

microlife®



IR210

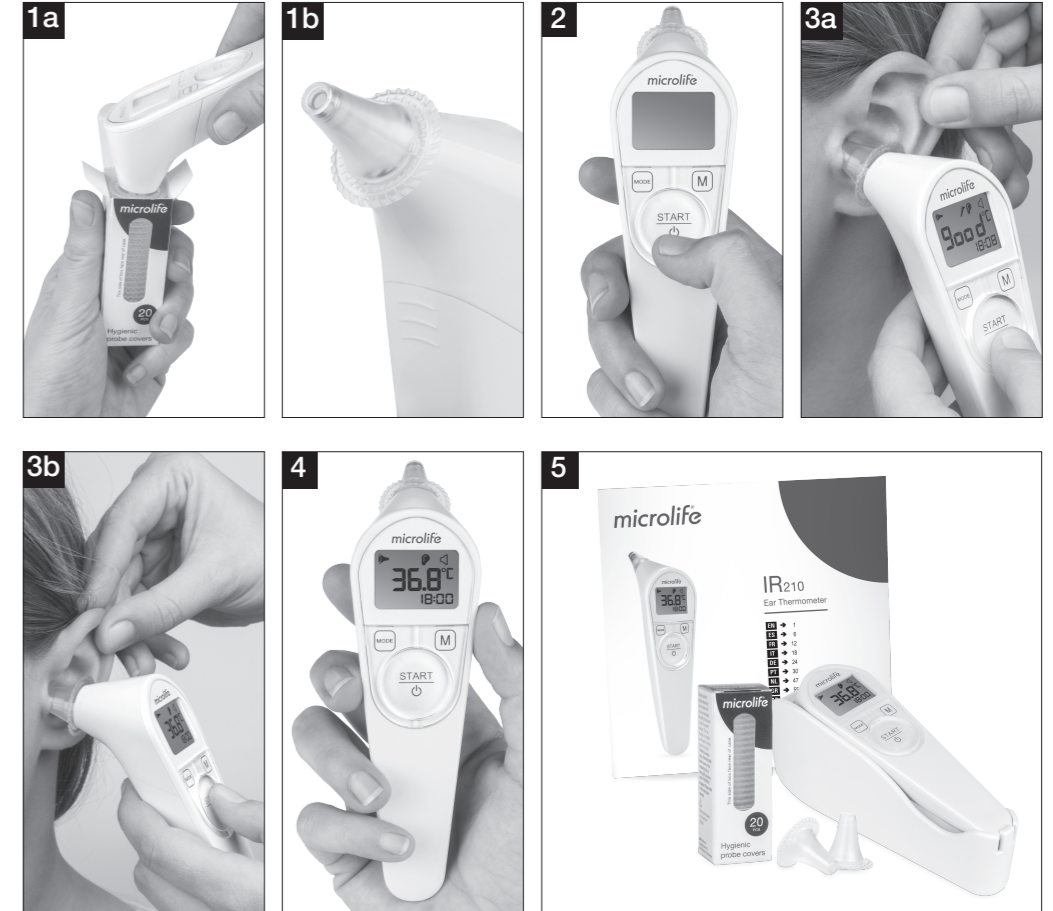
Ear Thermometer

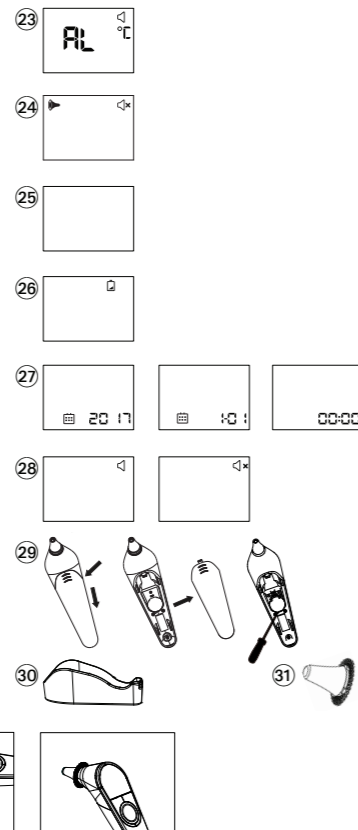
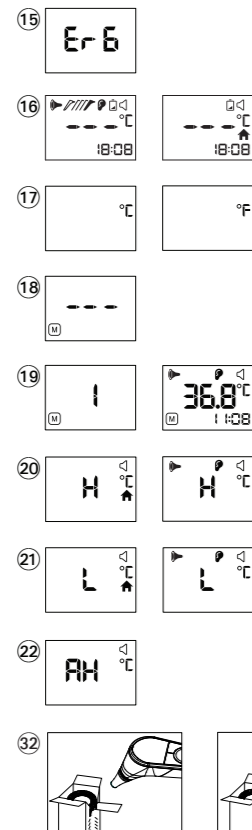
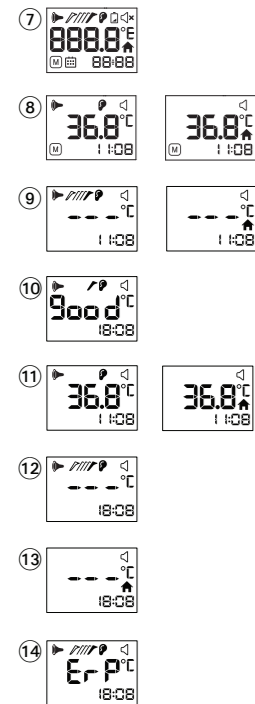
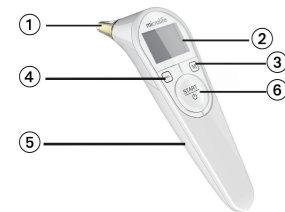
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CE0044

IB IR 210 EN 0120

Microlife IR 210







Microlife Ear Thermometer IR 210

EN

- ① Measuring sensor
- ② Display
- ③ M-button (memory)
- ④ MODE button
- ⑤ Battery compartment cover
- ⑥ START/IO button
- ⑦ All segments displayed
- ⑧ Memory
- ⑨ Ready for measuring
- ⑩ Correct position indication
- ⑪ Measurement complete
- ⑫ Body mode
- ⑬ Object mode
- ⑭ Incorrect location indication
- ⑮ Error function display
- ⑯ Low battery indicator
- ⑰ Changing between Celsius and Fahrenheit
- ⑱ Recall mode
- ⑲ Recall the last 30 readings
- ⑳ Measured temperature too high
- ㉑ Measured temperature too low
- ㉒ Ambient temperature too high
- ㉓ Ambient temperature too low
- ㉔ Remove and replace the probe cover
- ㉕ Blank display
- ㉖ Flat battery
- ㉗ Date/Time
- ㉘ Beeper function setting
- ㉙ Replacing the battery
- ㉚ Storage holder
- ㉛ Probe cover
- ㉜ How to reload a new probe cover

 Follow Instructions for Use. This document provides important product operation and safety information regarding this thermometer. Please read this document thoroughly before using the device and keep for future reference.

 Type BF applied part

This Microlife thermometer is a high quality product incorporating the latest technology and tested in accordance with international standards. With its unique technology, this device can provide a stable, heat-interference-free reading with each measurement. The device performs a self-test every time it is switched on to always guarantee the specified accuracy of any measurement. The Microlife Ear Thermometer is intended for the periodic measurement and monitoring of human body temperature. It is intended for use on people of all ages.

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

Please read through these instructions carefully in order for you to understand all functions and safety information.

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Guarantee Card (see Back Cover)

1. The Advantages of this Thermometer

Measurement in 1 second

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

Correct position indication

Patented ACCUsens Technology confirms that the thermometer is ready to take an accurate and trusted measurement with a "good" on the LED display and a beep.

Multiple uses (wide range of measurement)

This thermometer offers a wide range of measurement from 0 - 100.0 °C / 32.0 - 212.0 °F, meaning the unit can be used to measure body temperature or it also has a feature allowing it to be used to measure surface temperature of the following examples:

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

Probe cover

This thermometer is user-friendly and more hygienic with the usage of a probe cover.

Probe LED

This thermometer includes a probe LED light which enables the user to find the correct ear position in the dark.

Accurate and reliable

The unique probe assembly construction incorporates an advanced infrared sensor, ensuring 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 even be used on a sleeping child without causing any interruption.
- This thermometer is quick, therefore child-friendly.

Multiple readings recall

Users will be able to recall the last 30 readings with a record of both time and date when entering the recall mode, enabling efficient tracking of temperature variations.

Safe and hygienic

- No risk of broken glass or mercury ingestion.
- Completely safe for use on children.
- Using a new probe cover each time, ensures this thermometer is completely hygienic for use by the whole family.

Fever alarm

10 short beeps and a red LCD backlight alert the patient that he/she may have a temperature equal to or higher than 37.5 °C.

2. Important Safety Instructions

- Follow instructions for use. This document provides important product operation and safety information regarding this device. Please read this document thoroughly before using the device and keep for future reference.
- This device may only be used for the purposes described in these instructions. The manufacturer cannot be held liable for damage caused by incorrect application.
- **Never immerse this device in water or other liquids. For cleaning please follow the instructions in the «Cleaning and Disinfecting» section.**
- Do not use this device if you think it is damaged or notice anything unusual.
- Never open this device.
- Earwax in the ear canal may cause a lower temperature reading. Therefore it is important to ensure the subject's ear canal is clean.
- Only use this thermometer with a new Microlife branded and undamaged probe cover to prevent cross-infection.
- If the measurement result is not consistent with the patient's finding or unusually low, repeat the measurement every 15 minutes or double check the result by another core body temperature measurement.
- This device comprises sensitive components and must be treated with caution. Observe the storage and operating conditions described in the «Technical Specifications» section.
- Ensure that children do not use this device unsupervised; some parts are small enough to be swallowed.
- If the measurement is too low, please check if the device has been fitted a new Microlife branded and undamaged probe cover on the measuring sensor.

- Do not use this device close to strong electromagnetic fields such as mobile telephones or radio installations. Keep a minimum distance of 3.3 m from such devices when using this device.
- Protect it from:
 - extreme temperatures
 - impact and dropping
 - contamination and dust
 - direct sunlight
 - heat and cold
- If the device is not going to be used for a prolonged period the battery should be removed.



WARNING: The measurement results given by this device is not a diagnosis. It is not replacing the need for the consultation of a physician, especially if not matching the patient's symptoms. Do not rely on the measurement result only, always consider other potentially occurring symptoms and the patient's feedback. Calling a doctor or an ambulance is advised if needed.

3. How this 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) ensures the most accurate ear temperature. Measurements taken from the surrounding tissue of the ear canal generate lower readings and may result in misdiagnosis of fever.

To avoid an inaccurate measurement

1. Fit a new Microlife branded and undamaged probe cover (31) on the measuring sensor (1).
2. Switch on the thermometer by pressing the START/IO button (6).
3. 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.
4. Place the probe (1) firmly into the ear canal. «Good» will be displayed with a short beep to confirm the device has detected the correct position. Press the START/IO button (6) and keep the probe in the ear until the thermometer beeps to signal the completion of the measurement.

4. Control Displays and Symbols

- **All segments displayed (7):** Press the START/IO button (6) to turn on the unit; all segments will be shown for 1 second.
- **Ready for measurement (9):** When the unit is ready for measurement, the «°C» or «°F» icon will keep flashing. The probe LED light is activated and will keep flashing.
- **Correct position indication (10):** The probe LED light will stop flashing (stays illuminated) and «good» will be displayed on the LCD, when the measuring sensor detects an appropriate position.
- **Measurement complete (11):** The reading will be shown on the display (2) with the «°C» or «°F» icon; the unit is ready for the next measurement, when the «°C» or «°F» icon is flashing again.
- **Low battery indicator (16):** When the unit is turned on, the «battery» icon will keep flashing to remind the user to replace the battery.

5. Setting Date, Time and Beeper Functions

Setting the date and time

1. After the new battery is fitted, the year number flashes in the display (27). You can set the year by pressing the M-button (3). To confirm and then set the month, press the MODE button (4).
2. Press the M-button (3) to set the month. Press the MODE button (4) to confirm and then set the day.
3. Follow the previously mentioned instructions to set the day, hours and minutes.
4. Once you have set the minutes and pressed the START/IO button (6), the date and time are set and the time is displayed.
 - ☞ If no button is pressed for 20 seconds, the device automatically switches to ready for measuring (9).
 - ☞ **Cancel time setup:** Press the START/IO button (6) during time setup. The LCD will show Date/Time icons with «--:--». After that press the START/IO button (6) to start the measurement. If no further action is taken within 60 seconds, the device will automatically turn off.
 - ☞ **Change current date and time:** Press and hold the MODE button (4) for approx. 8 seconds until the year number starts to flash (27). Now you can enter the new values as described above.

Setting the beeper

1. Press and hold the MODE button (4) for 3 seconds to set the beeper (28).

2. Press the M-button (3) to either turn the beeper on or off. The beeper is activated when the beeper icon (28) is shown without a cross.
☞ When the beeper setting has been chosen, press the START/IO button (6) to enter the «ready for measuring» mode; otherwise the device automatically switches to ready for measuring after 10 seconds (9).

6. Changing between Body and Object Mode

1. Press the START/IO button (6). The display (2) is activated to show all segments for 1 second.
2. The default mode is body mode. Press the MODE button (4) to switch to object mode. For switching back to body mode, press the MODE button again.

7. Directions for Use

Measuring in body mode

Important: Before each measurement, fit a new undamaged probe cover (31) on the measuring sensor (1). Failure to do so will result in incorrect temperature measurements. How to correctly fit a new probe cover (32) is pictured at the beginning of this instruction.

1. Press the START/IO button (6). The display (2) is activated to show all segments for 1 second.
2. When the «°C» or «°F» icon is flashing, a beep sound is heard and the thermometer is ready for measuring (9).
3. The probe LED light is activated and will keep flashing.
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.
 - For children of 1 year to adult; pull the ear up and back.Also refer to the short instructions at the front.
5. While gently pulling the ear, insert the probe snugly into the ear canal.
6. The probe LED light will stop flashing (stays illuminated) and «good» will be displayed on the LCD, when the measuring sensor detects an appropriate position.
7. Immediately press the START/IO button when the «<<good>>» shown. Do not press the START/IO button before «<<good>>» shown, otherwise the device will show «<<ErP>>». Release the button and wait for the beep sound. This indicates the end of the measurement.
8. Remove the thermometer from the ear canal. The display shows the measured temperature (11).
9. Replace the probe cover (31) before starting a new measurement.

10. For the next measurement wait until the «°C»/«°F» icon is flashing and follow steps 3-4 above.
11. Press and hold the START/IO button (6) for 3 seconds to turn off the device; otherwise the device will automatically switch off after approx. 60 seconds.
12. Remove the probe cover after the cover icon flash three times with three beeps when auto-off.

Measuring in object mode

Important: Remove the probe cover before each measurement in object mode. Failure to do so will result in incorrect temperature measurements.

1. Press the START/IO button (6). The display (2) is activated to show all segments for 1 second.
2. Press the MODE button (4) to switch to object mode.
3. Aim the thermometer at the center of the object you want to measure with a distance of no more than 5 cm. **Press the START/IO button (6).** After 1 second a long beep will verify the completion of measurement.
4. Read the recorded temperature from the LCD display.
5. For the next measurement wait until the «°C»/«°F» icon is flashing and follow steps 3-4 above.

☞ NOTE:

- **Patients and thermometer should stay in similar room condition for at least 30 minutes.**
- **To ensure accurate readings, wait at least 30 sec. after 3-5 continuous measurements.**
- **It is essential that a new undamaged probe cover (31) is used for each measurement.** Therefore, this device reminds the user to take off the used probe cover when turning off the device. The «probe cover» icon (24) is displayed and the probe LED light will flash for 3 seconds. For cleaning, follow the instructions in the «Cleaning and Disinfecting» section.
- **After cleaning the measuring sensor (1) with alcohol, wait 5 minutes before taking the next measurement,** in order to allow the thermometer to reach its operating reference temperature.
- 10 short beeps and a red LCD backlight alert the patient that he/she may have a temperature equal to or higher than 37.5 °C.
- For an infant, it is best to have the child lying flat with his/her 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 ear to ear.

- 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. New born 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 device and obtains consistent readings.
 4. If the measurement is surprisingly low.
- Don't take a measurement while or immediately after nursing a baby.
- Don't use the thermometer in high humidity environments.
- Patients should not drink, eat or exercise before/while taking the measurement.
- Doctors recommend rectal measurement for newborn infants within the first 6 months, as all other measuring methods might lead to ambiguous results.
- **Readings from different measuring sites should not be compared as the normal body temperature varies by measuring site and time of day**, being highest in the evening and lowest about one hour before waking up.

Normal body temperature ranges:

- Axillar: 34.7 - 37.3 °C / 94.5 - 99.1 °F
- Oral: 35.5 - 37.5 °C / 95.9 - 99.5 °F
- Rectal: 36.6 - 38.0 °C / 97.9 - 100.4 °F
- Microlife IR 210: 35.4 - 37.4 °C / 95.7 - 99.3 °F

8. Changing between Celsius and Fahrenheit

This thermometer can display temperature readings in either Fahrenheit or Celsius. To switch the display between °C and °F, **press and hold** the MODE button (4) for 3 seconds; the beeper icon is shown on the display. Press the MODE button again; the current measurement scale («°C» or «°F» icon) will be shown on the display (17). Change the measurement scale between °C and °F by pressing the M-button (3). When the measurement scale has been chosen, press the START/IO button (6) to enter the «ready for measuring» mode; otherwise the device automatically switches to ready for measuring after 10 seconds (9).

9. How to recall 30 readings in Memory Mode

This thermometer can recall the last 30 readings with a record of both time and date.

- **Recall mode** (18): Press the M-button (3) to enter recall mode when the power is off. The memory icon «M» will flash.
- **Reading 1 - the last reading** (19): Press and release the M-button (3) to recall the last reading. Number «1» and a flashing «M» are displayed.

Pressing and releasing the M-button (3) after the last 30 readings have been recalled will resume the above sequence from reading 1.


10. Error Messages


- **Measured temperature too high** (20): Displays «H» when measured temperature is higher than 43 °C / 109.4 °F in body mode or 100 °C / 212 °F in object mode.
- **Measured temperature too low** (21): Displays «L» when measured temperature is lower than 32 °C / 89.6 °F in body mode or 0 °C / 32 °F in object mode.
- **Ambient temperature too high** (22): Displays «AH» when ambient temperature is higher than 40.0 °C / 104.0 °F.
- **Ambient temperature too low** (23): Display «AL» when ambient temperature is lower than 10.0 °C / 50.0 °F.
- **Incorrect location indication** (14): Display «<<Erp>>» when the probe is not correctly inserted in the ear canal. Please insert the probe as described in this manual.
- **Error function display** (15): The system has a malfunction.
- **Blank display** (25): Check if the battery has been loaded correctly. Also check polarity (<+> and <->) of the battery.
- **Flat battery indication** (26): If only the «battery» icon is shown on the display, the battery should be replaced immediately.

11. Cleaning and Disinfecting

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

12. Battery Replacement

This device is supplied with one lithium battery, type CR2032. The battery needs replacing when only the «battery» icon  is shown on the display.

Remove the battery cover  by sliding it in the direction shown. Insert the new battery with the + at the top.



Batteries and electronic devices must be disposed of in accordance with the locally applicable regulations, not with domestic waste.

13. Guarantee

This device is covered by a **2 year guarantee** from the date of purchase. The guarantee is valid only on presentation of the guarantee card completed by the dealer (see back) confirming date of purchase or the receipt.

- The guarantee covers the device. The battery and packaging are not included.
- Opening or altering the device invalidates the guarantee.
- The guarantee does not cover damage caused by improper handling, a discharged battery, accidents or non-compliance with the operating instructions.

Please contact Microlife-service.

14. Technical Specifications

Type:	Ear Thermometer IR 210
Measurement range:	Body mode: 32.0-43.0 °C / 89.6-109.4°F Object mode: 0-100.0 °C / 32-212.0 °F
Resolution:	0.1 °C / °F
Measurement accuracy (Laboratory):	Body mode: ±0.2 °C, 35.0 ~ 42.0 °C / ±0.4 °F, 95.0 ~ 107.6 °F ±0.3 °C, 32.0 ~ 34.9 °C and 42.1 ~ 43.0 °C / ±0.5 °F, 89.6 ~ 94.8 °F and 107.8 ~ 109.4 °F Object mode: ±1.0 °C, 0 ~ 100.0 °C / ±2 °F, 32.0 ~ 212 °F
Display:	Liquid Crystal Display, 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: 30 readings recall in the memory mode with a record of both time and date.

Backlight: The display light will be GREEN for 1 second, when the unit is turned ON.
The display light will be GREEN for 5 seconds, when a measurement is completed with a reading less than 37.5 °C / 99.5 °F.
The display light will be RED for 5 seconds, when a measurement is completed with a reading equal to or higher than 37.5 °C / 99.5 °F.

Operating conditions: 10 - 40 °C / 50.0 - 104 °F
15-95 % relative maximum humidity

Storage conditions: -25 - +55 °C / -13 - +131 °F

Automatic Switch-off: 15-95 % relative maximum humidity
Approx. 1 minute after last measurement has been taken.

Battery: 1 x CR2032 battery 3V

Battery lifetime: approx. 800 measurements (using a new battery)

Dimensions: 159 x 43 x 60 mm

Weight: 60 g (with battery), 58 g (w/o battery)

IP Class: IP22

Reference to standards: EN 12470-5; ASTM E1965;
IEC 60601-1; IEC 60601-1-2 (EMC); IEC 60601-1-11

Expected service life: 5 years or 12000 measurements

This device complies with the requirements of the Medical Device Directive 93/42/EEC.

Technical alterations reserved.

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

15. www.microlife.com

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