

Oregon Scientific™ Forehead Thermometer

Model: FT101

User Manual

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INTRODUCTION

Thank you for selecting the Oregon Scientific™ Forehead Thermometer (FT101) as your personal healthcare product of choice. The FT101 Forehead Thermometer is a Class II, over-the-counter, non-invasive, non-sterile, reusable, infrared clinical electrical thermometer intended for the intermittent measurement and assessment of the skin forehead temperature for people of all ages.

Your new forehead thermometer is designed to give you many years of reliable service, and includes the following conveniences:

- Quick, easy-to-use design with large LCD display for viewing temperature readings.
- Bright LCD backlight for viewing temperature readings in the dark.
- Safe, accurate, non-invasive body temperature readings correlated to axillary (under arm) measurements.
- Automatic time and date stamping of the last ten temperature readings taken, with recall and memory erase features.
- Temperature conversion into Fahrenheit and Celsius degrees.
- Long battery life (typically one or more years, depending on use).
- 10 disposable hygienic sensor covers.

This manual contains important safety and care information, and provides step-by-step instructions for using this product. Keep the manual in a safe place, in case you need to refer to it later.

KEY FEATURES

Front and side view

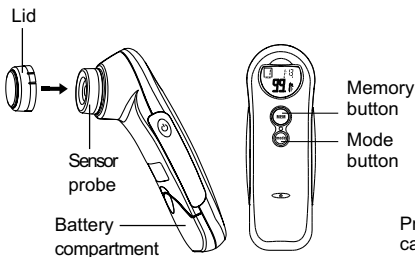


Figure 1

Carrying case

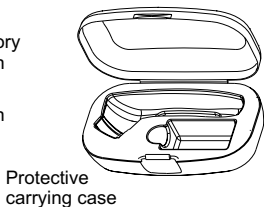


Figure 2

LCD display symbols

Symbol	Description	Explanation
	Measurement in progress / just taken	The thermometer is currently taking a temperature reading, or is cooling down after taking a measurement.
	Low battery	Replace the batteries.
	Measurement error	The measurement is out of range, or no measurement was taken. Take the measurement again.
	Hardware failure	The internal components are not operating correctly. Contact the retailer or our customer service department for assistance.

SAFETY AND CARE INSTRUCTIONS

Safety precautions

Please observe the following safety precautions when using this product.

- Use – This product is not a toy. Keep it out of reach of children.
- Indications – The temperature measurements taken by this product are not meant to substitute professional medical opinion. Seek your doctor's advice whenever you are in doubt.
- Heat sources – Keep the product away from heat sources such as radiators, stoves, heaters, and other heat-generating products.
- Water and moisture – Do not use or store this product in or near water or in high moisture areas such as a bathroom.
- Battery power – Do not mix old and new batteries or use batteries of a different size or type than specified in this user manual.

Caring for your forehead thermometer

To ensure you receive the maximum benefit from using this product, please observe the following guidelines.

- Cleaning – Use the disposable sensor covers for each measurement. Clean the sensor probe with a soft cloth or cotton swab that has been moistened with alcohol after each use. Do not submerge the unit in liquid or use abrasive or toxic cleaners. Remove any dust or debris that may be on the sensor probe prior to taking a measurement.
- Storage – Store the thermometer in the carrying case to protect it from dust.
- Use – This product contains precision components that should not be exposed to extreme temperatures, humidity, shock, dust, or direct sunlight.

- Repair – If the thermometer malfunctions or has been damaged, do not continue to use it or attempt to repair or modify it by yourself. There are no user-serviceable parts inside the unit. Contact the retailer or our customer service department for servicing.

HOW THE FOREHEAD THERMOMETER WORKS


When properly administered by swiping the sensor probe across the forehead and temple region, this product provides accurate, near-instantaneous readings that can be used to gauge normal and elevated body temperatures (e.g., fever). According to clinical test results, the readings gathered by this device are correlated to the axillary (under arm) method.

How the thermometer works

As the thermometer moves across the forehead, an infrared sensor located within the sensor probe detects the skin temperature. The thermometer then converts this reading to body temperature using specialized, proprietary software that accounts for body heat transfer differences and environmental factors such as how cool or warm the room is. The body temperature is then shown on the LCD display for you to read.

For best results, observe the following guidelines when using the thermometer:

- 20 minutes prior to use, place the forehead thermometer in the room where the measurement will be taken. Five minutes prior, place the person whose temperature is to be measured in the same room as the thermometer. This results in more accurate readings by allowing the person's skin temperature to reach equilibrium with the room temperature, and the thermometer's environmental compensation software to register the room temperature prior to measurement.

- Gently wipe and dry the forehead prior to taking a measurement.
- Thoroughly clean the unit and sensor probe after each use.
- Turn the thermometer off for a few minutes between measurements to avoid overheating the sensor and resultant measurement errors. The thermometer has not fully cooled down if any part of the  **measurement in progress** icon is showing on the LCD display.

Information on body temperature

Body temperature is a measurement of the amount of heat that the body conducts. A healthy body has a mechanism for regulating the temperature within a narrow, safe range that is productive for its normal operation. This mechanism can become blocked during illness, which can result in temperature elevation (fever) or depression.

There is no single, normal temperature range for healthy people. Rather, body temperature fluctuates from person to person and is affected by age and time of day. For example, the normal body temperature for small infants is usually 1 – 2 degrees higher than that of healthy adults, and for most people, body temperature lowers at night while sleeping, and elevates during the day. To gain an accurate gauge of a person's normal range, take a temperature reading several times daily for 3 – 4 days while the person is known to be healthy.

Temperature measurements are also impacted by the type of measurement method used. Rectal temperature is generally 1/2 to 1 degree higher than oral temperature, and axillary temperature is generally 1/2 to 1 degree lower than oral. The following chart lists general temperature ranges for each method.

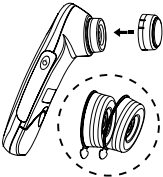



Measurement method	Normal temperature range	Fever temperature range
Axillary (under arm)	95.5 – 98.5°F (35.3 – 36.9°C)	98.9°F or higher (37.2°C or higher)
Forehead	95 – 100.4°F (35 – 38°C) Note: Measurements for some adults may be lower than 95°F (35°C).	A temperature that is 1.0 – 1.5°F (0.6 - 0.8°C) higher than usual. It is highly recommended that you use the FT101 to establish the normal temperature range for each person.
Oral	96.6 – 99.5°F (35.9 – 37.5°C)	99.6°F or higher (37.6°C or higher)
Rectal	97.7 – 100.3°F (36.5 – 37.9°C)	100.4°F or higher (38°C or higher)

GETTING STARTED

Unpacking the forehead thermometer


When you unpack your forehead thermometer, make sure to keep all the packing materials in a safe place, in case you need to later transport or return it for servicing.

In the box, you will find:

Forehead thermometer, lid, and 10 sensor covers	Protective carrying case	2x CR2032 batteries (packed in battery compartment)	User manual
			

Batteries

This product requires two (2) 3-volt CR2032 batteries to operate. The unit is shipped with a pair of batteries already installed. To conserve battery life during shipment, a clear plastic tab is inserted between the batteries and the connection terminal: **You will need to remove the tab before you use the thermometer.**

CR2032 batteries generally have a long battery life (1 or more years), but need to be replaced whenever the low battery indicator () shows on the LCD display. It is recommended that you take the unit to the retailer whenever you need to exchange the batteries.


To change the batteries:

1. Remove the battery compartment door located on the back of the sensor probe.
2. With a small Phillips screwdriver, remove the two screws that hold the metal bracket in place. Set the screws and bracket aside.

3. Remove the old batteries. The batteries are stacked one on top of the other in the battery compartment.
4. Gently slide in the new batteries with the positive (+) polarity facing up.
5. Replace the metal bracket and screws.
6. Tighten the screws with a Phillips screwdriver until they are secure.
7. Replace the battery compartment door, and gently close it.

Note: Batteries can be harmful to the environment. Contact your local waste disposal authority for proper disposal instructions.



Turning the thermometer off and on

Press  to turn the thermometer off and on.

Setting the calendar clock and measurement unit

The forehead thermometer includes a 50-year auto-calendar and optional measurement units in Fahrenheit or Celsius degrees. These settings are used to maintain a record of the last 10 temperature readings taken, and only need to be set the first time you use the thermometer, and whenever you replace the batteries.

To set the calendar clock and measurement unit:

1. Press  to turn on the thermometer.
2. Press **mode** until “12hr” flashes on the display.
3. (Optional) Press  to switch between “12hr” and “24hr” time display.
4. Press **mode** until the hour flashes on the display.
5. Repeat Steps 3 – 4 to change the hour, minute, year, display format (M/D or D/M), month, date, and unit of measurement.
6. When you are finished, press **mode** to accept the changes.

Taking temperature readings

Before you take a temperature reading, be sure to read through the

Tips section that follows this procedure.





1. Place a new sensor cover on the tip of the sensor probe.
2. Press  to turn on the thermometer.
3. Gently rest the tip of the sensor probe against the center of the forehead.
4. Press and hold  again until you hear a beeping sound.
5. Slowly slide the sensor probe to the left or right temple (Figure 3) until the beeping sound ends. The temperature will show on the LCD display for 8 seconds.




Figure 3

Note: If E_{rr} flashes on the LCD display, a measurement error occurred while taking the temperature. Gently clean the thermometer, wait a few minutes for the thermometer to cool down, and then try again.

6. Press  to turn off the thermometer. If you do not press , the unit will automatically turn off after one minute.
7. Remove and discard the sensor cover.

Tips for taking accurate readings


For best results, please observe the following guidelines when using the forehead thermometer.

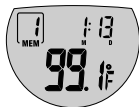
- The normal range for body temperature can vary from person to person and throughout the day, and also depends on the type of measuring instrument you use. Read the “How the forehead thermometer works” section on page 4 to learn how these factors affect temperature readings.
- 20 minutes prior to use, place the forehead thermometer in the room where the measurement will be taken. Five minutes prior, place the person whose temperature is to be measured in the same room as the thermometer. This results in more accurate readings by allowing the person’s skin temperature to reach equilibrium with the room temperature, and the thermometer’s environmental compensation software to register the room temperature prior to measurement.
- Gently wipe and dry the forehead prior to taking a measurement.
- Always use a clean, new sensor cover when taking measurements. Discard after use.
- Position the sensor probe on the forehead **BEFORE** you press  .
- Turn the thermometer off for a few minutes between readings to avoid overheating the sensor and resultant measurement errors. The thermometer has not fully cooled down if any part of the **measurement in progress** icon is showing on the LCD display. If the measurement appears to be too high or too low, turn off the thermometer, then wait a few minutes before taking a new reading.

USING THE MEMORY

This product is designed with an internal memory that automatically stores the date, time, and temperature for the last 10 measurements taken. The most recent reading is stored as the first record, with all subsequent records stored as 2 – 10.

Recalling the memory


To recall the memory, press  to turn on the thermometer, then press **MEM**. The record number will show in the top left corner of the LCD display, and the date and time for that record will alternately flash in the top right corner, as shown in Figure 4. In the example shown here, the most recent temperature reading of 99.1 °F was taken on 13 January.



Press the **MEM** button again to scroll through the records. Press and hold **MEM** for two seconds to automatically scroll through all the records.

Resetting the memory

To erase, or reset, all records stored in the memory:

1. Press  to turn on the thermometer.
2. Press **MEM** to display the memory.
3. Simultaneously press and hold the **MEM** and **mode** buttons for approximately 2 seconds to erase all the records.

TROUBLESHOOTING GUIDE

This section includes a list of frequently asked questions for problems you may encounter with your forehead thermometer. If your thermometer is not operating as you think it should, check here before arranging for servicing.

Problem	Symptom	Check this	Remedy
No power	Power will not turn on.	Batteries are exhausted.	Replace with new batteries (→ 7).
Error message	E_{rr} shows on the display.	Batteries are inserted incorrectly.	Insert the batteries correctly (→ 7).
	E_{rr} shows on the display.	The sensor probe is dirty or has not been properly used.	Clean the sensor probe (→ 3), wait a few minutes, and then try again (→ 9).
Measurement is inaccurate	Measurement is too high.	The thermometer is malfunctioning.	Contact the retailer or our customer service department. Refer to the warranty card for instructions.
		The thermometer is overheated.	Turn off the thermometer, wait a few minutes, and then try again.
		The thermometer has not adjusted to the room temperature.	Turn off the thermometer and wait for 20 minutes before attempting to retake the measurement. 5 minutes prior, bring the person whose temperature is to be measured into the room.
	Measurement is too low.	The sensor probe was not applied to the forehead prior to the measurement start time.	Wait a few minutes, then try again with the sensor applied to the forehead prior to pressing ON .
Date / time is incorrect.	The wrong date / time shows on the LCD display.	Date / time was not set or reset after installing new batteries.	Set the date / time (→ 8).
No records in memory.	No records display after pressing MEM .	The memory has been reset.	Take a measurement, then press MEM to make sure it has been stored in the memory.

REFERENCES

The following reference was used in compiling this user manual, and may be of further assistance in learning about temperature taking practices.

United States National Library of Medicine and National Institute of Health *Medline Plus Medical Encyclopedia*, <http://www.nlm.nih.gov/medlineplus/ency/article/003400.htm>.

SPECIFICATIONS

Dimensions:

Width x Height x Depth	1.7 X 2.0 X 5.0 (inch) 43 x 50 x 128 (mm)
Weight	3 oz (85g)

Measuring range:

Temperature	93.2°F...108.0°F (34°C...42.2°C)
Display resolution	+/- 0.1°F/C
Accuracy	+/- 0.4°F (+/- 0.2°C) within operation temperature range (see below) (Tested under laboratory conditions and calibrations, per ASTM E1965-98.)

Display:

Time format	12hr / 24hr
Date format	D/M (date/month) or M/D (month/date)

Memory recall:**Storage**

Last 10 readings

Power:**Power supply**

2x 3-volt CR2032-type batteries

Power save

Auto power off after 1 minute of non-activity

Operating environment:**Operation temp.**

61°F...95°F (16°C...35°C)

Storage / Transport temp.

23°F...131°F (-5°C...55°C)

WARNINGS

This product has been engineered and manufactured to the highest safety standards, and is designed to provide you with many years of reliable service provided that it is properly used and cared for. To ensure your safety and prolong the life of the product, please observe the following precautions.

- Use – This product is not a toy, and should only be used under adult supervision.
- Read and observe all warnings and instructions – This user manual contains important warnings and instructions that, if properly followed, will help to ensure you use the product safely. Read the manual, and keep it in a safe place for future reference. Note that the contents are subject to change without further notice. Figures and display examples are for reference only, and may slightly differ from the actual product.

- Attachments – Do not use add-on equipment not recommended by the manufacturer, as this can damage the product and invalidate the warranty.
- Shocks and excessive force – Do not subject the product to excessive force, shock, dust, or temperature fluctuations outside the range listed in the Specifications section, as this can result in malfunction.
- Liquids, moisture, and foreign objects – Never immerse the product in water or other liquids, or insert foreign objects into it, as this can cause electric shock and damage to the unit. If the product becomes wet, dry it off immediately with a soft, lint-free cloth. Avoid storing or using this product in high moisture areas.
- Batteries – Do not mix old and new batteries, or attempt to use a battery type other than specified in this manual.
- Servicing – This product should be inspected every two years to ensure it is operating correctly. Do not tamper with the internal components, as this can expose you to dangerously high voltage levels and void the warranty. Contact the dealer or a qualified repairman if the product requires servicing.
- Storage – Store the product in the protective carrying case when not in use. Remove the batteries if you plan to store the product for a long period of time.

ADDITIONAL RESOURCES

Visit our website (www.oregonscientific.com) to learn more about this forehead thermometer and other Oregon Scientific™ products such as sports and fitness watches, digital cameras, hand-held organizers, telephones, alarm clocks, and weather stations. The website also includes contact information for our customer service department, in case you need to reach us.

Notice on conformity

This product is a Class II, over-the-counter, non-invasive, non-sterile, reusable, infrared clinical electrical thermometer device. Use of the product is intended for the intermittent measurement and assessment of the skin forehead temperature of people of all ages. Temperatures taken by this thermometer correlate to axillary (under arm) temperature measurements.

CE 0123 The CE mark indicates that this product meets the general requirements for electronic products in regards to resistance to electromagnetic interference. However, malfunctions may occur if the product is used near strong electromagnetic fields such as next to a satellite dish or microwave oven.



This product complies with BF protection class safety regulations.



Help us protect the environment. Recycle the packaging, batteries, and product after you no longer need them.