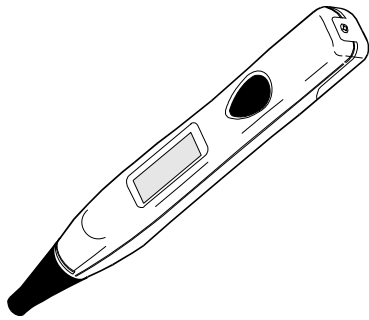


**AND**

**Ear Thermometer**

**UT-101**



***Instruction Manual***

UT-101AEX-C WM+PD4000231C



## Dear Customers

Congratulations. You have purchased an A&D ear thermometer, one of the most technologically advanced yet easy to use products available in the marketplace today.

We strongly recommend you read this instruction manual carefully prior to using the thermometer the first time.

## General Information

### Patient population

The device is intended for use by adult, pediatric and neonatal patients.



### Environment

The device is designed for monitoring your temperature at home.



### Device claims

This is not a therapeutic device.

### Intended use statement

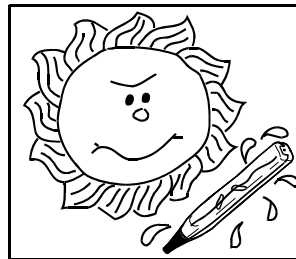
The intended use for the device is to measure the temperature of adult, pediatric and neonatal patients and to display measurement data.

It is intended for personal use at home, not for public use.

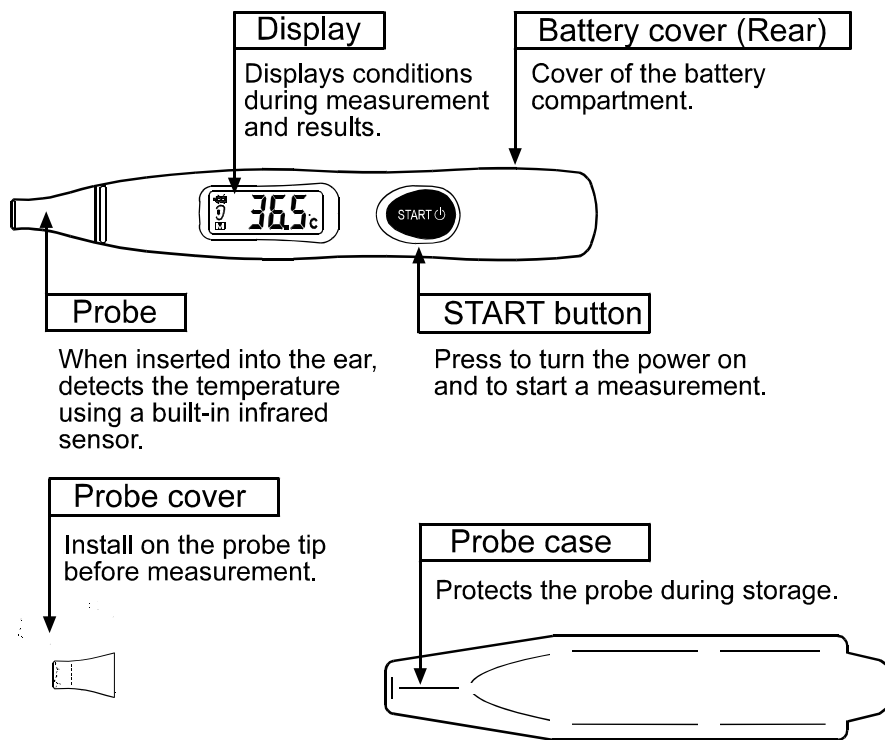


## Precautions






1. Precision components were used in the construction of this device. Extremes in temperature, humidity, direct sunlight, shock or dust should be avoided.
2. Clean the device with a dry, soft cloth or cloth moistened in alcohol. Never use thinner, benzine or cleaner with abrasives.
3. This device is not water resistant. Protect it from liquid spills.
4. Measurements may be impaired if the device is used close to a television, microwave oven, cellular telephone, X-ray or other devices with strong electrical fields.
5. Keep this device out of the reach of children. A child may swallow the probe cover or the battery while playing with it. If a child should swallow them, seek medical treatment immediately.
6. Do not self-diagnose your condition using the measured result. Consult your doctor if your temperature is higher than the normal temperature or you feel unwell.
7. Used equipment, parts and batteries are not treated as ordinary household waste and must be disposed of according to the applicable regulations.



## Parts Identification



## Symbols

Symbols	Function / Meaning	Action
	Start button	_____
	Battery installation guide	_____
<b>SN</b>	Serial number	_____
	Date of manufacture	_____
	Type BF: Device is designed to provide special protection against electrical shocks.	_____
	<b>LOW BATTERY mark</b> Appears when the batteries are drained. (Begins to flash when the battery voltage has become low. Even so, about ten measurements can be performed.)	Replace all batteries with new ones.

**Symbols –continued-**

Symbols	Function / Meaning	Action
<b>M</b>	<b>MEMORY mark</b> Previous measurement stored in memory.	_____
<b>E1</b>	Appears if the measuring room temperature is 40.1°C or over.	Move the thermometer to a room with a room temperature of 25°C and leave it there for an hour. Then measure again.
<b>E2</b>	Appears if the measuring room temperature is less than 5°C.	
<b>E3</b>	Appears if the measurement is not correct.	Insert the thermometer into the ear properly and measure again.
<b>Lo</b>	Appears if the reading is less than 34°C.	Measure again. See “Using the Ear Thermometer” on pages 8-12.
<b>Hi</b>	Appears if the reading is 42.3°C or over.	
<b>CE</b> <sub>0366</sub>	EC directive medical device label	_____



## Features

### **Easy to use friendly design**

The pen-type design allows easy handling and very convenient carrying and storage. Can easily measure a baby's temperature even during sleep.


### **One touch operation**

When you press the START button once, the thermometer is ready to measure your temperature.



### **Last reading automatically stored in memory**

When turned on, the previous value is displayed, which allows you to know changes in temperature.



### **Automatic power shut-off function**

Turns the power off automatically about 30 seconds after measurement.

### **Suitable for all ages - infants, children and adults**

### **Long battery life**

More than 3000 measurements can be performed using new batteries.



## Using the Ear Thermometer

### Before Using the Thermometer

 **Caution**

Keep this device out of the reach of children. A child may swallow the probe cover while playing with it. If a child should swallow it, seek medical treatment immediately.

■ **Use the thermometer at a room temperature between 5°C and 40°C.**

If the thermometer is stored in an environment with the temperature out of the above range or the temperature of the storage area differs greatly from that of the measuring area, allow the thermometer to equalize to the room temperature before use.

■ **DO NOT measure temperature if:**

Your ear is cold, wet or blocked with ear wax.

It is within 30 minutes after eating, taking a bath or physical exercise.

You are suffering from an ear infection.

■ **Always use the thermometer with its probe tip clean. Do not touch the probe cover after cleaning.**

A dirty probe tip may cause an inaccurate measurement. Clean the probe tip with a dry, soft cloth or cloth moistened with alcohol before use. When cleaned, wait for a few minutes before measuring temperature.

■ **Do not touch the probe tip with your hands, the oil from your hands can damage the probe cover.**

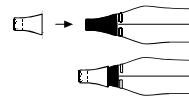




■ **Install the probe cover on the probe tip.**

(A probe cover was installed at time of purchase.)

Install the probe cover on the probe tip.



**Inserting the Thermometer into the Ear**

**⚠ Caution**

**Do not force the thermometer into your ear.**

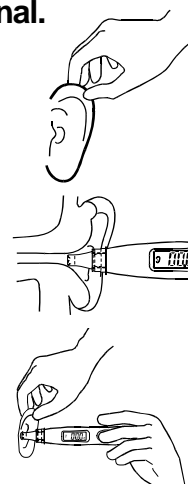


■ **Insert the thermometer straight into the ear canal.**

Pull the ear lightly backward to straighten the ear canal.

While pulling on the ear, insert the probe tip gently into the ear canal. Never force the thermometer into the ear. If the ear canal is very small, as with a baby, lightly press the probe tip to the ear canal with just enough force to seal the opening around the probe.

Hold the thermometer so that the probe faces straight in the direction of the eardrum.



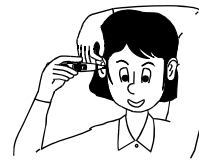


### ■ Using proper posture

When measuring your own temperature:

Raise and hold your left hand as shown to the right to pull on your ear. Hold the thermometer in your right hand and insert it into your right ear.

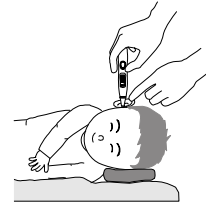
(Reverse this when measuring your temperature in the left ear.)



When measuring a child's temperature:

Hold the child's head so that it will not move.

To measure a baby's temperature, lay the baby down with his/her ear facing upward. Hold the baby's head so that it will not move.



## Measuring Temperature

### **Caution**

Do not use the thermometer for purposes other than measuring temperature in the ear.  
Stop using the thermometer immediately if your ear hurts, looks or feels unusual.

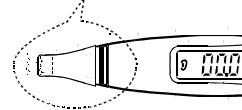
#### 1. Check the following.

Is the probe tip clean?

Has the probe cover been installed?

(See “Before Using the Thermometer” on pages 8 and 9.)

Probe cover



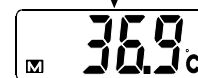
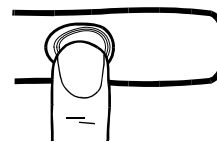
#### 2. Press the START button.

The display indicates all the symbols, the previous reading, and finally “00.0°C” with the Buzzer.

Now the thermometer is ready to measure temperature.

#### *Note*

Do not keep pressing the START button. Press and release it immediately.



### 3. Insert the thermometer into the ear.

Insert the thermometer gently into the ear. Always insert the thermometer into the same ear with the same direction and depth.

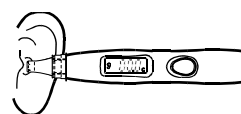
(See "Inserting the Thermometer into the Ear" on pages 9 and 10.)

Press the start button.

A buzzer sounds indicating the measurement is complete.

Remove the thermometer and read the displayed value.

To measure again, press the START button and follow steps 2 and 3.



#### Notes

1. When a measurement is to be taken at a room temperature greater than  $34^{\circ}\text{C}$ , insert the thermometer into the ear, **THEN** press the START button.
2. The thermometer has no POWER OFF button. The automatic power shut-off function will turn the power off automatically 30 seconds after measurement.
3. For accurate measurement:  
Do not keep the thermometer inserted into the ear for a long period of time.  
Do not measure more than five times consecutively



## Switching the Unit of Measure

With the UT-101, two units of measure are available for use, Celsius and Fahrenheit.

The displayed unit can be changed using the following steps.

- 1. Press and hold the START button for about seven seconds when the liquid crystal does not display anything.**

**Now the displayed unit has changed.**

### *Notes*

1. Switch between Celsius and Fahrenheit by repeating this procedure.
2. Press the START button again to use the new unit of measure.



## Taking Care of the Thermometer

### Cleaning

#### **Caution**

**The thermometer is not water resistant. Protect it from liquid spills.  
Do not wash it in water.**

#### ■ **Main unit**

Lightly wipe using a dry, soft cloth.  
Do not use thinner, benzine or cleaner with abrasives.

#### ■ **Probe tip / Probe cover**

Lightly wipe using a dry, soft cloth or cloth moistened in alcohol after each measurement.  
Do not use thinner, benzine or cleaner with abrasives.

### Replacing the probe cover

Replace the probe cover with a new one (sold separately) when:  
The probe cover can not be cleaned properly.  
The probe cover is damaged.  
The probe cover has been used 30 times or more.

### Storing the thermometer

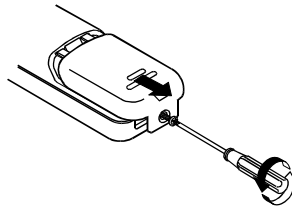
After cleaning, place the thermometer in the probe case and store it at room temperature, avoiding direct sunlight, high temperature, high humidity, liquid spills, dust, fire, vibration and shock.

## Replacing the Batteries

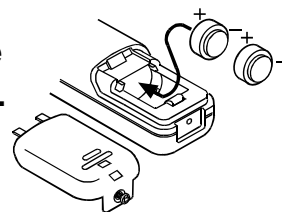
### Caution

Keep the thermometer out of the reach of children. A child may swallow the battery while playing with it. If a child should swallow the battery, seek medical treatment immediately.

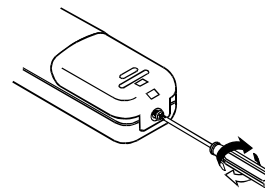
1. Using a Phillips screwdriver, loosen the screw holding the battery cover and remove the battery cover.



2. Replace the batteries with two new LR44 alkaline button batteries, taking care to place the negative and positive terminals correctly.




3. Re-install the battery cover and secure it with the screw.





*Notes*

1. When the LOW BATTERY mark (  ) appears in the display, replace all batteries with new ones. Do not mix old and new batteries. Doing so could shorten the battery life or cause the device to malfunction.
2. Battery life varies with the room temperature and may be shorter at low temperatures. Generally, more than 3000 measurements can be performed using new batteries.
3. Use the specified batteries only. The batteries provided with the device are for testing thermometer performance and may have a shorter life.







## About Ear Temperature

### Body temperature

The body temperature refers to the core temperature. This core body temperature can be obtained quickly and accurately by measuring the temperature of the eardrum, because it is believed that the temperature of the eardrum constantly and accurately reflects changes in temperature of the thermoregulatory center, or hypothalamus, in the brain.

As a traditional method to measure the core temperature, measuring oral temperature or axillary (under the armpit) temperature has been used. These methods take a longer time to detect the temperature. That is why measuring ear temperature is now widely used throughout the world.

The body temperature varies depending on the individual (gender, age, physical conditions), measuring conditions (room temperature, time) and the body part where the temperature is measured (armpit, mouth, eardrum, rectum, pulmonary artery)

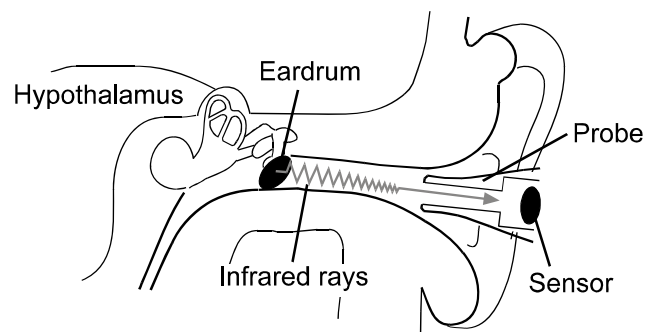
### Normal temperature

A normal temperature is your body temperature when you are healthy. It is important to measure your temperature when you are healthy and to know your normal temperature



## Why can the temperature be measured in the ear

Every object emits infrared energy that corresponds to its temperature. Therefore, the temperature of an object can be obtained by measuring the amount of the infrared energy. The ear thermometer employs this theory and detects the radiated heat out of the eardrum using an infrared sensor. The ear drum is hardly affected by the room temperature because it is recessed inside the head. Thus, a stable and quick temperature detection can be performed.



## Ear thermometer and axillary thermometer

The body temperature varies depending on the individual, and measuring conditions. Furthermore, it varies with where the temperature is measured. For example, the temperatures, measured using an ear thermometer and using an axillary thermometer, can differ by  $\pm 1^{\circ}\text{C}$ . So, measure your temperature using both methods and know your normal temperatures under the armpit and in the ear.

## Frequently Asked Questions

**Q. The reading is different each time I measure my temperature. Why is that?**

**A. The following may be the cause:**

You insert the probe into the ear in a different way (direction, depth or different ear) each time.

The probe tip is not clean.

Your ear is blocked with ear wax.

Insert the thermometer in the same direction, same depth and into the same ear. Keep the probe tip and ear clean.

**Q. How do you measure a baby's temperature through its small ear canal?**

**A. If the ear canal is very small, as with a baby, lightly press the probe tip to the ear canal with just enough force to seal the opening around the probe.**

Lay the baby down with his/her ear facing upward. Hold the baby's head so that it will not move.



**Q. Why is the reading taken in the right ear different from that taken in the left ear?**

**A. Basically the temperature is the same in both ears, but the values may differ because the shape of each ear interior is different. Also the way of inserting the probe affects readings.**

Use the same ear when measuring temperature.

**Q. Does ear temperature differ from axillary (under the armpit) temperature?**

**A. Some people may have different ear and axillary temperatures. The ear has its normal temperature.**


Measure temperature using the ear and axillary thermometers when you are healthy and know your normal ear and axillary temperatures.

**Q. Can I use this thermometer to measure an animal's temperature?**

**A. No. This thermometer has been designed exclusively for people, taking the human ear construction and human body temperature into consideration.**



## Troubleshooting

Problem	Probable cause	Corrective action
Nothing appears in the display, even when the power is turned on.	Batteries are drained.	Replace all batteries with new ones.
	Battery terminals are not in the correct position.	Place the battery terminals correctly.
The LOW BATTERY mark (  ) appears.	Batteries are drained.	Replace all batteries with new ones.
Readings are too high or too low.	The measurement is not correct.	Measure again, following instructions carefully.
<b>E1</b> appears.	The measuring room temperature is 40.1°C or over.	Move the thermometer to a room with a room temperature of 25°C and leave it there for an hour. Then measure again.
<b>E2</b> appears.	The measuring room temperature is less than 5°C.	
<b>E3</b> appears.	The measurement is not correct.	Insert the thermometer into the ear properly and measure again.
<b>Lo</b> appears.	The reading is less than 34°C.	Measure again, following instructions carefully.
<b>Hi</b> appears.	The reading is 42.3°C or over.	

### Notes

1. See "Using the Ear Thermometer" on pages 8-12 for proper measurement techniques.



## Maintenance

Do not open the device. It uses delicate electronic components that could be damaged. If you cannot fix the problem using the troubleshooting instructions, request service from your supplier or from the A&D service group. The A&D service group will provide technical information, spare parts and units to authorized suppliers.

The device was calibrated at the time of manufacture. If it is used according to the instruction manual, periodic re-calibration is not required. If at any time you question the accuracy of measurement, please contact your supplier or the A&D service group.



To determine the date of manufacture, refer to the serial number located on the side of the device. The first digit indicates the factory number. The next two digits indicate the year of manufacture; the next two digits indicate the month of manufacture. The last five digits indicate the serial number.




For example: SN30212\*\*\*\*\*

This device was manufactured in Dec, 2002.



## Technical Data

This device conforms to the European Directive 93/42/EEC for Medical Products. This is evidenced by the CE mark of conformity accompanied by the reference number of a designated authority.

Type	UT-101A
Temperature sensor	Thermopile sensor
Measurement range	34°C to 42.2°C
Measurement accuracy	±0.2°C (In the temperature range from 36°C to 39°C, when measured on a standard black body at a room temperature of 25°C)
Display	3 digits with a unit (°C or °F), resolution 0.1°C
Power supply	2 x 1.5V alkaline button batteries (LR44)
Power consumption	Approx. 4.5 mW
Battery life	More than 3000 measurements (when measured continuously at a room temperature of 25°C.)
Classification	Type BF 
Operating condition	+5°C to +40°C / 30%RH to 85%RH
Storage condition	-10°C to +60°C / 30%RH to 95%RH
Dimensions	Approx. 143 [L] x 23 [W] x 18.5 [D] mm
Weight	Approx. 35 g including batteries
Accessories	Probe case, probe cover, instruction manual



### Note

Specifications are subject to change without prior notice.



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