**Operating ambient:**

Temperature: 16°C - 35°C (60.8°F - 95.0°F)

Humidity: ≤85%rh

Atmospheric pressure: 700 - 1060hPa

Altitude: <2000m

**Storage and transport condition:**

Temperature: -25°C to 55°C (-13°F to 131°F)

Humidity: ≤85%rh

**Display resolution temperature range:** 0.1°C (0.1°F)

**Accuracy:** ±0.2°C (from 35.5°C to 42.0°C)

±0.4°F (from 95.9°F to 107.6°F)

**Display:** liquid crystal display, 3½ digits

temperature value: display the maximum temperature in measuring process

# Specification

temperature unit: centigrade or fahrenheit

display of memory: last ten memories

low voltage warning: the LCD display  and then a beep sound is heard

**Power consumption:** ≤30 mW

**Battery:** two 1.5V alkaline batteries (AAA)

**Battery life:** 4000 uses

**Shelf life:** 3 years

**Dimension:** 146mm by 32mm by 37mm

**Net weight:** Approx. 74g

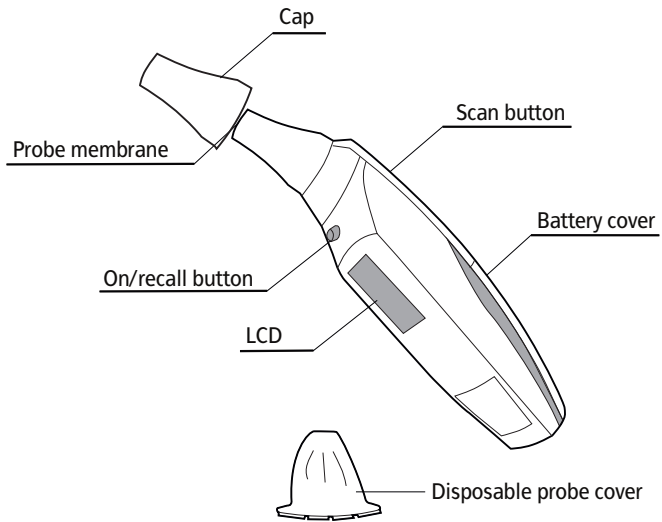
**Beeper sign:** on/off, measuring finish and low voltage warning, etc.

**Self-testing sequence:** Press the 'on/recall' button to turn on the thermometer and all symbols should be displayed on the LCD within a second (See Fig A on page 9).

**Calibration frequency:** If used privately no calibration is needed. For professional use it is recommended to check once a year.

**Manufacturing and Calibration date:** See the label in the battery compartment.

# Parts





# Warning and safety notices

## Cautions

1. Before measuring, please condition the thermometer for at least 30 mins under operating conditions.
2. New Disposable probe cover required for each measurement, otherwise inaccurate readings will occur.
3. Please keep your ear canal clear, if not, the measuring result shall be inaccurate.
4. The symbol ' ? ' on the LCD shows you can measure in the ear;
5. Please don't scratch the probe membrane, otherwise the thermometer shall lose efficacy;
6. If the LCD does not turn on or respond after pressing a button, please remove the batteries and reinsert;
7. Please don't use the thermometer if your ear canal is inflamed.
8. Do not expose this thermometer to electric shock.
9. Do not expose the thermometer to sunlight or to water.
10. Do not use near strong electromagnetic fields, i.e. Keep it away from any radio systems and mobile phones.
11. Do not modify this device without authorization of the manufacturer.
12. This device must always be kept in a clean, dry area.
13. If the temperature is not in the normal range, please consult your doctor
14. Do not impact the thermometer, otherwise it may affect the accuracy of the measurement
15. This device include small parts, don't inhale or swallow it.

# Warning and safety notices

## Note:

- In order to avoid the spreading germs, please use a new disposable probe cover for each measurement.
- Check to ensure probe cover is fitted on firmly before use (please see the diagrams below).  
If the probe cover is broken, discard and apply a new one immediately.



Incorrect

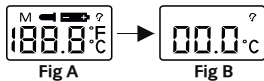


Correct

# How to use (°C displays for example)

## Measuring human body temperature in the Ear Canal

1. Press the 'on/recall' button to turn on the thermometer, a beep sound is heard and the LCD displays as Fig A in one second. When the LCD displays as Fig B, now ready to measure.



2. Straighten the ear canal by pulling the outer ear up and back to give a clear view of the eardrum.
  - For children under 1 year, Pull the ear straight back.
  - For children ages 1 year to adult, Pull the ear up and back.



Newborn-1 year

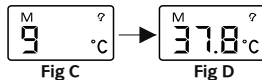


1 year - adult

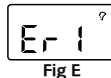
- (Caution: Many pediatricians suggest use of ear thermometers for children older than 6 months.)
3. While pulling the outer ear, insert the probe snugly into the ear canal (as deep as is comfortable), press the 'scan' button and then immediately release it. You will hear a beep seconds after, this means that the measurement is complete. Remove the thermometer from the ear, the display will show the measured temperature.
  4. **Measuring again:** If measuring again, please wait for the '?' symbol to be displayed on screen. Then press the 'scan' button to measure.

## How to use (°C displays for example)

5. **Memory search:** Turn the device on, then press the 'on/recall' button. The last ten memories (No.9-No.0) will take turns to display on the LCD as Fig C and Fig D.



6. The LCD will display 'Er 1' as Fig E and cannot display temperature when the ambient temperature is out of the range of 10°C to 35°C.



**Note:** Before measuring, the thermometer shall be stabilized at the operating ambient condition for a minimum of 30 min.

7. **Shut off:** The thermometer shall automatically shut off without manipulating in one minute.

## Changing from Celsius to Fahrenheit

To switch the display between °C and °F, turn the unit on. Press and hold the on/recall button for 3 seconds, the display will show as Fig. F, the unit will prepare for a measurement.



# Explanation of symbols



battery is empty



Product disposal instructions for electronic devices



The battery in this product complies with the requirements stated in European Directives 006/66/EEC



Model Reference



Memory



Type BF equipment



CE conformity marking

L°C or L°F

subject temperature is under 34°C

H°C or H°F

subject temperature is above 44°C



or



Read IFU carefully



Authorised representative in the european community



Manufactured by

**IP22**

Classification according to the degree of protection against ingress of water as detailed in IEC 60529



Lot Number

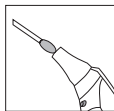
## Product disposal

Please ensure environmental protection. Batteries do not belong in the domestic waste. Please hand them in at collection point or the municipal recycle material centre as special waste. This symbol on products and/or accompanying documents means that consumed electronic products must not be mixed with conventional domestic waste. Take these products to the corresponding collection points for correct treatment and recycling, where they will be accepted free of charge. For more information on the closest collection point, Please enquire with your local authorities.




## Cleaning and Storage

1. Store thermometer and the **Disposable probe covers** in a dry location free from dust and contamination and away from direct sunlight. The ambient temperature at the storage location should remain fairly constant and within the range of  $-25^{\circ}\text{C}$  to  $55^{\circ}\text{C}$ .
2. Use an alcohol swab or cotton swab moistened with alcohol (70% Isopropyl) to clean the thermometer casing and the measuring probe. Ensure that no liquid enters the interior of the thermometer.
3. Never use abrasive cleaning agents, thinners or gasoline for cleaning and never immerse the instrument in water or other cleaning liquids. Take care not to scratch the surface of the probe membrane or display.



## Replacing the batteries

1. When voltage of the batteries are low, the LCD will display '  ' symbol, please replace two new batteries in unit. The thermometer cannot work accurately under the condition of low voltage.
2. The thermometer is supplied with two 1.5V ALKALESCENCE BATTERIES (AAA). Insert new batteries when the low battery symbol appears on the LCD.
3. Remove the battery cover and take out the old batteries.
4. Place two new batteries according to the '+' or '-'
5. Please take out the batteries to avoid battery leaking if unit not used for over six months.
6. The disposal of the battery and the device shall comply with the local environment requirements. The lithium battery or fuel cell may lead to excessive temperatures, fire or explosion.

## Quality warranty

This thermometer is guaranteed for one year under proper use according the operating manual from the date that the product is sent out the factory. The manufacturer will make available on request circuit diagrams, component part lists, descriptions, calibration instructions, or other information that will assist service personnel to repair those parts of device.

# EMC Table

This device is suitable for home healthcare environment and professional healthcare facility environment

**WARNING:** Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

The essential performance is the infra red ear thermometer can offer the temperature measurement

Do not use mobile (cellular) telephones and other devices, which generate strong electrical or electromagnetic fields, near the medical device. This may result in incorrect operation of the unit and create a potentially unsafe situation. Recommendation is to keep a minimum distance of 30cm. Verify correct operation of the device in case the distance is shorter.

## Guidance and manufacturer's declaration - electromagnetic emissions

The device is suitable for use in the specified electromagnetic environment and it has meets the following standard's emission requirements.

<b>Phenomenon</b>	<b>Profession healthcare facility environment</b>	<b>Home healthcare environment</b>
Home healthcare environment	CISPR 11, Group 1, Class A or B	CISPR 11, Group 1, Class B
Harmonic distortion	IEC 61000-3-2, Class A or not applicable	NA
Voltage fluctuations and flicker	IEC 61000-3-3 or not applicable	NA



# EMC Table

<b>Guidance and manufacturer's declaration - electromagnetic emissions</b>			
The device is suitable for use in the specified electromagnetic environment and it has meets the following immunity test levels. Higher immunity levels may cause the device's essential performance lost or degraded.			
<b>Phenomenon</b>	<b>Basic EMC standard or test method</b>	<b>Professional healthcare facility environment</b>	<b>Home healthcare facility environment</b>
Electrostatic discharge	IEC 61000-4-2	+/- 8 kV contact +/- 2 kV, +/- 4 kV, +/- 8 kV, +/- 15 kV air	
Radiated RF EM fields	IEC 61000-4-3	3V/m 80MHz-2.7GHz 80%AM at 1kHz or 2Hz	10V/m 80MHz-2.7GHz 80%AM at 1kHz or 2Hz
		1kHz or 2Hz can be specified by the manufacturer	
Proximity fields from RF wireless communications equipment	IEC 61000-4-3	See the RF wireless communication equipment table in "Recommended minimum separation distances".	
Rated power frequency magnetic fields	IEC 61000-4-8	30A/m; 50 Hz or 60Hz	

# EMC Table

Electric fast transients bursts	IEC 61000-4-4	NA
	For input a.c. power port d.c. power lines or signal input/output lines whose length exceeding 3m	
Surges	IEC 61000-4-5	NA
	For 1.input a.c. power port; 2. all d.c. power ports connected permanently to cables >3m 3. output signal output lines connected directly to outdoor cables	
Conducted disturbances induced by RF fields	IEC 61000-4-6	NA
	For 1. input a.c. power port; 2. all d.c. power ports connected permanently to cables >3m 3. all patient-coupled cables 4. SIP/SOP whose maximum cable length $\geq$ 3m	
Voltage dips	IEC 61000-4-11	NA
Voltage interruptions	IEC 61000-4-11	NA
UT: rated voltage(s); E.g. 25/30 cycles means 25 cycles at 50Hz or 30 cycles at 60Hz		

# EMC Table

## Recommended minimum separation distances

Nowadays, many RF wireless equipments have being used in various healthcare locations where medical equipment and/or systems are used. When they are used in close proximity to medical equipment and/or systems, the medical equipment and/or systems' basic safety and essential performance may be affected. This device has been tested with the immunity test level in the below table and meet the related requirements of IEC 60601-1-2:2014. The customer and/or user should help keep a minimum distance between RF wireless communications equipment and this device as recommended below.

Test frequency (MHz)	Band (MHz)	Service	Modulation	Maximum power(W)	Distance (m)	Immunity test level (Vim)
385	380-390	TETRA 400	Pulse modulation 18Hz	1.8	0.3	27
450	430-470	GMRS 460 FRS 460	FM $\pm$ 5 kHz deviation 1 kHz sine	2	0.3	28
710	704-787	LTE Band 13, 17	Pulse modulation 217Hz	0.2	0.3	9
745						
780						

# EMC Table

810	800-960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18Hz	2	0.3	28
870						
930						
1720	1700-1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation 217Hz	2	0.3	28
1845						
1970						
2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE B and 7	Pulse modulation 217Hz	2	0.3	28
5240	5100-5800	WLAN 802.11 a/n	Pulse modulation 217Hz	0.2	0.3	9
5500						
5785						



**REF** ET-100D

Made in PRC



0197



IP22



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