

NURSAL

INFRARED THERMOMETER-HET-R161

USER MANUAL



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NOTE

1. The temperature measurement is accurate to within $\pm 0.3^{\circ}\text{C}$.
2. There is a temperature difference between the ear and the forehead. This is normal and temperatures taken at different body locations should not be directly compared.
3. Measure temperature in a well-ventilated room, while remaining calm and avoiding excessive movement.

A Big Thank You

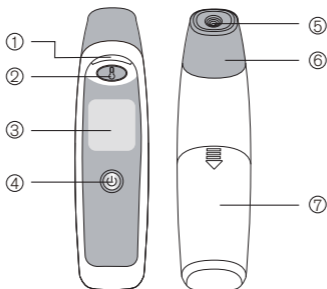
We're thrilled that you have chosen to purchase the Infrared Thermometer. At NURSAL, we're committed to providing you with products that enhance your daily life. We also aim to give our customers excellent support. Should you have any questions or feedback about your new product, simply get in touch with our customer support team at 1-855-556-6888, or by email at support@nursal.co.

Enjoy your new product!

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PARTS OF THE UNIT



① Temp indicator light

② Scan button

③ Display

④ Power button

⑤ Probe

⑥ Forehead cap

⑦ Battery Cover

SPECIFICATIONS

Mode	HET-R161
Point of measurement	Infrared measurement at the eardrum or forehead
Measuring range for Ear mode: Forehead mode	34.0-42.9°C (93.2°F~ 109.2°F)
Measuring range for surface of object	0-100°C (32°F~212°F)
Operating conditions	10-40°C, Relative humidity ≤ Rh95%, 70 -106KPa
Storage conditions	-25-55°C, Relative humidity ≤ Rh95%, 70 -106KPa
Resolution	0,1' C or 0,1' F
Accuracy (laboratory)	±0.2°C/0.4°F during 35.5°C - 42.0°C (95.0°F - 107.6°F); ±0.3°C/0.5°F during 34.0°C - 35.4°C (93.2°F - 95.7°F) and 42.1°C - 42.9°C (107.8°F - 109.2°F)
Memory	Stores up to 32 measurements
IP Classification	IP22
Automatic switch-off	About 30 seconds of no use
Reaction time	1 Second
Battery	2pcs 1.5V AAA Alkaline Battery
Battery life	Approx. 1000 measurements
Dimensions	149*38.5*38.5mm
Weight	67g (not including battery)

PRECAUTIONS

Warning

- Use of this thermometer is not intended as a substitute for consultation with your physician. It is dangerous for a user to perform a self-evaluation and self-treatment based on the measurement result. Be sure to follow your doctor's advice at all times.
- Keep the thermometer out of reach of children. If the battery or other component is accidentally swallowed, please consult medical advice immediately.
- People suffering from otitis/otitis media (middle ear infection) should not measure body temperature via the ear as it may worsen the condition.
- Don't throw the battery into fire.



Notice

- This device is a precision instrument. Do not drop it or subject it to shock or impacts.



- Do not touch the lens of the probe with your fingers, and do not disassemble the device by yourself.
- Ensure hair is not covering forehead before measuring temperature and that the forehead is dry.
- Do not touch the lens of the probe with your fingers, and do not disassemble the device by yourself.
- Do not use the device to measure body temperature within 30 minutes of exercising, eating or bathing.

- When the ambient temperature of a location has changed, the thermometer should not be used for 30 minutes to ensure accurate measurement.
- Multiple measurements should be taken over several minutes and the average temperature of all readings noted.
- It's advisable to take readings of your temperature when you are healthy, so you can refer to this when you have a high temperature.
- Do not measure at the sites of scars or tissue compromised by skin disorders.
- Do not measure at the site of the forehead if the patient has trauma on the forehead.
- Do not measure if that patient is treated with certain drug therapies.
- Do not immerse the device into water or any other liquid, and not directly sunlight exposure.
- Do not use a mobile or cordless phone near the thermometer when measuring temperature.
- Do not use in environments with strong electromagnetic radiation, such as microwaves or high frequency equipment.
- Do not measure at the point of the ear when the ear has been exposed to cold temperatures prior to measuring temperature.
- Do not use the unit to measurement ear temperature when the external auditory canal is wet such as after swimming or a bath. It may cause inaccurate measurements.
- Do not disassemble, repair, or modify the unit.
- This thermometer is a personal device. Do not share with others.
- The thermometer must be stored according to the technical specifications.
- This device has passed ISO 10993-5 and ISO 10993-10 toxicity, allergy and irritation test. The tests comply with MDD requirements.

- The patient is an intended operator. The patient can measure, read data and replace battery under normal circumstances and maintain the device and its accessories according to the user manual.
- The device is not intended for PATIENT transport outside a healthcare facility.

Recommendations



- 1) Don't use this thermometer for other purposes.
- 2) It is forbidden to leave the product exposed to any chemical solvent, direct sunshine or high temperature.
- 3) Don't expose the thermometer under direct sunlight long time so as not to damage the battery.
- 4) Do not measure while talking on the phone.
- 5) Please report to MANUFACTURER if any unexpected operation or events occur.

INTENDED USE

This thermometer is intended to measure ear canal and forehead temperature at home or hospital, including anyone, such as infants, children and adults.

For safety, children's and baby's temperature must be measured by adults.

WHAT IS BODY TEMPERATURE?

Body temperature refers to the internal temperature of the body (core temperature). 'Normal' body temperature fluctuates over the course of 24 hours. It tends to be lowest in the early morning and highest in the late afternoon. Body temperature also varies depending on the part of the body where the temperature is measured and also differs with age. Hence, the body temperature measurement obtained depends on when and where the temperature is taken and on who the patient is.

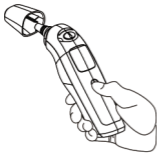

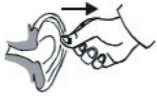


Normal temperature Ranges - by point of measurement	
Axillary	34.7 - 37.3 °C
Oral	35.5 - 37.5 °C
Ear	35.8 - 38.0 °C
Rectal	36.6 - 38.0 °C





Normal temperature ranges - by age	
0-2years	36.4 - 38.0 °C
3-10years	36.1 - 37.8 °C
11-65years	35.9 - 37.6 °C
> 65years	36.8 - 37.5 °C

OPERATION OF THE THERMOMETER

1. Unpack
2. Remove protective foil from the display
3. In order to ensure accurate measurement, the patient should first rest for 30 minutes in the same room as the infrared thermometer. Do not use immediately after exercise or bathing.

TEMPERATURE MEASUREMENT - EAR

	<p>Press the  button to turn on the unit and a beep is heard, remove the probe cover of the thermometer. It will switch from forehead mode to ear mode.</p>
	<p>Insert the probe into the ear canal. Pull the ear upwards and backwards so that the middle of the ear is clearly visible.</p>
	<p>For children under 1 year old, pull the ear gently backwards. For children over 1 year to adult, pull the ear gently backwards and upwards.</p>
	<p>For the temperature to be measured accurately in the ear canal, the tip of the probe must be directed towards the eardrum.</p>

	<p>Press the Measurement button  and wait until you hear a short beep and a long beep, measuring indicator light will flash. If no beep is heard, press and release the Measurement button  button again.</p>
	<p>As soon as you hear the long beep, remove the probe from the auditory canal. Read the temperature displayed on the LCD panel.</p>

NOTE:

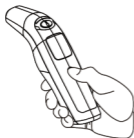
If the measured temperature is higher than 38.0 °C, the device will give off 3 short beeps. The backlight of LCD will change from green to red.

- It is advisable to take the temperature in the same ear, since the values measured in the left and right ear may be different.
- In the case of patients whose auditory canal is curved, the temperature values measured may deviate owing to anatomical influences.
- The ear should not be obstructed, for example by excessive amounts of ear wax.

TEMPERATURE MEASUREMENT - FOREHEAD



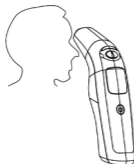
Always check that the probe cover is fixed onto the infrared thermometer. Prior to measurement, the forehead should be free of perspiration and make-up, etc.



Press the ON button 



It will automatically switch to Forehead Mode.



Place the probe tip on the patient's forehead. The recommended area is in the middle of the forehead.

Press the measurement button and you will hear a short beep followed by a long beep and the indicator light will flash. Then remove the infrared thermometer from the point of measurement.



Read the temperature value displayed on the LCD panel.

Temperatures measured in forehead mode are displayed as comparable rectal temperatures

NOTE:

- The precise sensing system records the heat emitted naturally through the skin. If the infrared thermometer is not moved over the temple, the temperature recorded may be lower.
- It is advisable to take the temperature 2-3 times and to record the highest value.
- In some patients the forehead temperature may differ as a result of environmental factors and it is advisable to take and record your forehead temperature when healthy.
- The measurement of forehead temperature is an excellent point of reference for recognizing raised body temperature.
- If you are in any doubt about the temperature measured, please measure it again in the ear and for the sake of accuracy, record the highest value.

THREE-COLOR BACKLIGHT INDICATION


A three-color backlight function indicates the temperature range. When a result is measured, the LCD will change color to indicate the temperature ranges shown below:

Temperature Range °C	Temperature Range °F	Indicator Color	Indicator Color	Way of Beep
$T < 37.5^{\circ}\text{C}$	$T < 99.5^{\circ}\text{F}$	Green	4 seconds	1 long beep
$37.5^{\circ} \leq T < 38.0^{\circ}\text{C}$	$99.5^{\circ} \leq T < 100.4^{\circ}\text{F}$	Orange	4 seconds	3 short beep

MEMORY

Recalling the Memory




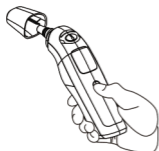
Be sure the infrared thermometer is OFF before recalling this memory. Press and release the  Button to enter the memory mode.




The signal "MEM" will be shown on the LED.



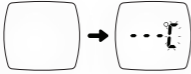

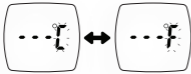

Each time when pressing the Memory Button, results will be displayed in the date order (latest results shown first), together with "MEM" and number (from 1 to 32). The LED display will be green, orange or red according to the memory reading. When the memory is full, the oldest result is deleted as new ones are added. When the last record is displayed on the display, press Memory Button again to return the first record. Press the button  again Now the reading before last will be shown.




To exit the Memory Mode, press the  button or keep the thermometer in idle for 10 seconds to switch off automatically.

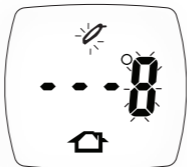
CHANGING THE THMPERATURE SCALE


The device can measure in both Fahrenheit (°F) or Celsius (°C). To switch between the two units, follow the below steps.

	<p>When LCD is off, press and hold the  button for 3 seconds. The LCD will display the current temperature scale.</p>
	<p>Press the  button to switch between °C or °F.</p>

MEASURING SURFACE TEMPERATURE

When the LCD is off, press and hold the button  for 3 seconds. The LCD will display the current temperature unit. Continuously press the button and you will hear a short beep and the device has entered surface measurement mode as shown below.



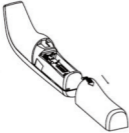
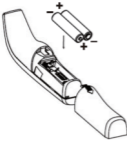
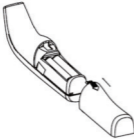




Now you can aim at the surface or object and press the button  to take a measurement.


NOTE:




It can be used to measure temperatures from 0° C to 100°C (32° to 212°F). The greater the distance from the surface of the water, the less accurate the measured values will be. For example, to measure water temperature, keep the probe within 1 cm (± 0.5 cm) above the surface of the water.

REPLACING THE BATTERY

	<p>When  symbol appears on the LCD panel, the battery needs to be replaced</p>
	<p>Press down and push the cover in the direction of the arrow shown in the illustration to remove the battery</p>
	<p>Insert two new AAA Alkaline batteries and match the polarities(+) as indicated.</p>
	<p>Replace the battery cover by pushing it in the direction indicated by the arrow in the illustration</p>
	<p>If no signal is received after changing the battery, insert the new batteries again and press the  button.</p>

TROUBLESHOOTING

FAULT OR FAULT SYMBOL	FAULT DESCRIPTION	CORRECTIVE MEASURE
No display On the LCD panel	The battery has run out. Incorrect battery polarity	Replace the battery Please note: The(+) side of the battery must face upwards
Measurement not possible (or an abnormal value is displayed)	The infrared thermometer is not ready.	Wait until the °C symbol is displayed.
An abnormal temperature value is displayed. LO or HI symbol is displayed	The probe tip is dirty or damaged. Did you hear the beep after pressing the ON button? The temperature measured is outside the measuring range. LO: temperature too low HI: temperature too high	Clean the probe tip or get it repaired. Wait until you hear the beep before removing the infrared thermometer from the ear or forehead
 Symbol is displayed	The battery has run out	Replace the battery

	<p>This warns you the battery is low, although the device can still be used.</p>	<p>Replace the batteries soon.</p>
	<p>The ambient temperature range is beyond the measurement range of (10°C-40°C/50°F -104.0°F).</p>	<p>Keep the thermometer in a room where temperature is (10°C-40°C/50°F -104.0°F) for 30 minutes.</p>
	<p>The hardware is damaged.</p>	<p>Excluding the possibility of temperature errors first, send the device to your dealer for repair.</p>

CLEANING AND DISINFECTION

- The probe tip should be cleaned before each use
- It can be cleaned by wiping it with a cloth or cotton-wool ball soaked in rubbing alcohol
- Do not reuse the thermometer until it is completely dry
- If the lens is dirty, false reading may occur. Make sure that the display is free of contaminants, and if required, clean as described above.

DISPOSAL

Observe the applicable regulations when disposing of the thermometer and batteries.

This thermometer must not be disposed of together with domestic waste

All users are obliged to hand in all electrical or electronic devices, regardless of whether or not they contain toxic substances, at a municipal or commercial collection point so that they can be disposed of in an environmentally acceptable manner.

Please remove the batteries before disposing of the thermometer Do not dispose of old batteries with your household waste, but at a battery collection station at a recycling site or in a shop.



SPECIFICATIONS

EN 980	Symbols for use in the labeling of medical devices.
EN 1041	Information supplied by the manufacturer with medical devices.
EN 60601-1	Medical electrical equipment Part 1: General requirements for basic safety and essential performance.
EN 60601-1-2	Medical electrical equipment -- Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests.
EN 60601-1-6	Medical electrical equipment – Part1-6: General requirements for basic safety and essential performance – Collateral standard: Usability
EN 60601-1-11	Medical electrical equipment – Part 1-11: General requirements for basic safety and essential performance – Collateral standard: Requirements for medical electrical equipment and medical electrical systems used in home healthcare environment.
EN 12470-5	Clinical thermometers – Part 5: Performance of infra-red ear thermometers (with maximum device)
ASTM E1965	Standard Specification for Infrared Thermometer for Intermittent Determination of Patient Temperature.
ISO 80601-2-56	Medical electrical equipment part 2-56: particular requirements for basic safety and essential performance of clinical thermometers for body temperature measurement.

EN 62304	Medical device software - Software life-cycle processes.
EN 62366	Medical devices – Application of usability engineering to medical devices.
EN ISO 10993-1	Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process.

EMC DECLARATION

- (1) The digital thermometer needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS.
- (2) Wireless communications equipment such as wireless home network devices, mobile phones, cordless telephones and their base stations, walkie-talkies can effect this equipment and should be kept at least a distance $d=1.0$ m away from the equipment.










NOTE:

As indicated in Table 6 of IEC 60601-1-2 for ME EQUIPMENT, a typical cell phone with a maximum output power of 2W yields $d=1.0$ m at an IMMUNITY LEVEL of 10V/m.

LIMITED WATTANTY

We grant you a guarantee after the date of purchase for one year. Any damage caused by improper handling shall not be covered by the guarantee. Packaging are also excluded from the guarantee. All other damage claims excluded. A guarantee claim must be submitted with the purchase receipt. Please pack your defective instrument well and send with sufficient postage to the distributor.

SYMBOL INDEX

	<p>Follow operating instructions</p>
	<p>BF type applied part</p>
	<p>Disposal in accordance with Directive 2002/96/EC (WEEE)</p>
	<p>Complies with the European Medical Device Directive 93/42/EEC and amended Directive 2007/47/EC. Notified Body is BUREAU VERITAS ITALIA S.P.A.</p>
	<p>Manufacturer information: The manufacturer is Dongguan HCS Electronics Co.</p>
	<p>Authorized representative in the European Community. The European representative is: Shanghai International Holding Corp. GmbH (Europe)</p>
	<p>IP code of the device: this device's grade of against ingress of solid foreign objects -- 12.5mm diameter (and the against access to hazardous parts with finger); the grade of waterproof is dripping (150 tilted).</p>
	<p>Batch code</p>
	<p>Date of manufacture</p>



Dongguan HCS Electronics Co., Ltd.

Add: Floor 4, Building 1, No.1 Longtan Road, Tangxia Town, Dongguan,
Guangdong, China

Distributed by: OMGD INC

ADD: 245 East Main Street, Suite 115, Alhambra, CA 91801

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