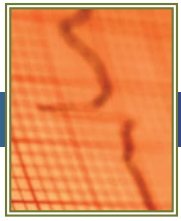
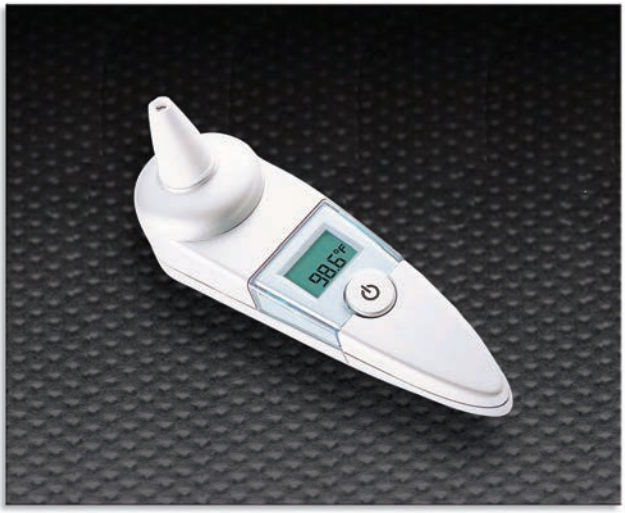
Adtemp™ Digital Ear Thermometer



421 Digital Ear Thermometer

Instruction Manual



PLEASE NOTE:
THIS MEDICAL INSTRUMENT MUST BE USED ACCORDING TO INSTRUCTIONS TO ENSURE ACCURATE READINGS.

Questions?
Call ADC toll free at 1-800-232-2670

Adtemp™
421 Digital Ear Thermometer

1. The Advantages of this Ear Thermometer

Multiple Use (Wide Range Measurement)

This thermometer offers a wide measurement range feature from 32.0°F to 212.0°F (0°C to 100.0°C); meaning the unit can be used as an ear thermometer to measure body temperature, but it also can be used to measure surface temperature of objects:

- Milk surface temperature in baby's bottle
- Surface temperature of baby's bath
- Ambient temperature

Probe Cover Free

This thermometer is more user-friendly and more cost effective, since a probe cover is not required.

Measurement in 1 second

The innovative infrared technology allows measurement of ear temperature in only 1 second.

Accurate and reliable

The unique probe assembly construction, incorporating an advanced infrared sensor ensures that each measurement is accurate and reliable.

Gentle and Easy to Use

- The ergonomic design enables simple and easy use of the thermometer.
- This thermometer can be used even on a sleeping child, thereby causing no interruption.
- This thermometer is quick and pleasant to use for children.

Auto-Display Memory

The last reading is automatically displayed for 2 seconds when the unit is switched ON.

Multiple Reading Recalls
Users will be able to recall the last 12 readings when entering the memory mode, en abling efficient tracking of temperature variations.

Safe and Hygienic

- No risk of broken glass or mercury ingestion.
- Completely safe for use on children.
- Cleaning of the probe can be done with an alcohol moistened cotton tissue, making this thermometer completely hygienic for use by the whole family.

Fever Alarm
10 short beeps alert the patient that he/she may have a fever.

2. Important Safety Instructions

- This instrument may be used only for the purpose described in this booklet. The manufacturer cannot be held liable for damage caused by incorrect application.
- **Never immerse this instrument into water or other liquids (not waterproof). For maintenance instructions refer to the "Cleaning and Disinfecting" section.**
- Do not use the instrument if you think it is damaged or notice anything unusual.
- Never open the instrument.
- Earwax in the ear canal may cause a lower temperature reading. Therefore it is important to ensure the subject's ear canal is clean.
- This instrument comprises sensitive components and must be treated with caution. Observe the storage and operating conditions described in the "Technical Specifications" section
- Protect it from:
    - extreme temperatures
    - impact and dropping
    - contamination and dust
    - direct sunlight
    - heat and cold

- If the instrument is not going to be used for a prolonged period the batteries should be removed
- Ensure that children do not use the instrument unsupervised; some parts are small enough to be swallowed

⚠ **WARNING:**

- Use of this instrument is not intended as a substitute for consultation with your physician
- This instrument is NOT waterproof! NEVER immerse into liquids
- This product may contain a chemical known to the state of California to cause cancer, birth defects, or other reproductive harm.

3. How this Ear Thermometer measures Temperature

This thermometer measures infrared energy radiated from the eardrum and the surrounding tissue. This energy is collected through the lens and converted to a temperature value. The measured reading obtained directly from the eardrum (Tympanic Membrane) can ensure the most accurate ear temperature.
Measurements taken from the surrounding tissue of the ear canal generate lower readings and may result in misdiagnosis of a fever.

To avoid an inaccurate measurement:

1. Switch on the thermometer by pressing the ON/OFF button .
2. After one beep is heard (and the temperature scale icon is flashing), straighten the ear canal by gently pulling the middle of the ear back and up.
3. Place the probe firmly into the ear canal, press the START button and keep the probe in the ear until the thermometer beeps to identify the completion of the measurement.

This thermometer has been clinically tested and proven to be safe and accurate when used in accordance with its operating instruction manual.

4. Control Displays and Symbols

- **All segments displayed** : Press the ON/OFF button to turn on the unit, all segments will be shown for 2 seconds.
- **Memory**: The last reading will be shown on the display automatically for 2 seconds.
- **Ready for measurement**: The unit is ready for measurement, the **°F** or **°C** icon will keep flashing.
- **Measurement complete**: The reading will be shown on the display with the **°F** or **°C** icon flashing, the unit is ready again for the next measurement.
- **Out-of-ear temperature indication**: A crossed-ear icon shown on the display if the reading falls outside the range 89.6 ~ 108.0 °F (32.0 ~ 42.2 °C).
- **Low battery indication**: When the unit is turned on, the battery icon will keep flashing to remind the user to replace the battery.

5. Directions for Use

1. Press the ON/OFF button . The display is activated to show all segments for 2 seconds.
2. The last measurement reading will be shown on the display automatically for 2 seconds with the **M** icon.
3. When the **°F** or **°C** icon is flashing, a beep sound is heard and the thermometer is ready for measurement.
4. Straighten the ear canal by pulling the ear up and back to give a clear view of the eardrum.
    - **For children under 1 year**: Pull the ear straight back.
    - **Children aged 1 year to adult**: Pull the ear up and back.

    Also refer to the short instructions on page 5.
5. While gently pulling the ear, insert the probe snugly into the ear canal and press the START button. Release the button and wait for the beep sound. This is the indication that confirms the end of measurement.
6. Remove the thermometer from the ear canal. The display shows the measured temperature.

NOTE: In order to ensure accurate readings, please wait at least 30 seconds after 3-5 continuous measurements. Accumulation of ear wax on the probe can result in less accurate temperature readings or cross infection between users. Therefore, it is essential that a clean probe is used before each measurement. For cleaning,please follow the instructions in the *CLEANING AND DISINFECTING* section. After cleaning the probe with alcohol, it is necessary to wait 5 minutes before taking the next measurement, in order to allow the thermometer to reach its operating reference temperature.

- 10 short beeps will sound when the temperature is higher than 99.5 °F (37.5 °C) in order to alert the patient that he/she may have a fever.
- For an infant, it is best to have the child laying flat with his head sideways so the ear is facing upwards. For an older child or adult, it is best to stand behind and slightly to the side of the patient.
- Always take the temperature in the same ear, since the temperature readings may be different from the right ear and left ear.
- Wait for a few minutes to take the ear temperature after sleeping.
- In the following situations it is recommended that three temperatures in the same ear be taken and the highest one taken as the reading:

    1. Newborn infants in the first 100 days.
    2. Children under three years of age with a compromised immune system and for whom the presence or absence of fever is critical.
    3. When the user is learning how to use the thermometer for the first time until he/she has familiarized himself/herself with the instrument and obtains consistent readings.

6. Fahrenheit to Celsius switchable

This thermometer can display temperature measurements in either Fahrenheit or Celsius. To switch the display between **°F** and **°C**, simply turn **OFF** the unit, press and hold the **START** button for 5 seconds. When you stop pressing the **START** button after 5 seconds, the current measurement scale (**°F** or **°C** icon) will be flashed on the display. Toggle the measurement scale between **°F** and **°C** by pressing the **START** button again. When the measurement scale has been chosen, wait for 5 seconds and the unit will enter the ready for
measuring mode automatically.

7. How to recall 12 readings in Memory Mode

This thermometer can recall the last 12 readings.

- **Memory Mode**: Press the **START** button to enter Memory mode when power is off. The memory icon **M** flashes.
- **Reading 1 - the last reading**: Press and release the **START** button to recall the last reading. Display 1 along with memory icon.
- **Reading 12 - reading in succession:** Press and release the **START** button consecutively to recall readings in succession, up to the last 12 readings. Pressing and releasing the **START** button after the last 12 readings have been recalled will resume the above sequence from reading 1.

8. Error Messages

- **Measured temperature too high:** Displays **H** when measured temperature higher than 212.0 °F or 100.0 °C.
- **Measured temperature too low:** Displays **L** when measured temperature is lower than 32.0 °F or 0 °C.
- **Ambient temperature too high:** Displays **H** in conjunction with the ▲ when ambient temperature is higher than 104.0 °F (40.0 °C).
- **Ambient temperature too low:** Displays **L** in conjunction with the ▼ when ambient temperature is lower than 50°F (10°C).
- **Error function display:** When system has malfunction.
- **Blank display:** Please check if the battery has been loaded correctly. Also check polarity (+ and -) of batteries.
- **Dead battery indication:** If the steady battery icon is the only symbol shown on the display, the batteries should be replaced immediately.

9. Cleaning and Disinfecting

Use an alcohol swab or cotton tissue moistened with alcohol (70% Isopropyl) to clean the thermometer casing and the measuring probe. Ensure that no liquid enters the interior of the thermometer. Never use abrasive cleaning agents, thinners, or benzene for cleaning and never immerse the instrument in water or other cleaning liquids. Take care not to scratch the surface of the probe lens and the display.

10. Battery Replacement

This instrument is supplied with one lithium battery, type CR2032. Replace with a new CR2032 battery when the flashing battery symbol appears on the display. Remove the battery cover by sliding it downward. Remove the battery and replace with a new one.

11. Warranty

This instrument is covered by a 2 year warranty from the date of purchase.

- The warranty covers the instrument and the batteries. The packaging is not included.
- Opening or altering the instrument invalidates the warranty.
- The warranty does not cover damage caused by improper handling, discharged batteries, accidents or non-compliance with the operating instructions. Contact ADC® Customer Service Dept. for more information.

12. Technical Specifications

Type:	Ear Thermometer 421
Measurement Range:	32.0°F to 212.0°F - 0°C to 100.0°C
Resolution:	0.1°F/°C
Measurement: Laboratory:	±0.4°F, 89.6~108.0°F
Accuracy:	(±0.2°C: 32.0~42.2°C) ±2°F: 32.0~89.5°F, 108.1~212.0°F (±1°C: 0~31.9, 42.3~100.0°C)
Display:	**L**iquid **C**rystal **D**isplay, 4 digits plus special icons
Acoustic:	• The unit is turned **ON** and ready for the measurement: 1 short beep • Complete the measurement: 1 long beep • System error or malfunction: 3 short beeps • Fever alarm: 10 short beeps

Memory:	• Auto-Display the last measured temperature • 12 readings recall in the Memory Mode
Operating Temperature:	50°F to 104°F (10°C to 40°C)
Storage Temperature:	-13°F to 131°F (-25°C to 55°C)
Automatic Switch-Off:	Approx. 1 minute after last measurement has been taken
Battery:	CR2032 BATTERY (X1) - at least 1000 measurements
Dimensions:	6" (L) x 1.2" (W) x 1.6" (H) 153mm (L) x 31mm (W) x 40mm (H)
Weight:	1.87 oz (53g with battery), 1.76 oz (50g without battery)
Standards:	Complies with ASTM E-1965 requirements

According to the Medical Product User Act, a biennial technical inspection is recommended for professional users. Please observe the applicable disposal regulations.

13. Website

Detailed user information about our thermometers and blood pressure monitors as well as other products and services can be found at www.adctoday.com.

14. Contact Information

To register your product and obtain further detailed user information about our products and services visit us at:

www.adctoday.com

and follow the links.

For questions, comments, or suggestions call us toll free at:

1-800-232-2670

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Dist. by: ADC®
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Inspected in the USA
Made in China

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IB p/n 93-421-00 rev 4

CE 0044

Printed in China