User manual The Braun ThermoScan

The Braun ThermoScan thermometer has been carefully developed for accurate, safe and fast temperature measurements in the ear. The shape of the thermometer probe prevents it from being inserted too far into the ear canal which can hurt the eardrum.

However, as with any thermometer, proper technique is critical to obtaining accurate temperatures. Therefore, read the use instructions carefully and thoroughly.

Important

- The operating ambient temperature range for this thermometer is 50–104°F (10–40°C).
- Do not expose the thermometer to temperature extremes (below –4°F / –20°C or over 122°F / 50°C) nor excessive humidity (> 95% RH).
- This thermometer must only be used with genuine Braun ThermoScan Lens Filters.
- To avoid inaccurate measurements always use this thermometer with a new, clean lens filter attached.
- If the thermometer is accidentally used without a lens filter attached, clean the lens (see «Care and cleaning»).
- Keep lens filters out of reach of children.
- This thermometer is intended for household use only
- Use of this thermometer is not intended as a substitute for consultation with your physician.

How does Braun ThermoScan work?

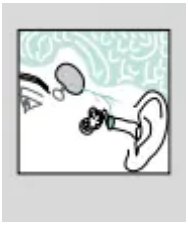
Braun ThermoScan measures the infrared heat generated by the eardrum and surrounding tissues. To help to avoid inaccurate temperature measurements, the probe tip is warmed to a temperature close to that of the human body. When the Braun ThermoScan is placed in the ear, it continuously monitors the infrared energy. The measurement is finished and the result displayed when the thermometer detects that an accurate temperature measurement has been taken

Why measure in the ear?

The goal of thermometry is to measure core body temperature1 which is the temperature of the vital organs. Ear temperatures accurately reflect core body temperature2, since the eardrum shares blood supply with the temperature control center in the brain3, the

hypothalamus. Therefore, changes in body temperature are reflected sooner in the ear than at other sites.

- Axillary temperatures measure skin temperature and therefore, may not be a reliable indicator of core body temperature.
- Oral temperatures are influenced by drinking, eating and mouth breathing.
- Rectal temperatures often lag behind changes in core body temperature and there is a risk of cross-contamination.



Body temperature

Normal body temperature is a range. The following table shows that this normal range also varies by site. Therefore, measurements from different sites should not be directly compared.

Normal ranges by site:		
Axillary[1]:	94.5 – 99.1 °F	34.7 – 37.3 °C
Oral[1]:	95.9 – 99.5 °F	35.5 – 37.5 °C
Rectal[1]:	97.9 – 100.4 °F	36.6 – 38.0 °C
ThermoScan[2]:	96.4 – 100.4 °F	35.8 – 38.0 °C

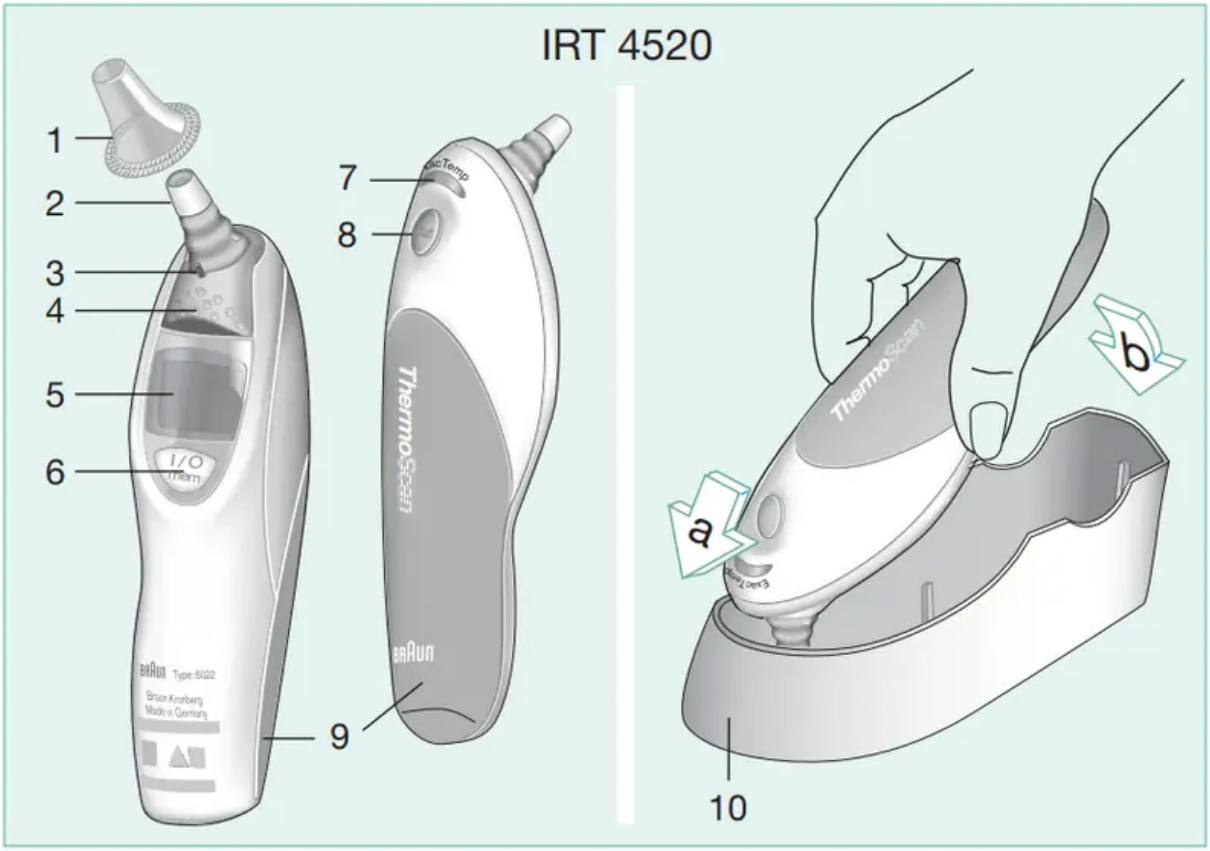
- A person's normal temperature range tends to decrease with age. The following table shows normal ThermoScan ranges by age.

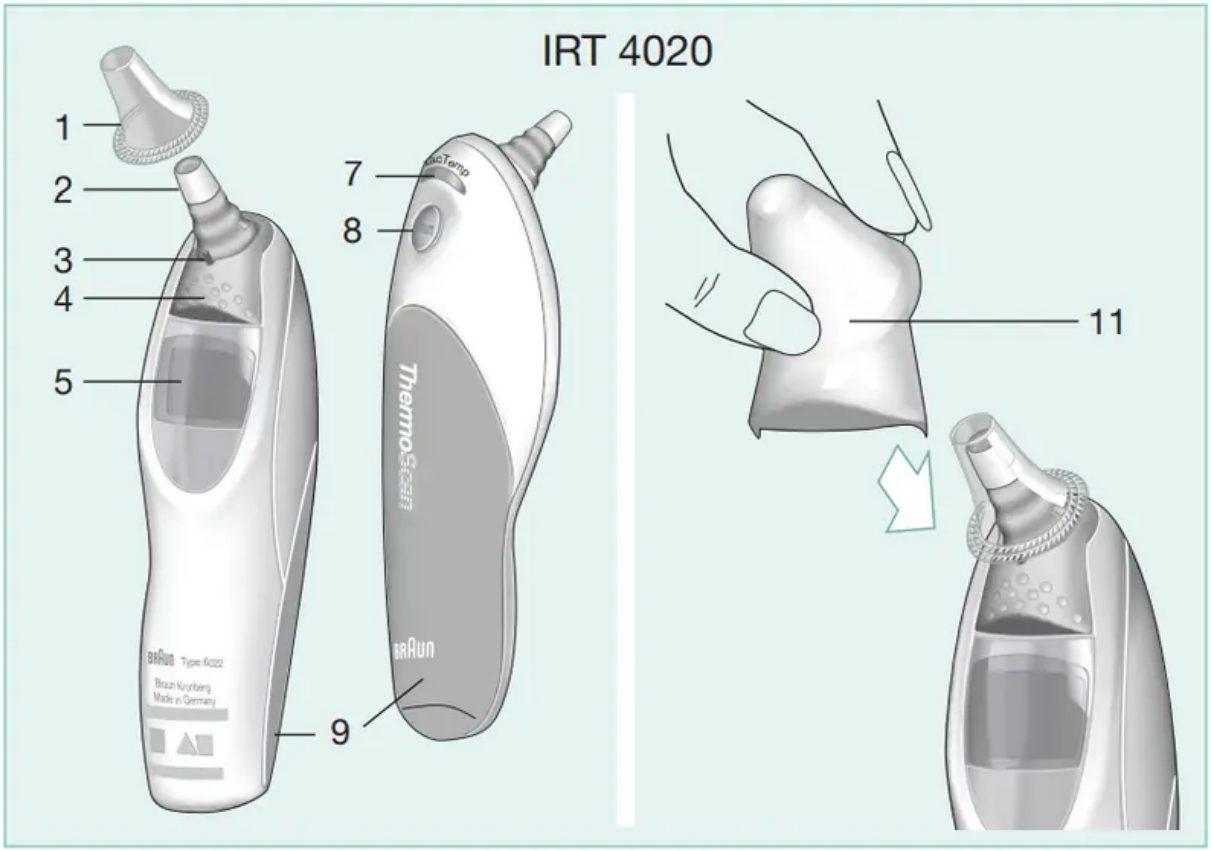
Normal ThermoScan ranges by age[2]:		
0 – 2 years	97.5 – 100.4 °F	36.4 – 38.0 °C
3 – 10 years	97.0 – 100.0 °F	36.1 – 37.8 °C
11 – 65 years	96.6 – 99.7 °F	35.9 – 37.6 °C
> 65 years	96.4 – 99.5 °F	35.8 – 37.5 °C

The range of normal also varies from person to person and fluctuates throughout the day. It is therefore important to determine normal temperature ranges. This is easily done using Braun ThermoScan. Practice taking temperatures on yourself and healthy family members to determine the normal temperature range.

Note: When consulting your physician, communicate that the ThermoScan temperature is a temperature measured in the ear and if possible, note the individual's normal ThermoScan temperature range as additional reference.

Product Description





1. Lens filter

2. Probe

3. Lens filter detector

4. Lens filter ejector

5. Display

6. «I/O» button (On/memory function – IRT 4520 only)

7. «ExacTemp» light

8. Start button

9. Battery door

10. Protective cover (IRT 4520)

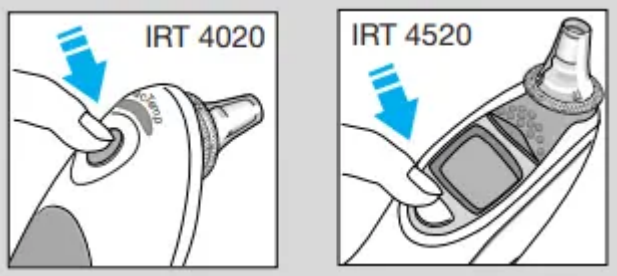
11. Protective cap (IRT 4020)

How to use your Braun ThermoScan

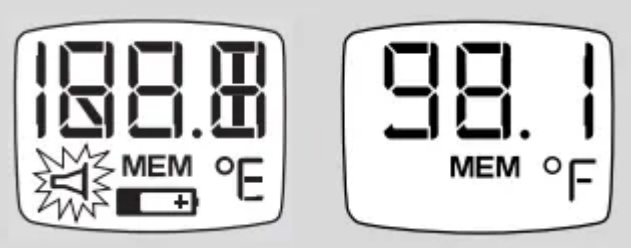
1. To achieve accurate measurements, make sure a new, clean lens filter (1) is in place before each measurement.

2. IRT 4020: Push the Start button (8).

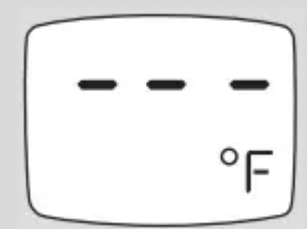
IRT 4520: Push the «I/O» button (6).



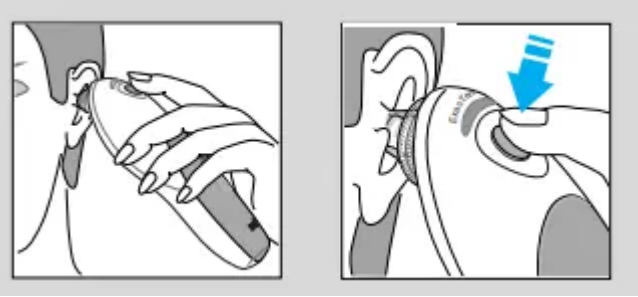
During an internal self-check, the display shows all segments. Then the last temperature taken will be displayed together with «MEM».



Wait for the ready signal beep and the ready symbol in the display.



3. Fit the probe snuggly into the ear canal, then push and release the Start button (8)



If the probe has been securely inserted into the ear canal during the complete measuring process, a long beep will signal the end of the measuring process. The thermometer detects that an accurate temperature measurement has been taken. The result is shown on the display (5).

If you take the temperature of another person, the «ExacTemp» light (7) can be of help. It flashes during the measuring process when the probe is securely positioned and lights up continuously when the thermometer detects that an accurate measurement has been taken.

4. If the probe has not been constantly placed in a stable position in the ear canal, a sequence of short beeps will sound, the «ExacTemp» light will go out and the display will show an error message («POS» = position error).

5. For the next measurement, eject the used lens filter (push ejector (4)) and put on a new, clean lens filter.

IRT 4020: Clear the display by pushing the Start button once.

IRT 4520: Clear the display by pushing the «I/O» button once.

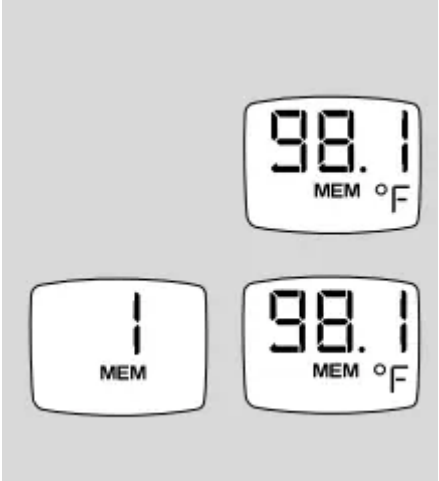
Wait for the ready signal. Fit the probe snuggly into the ear canal, then push and release the Start button.

The Braun ThermoScan ear thermometer turns off automatically after 60 seconds of inactivity. The IRT 4520 can also be turned off by pressing the «I/O» button for at least three seconds. The display will shortly flash «OFF» and after releasing the button it will go blank.

Temperature taking hints

- The right ear measurement may differ from the measurement taken in the left ear. Therefore, always take the temperature in the same ear.
- The ear must be free from obstructions or excess earwax build-up to take an accurate reading.
- External factors may influence ear temperatures, including when an individual has:
    - been lying on one ear or the other
    - had their ears covered
    - been exposed to very hot or very cold temperatures, or
    - been recently swimming or bathing. In these cases, remove the individual from the situation and wait 20 minutes prior to taking a temperature.
- Use the untreated ear if ear drops or other ear medications have been placed in the ear canal.

Memory mode



The last temperature taken is stored in its memory and will be automatically displayed when it is turned on again. The display will show «MEM».

IRT 4520: This model stores the last 8 temperature measurements. To display the stored measurement, the thermometer must be turned on. Then press the «I/O» button for at least 1 second. The display shows the memory number (e. g. MEM 1), and when releasing the «I/O» button, the stored temperature for that memory number is displayed, together with «MEM». If «I/O» button is pressed too long, the thermometer will be switched off. Each time the «I/O» button is pushed, the remaining memory numbers are displayed (up to MEM 8). MEM 1 is the most current reading, MEM 8 is the oldest. The memory mode is left automatically after displaying the oldest reading, or after pressing the «I/O» button for at least 1 second.

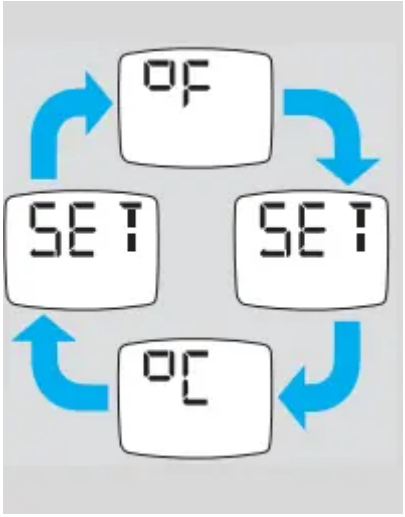
Changing the temperature scale

Your Braun ThermoScan is shipped with the Fahrenheit (°F) temperature scale activated. If you whish to switch to Celsius (°C) and/or back from Celsius to Fahrenheit, proceed as follows:

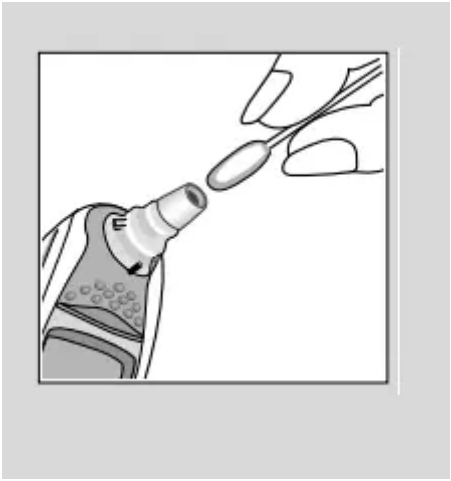
(1) Make sure the thermometer is turned off.

(2) Press and hold down the Start button (IRT 4020) or the «I/O» button (IRT 4520). After about 3 seconds the display will show this sequence: «°F» / «SET» / «°C» / «SET» ...

(3) Release the Start button / «I/O» button when the desired temperature scale is shown. There will be a short beep to confirm the new setting, then the thermometer is turned off automatically.



Care and cleaning



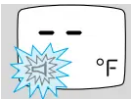
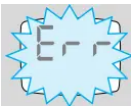
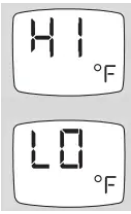
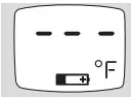
The probe tip is the most delicate part of the thermometer. It has to be clean and intact to ensure accurate readings.

If the thermometer is ever accidentally used without a lens filter, clean the probe tip as follows: Very gently wipe the surface with a cotton swab or soft cloth moistened with alcohol. After the alcohol has completely dried out, you can put a new lens filter on and take a temperature measurement. If the probe tip is damaged, contact Braun. Use a soft, dry cloth to clean the thermometer display and exterior.

Do not use abrasive cleaners. Never submerge this thermometer in water or any other liquid. Store thermometer and lens filters in a dry location free from dust and contamination and away from direct sunlight.

Additional lens filters (LF 40) are available at most stores carrying Braun ThermoScan.

Troubleshooting

Error message	Situation	Solution
	No lens filter is attached	Attach new, clean lens filter.
	The thermometer probe was not positioned securely in the ear. An accurate measurement was not possible. POS = position error	IRT 4020: Clear the display by pushing the Start button once. IRT 4520: Clear the display by pushing the «I/O» button once. Take care that the positioning of the probe is correct and remains stable.
	Ambient temperature is not within the allowed operating range (50 – 104 °F or 10 – 40 °C).	Allow the thermometer to remain for 30 minutes in a room where the temperature is between 50 and 104 °F or 10 and 40 °C .
	Temperature taken is not within typical human temperature range (93.2 – 108 °F or 34 – 42.2 °C). HI = too high LO = too low	Make sure the probe tip and lens are clean and a new, clean lens filter is attached. Make sure the thermometer is properly inserted. Then, take a new temperature.
	System error – self-check display flashes continuously and will not be followed by the ready beep and the ready symbol. If error persists, If error still persists,	Wait 1 minute until the thermometer turns off automatically, then turn on again. ... reset the thermometer by re-moving the batteries and putting them back in. … call Braun ThermoScan customer service at 1-800-327-7226
	Battery is low, but thermometer will still operate correctly.	Insert new batteries.
	Battery is too low to take correct temperature measurement.	Insert new batteries.
	Do you have any further questions?	Call Braun ThermoScan customer service

Replacing the batteries

The thermometer is supplied with two 1.5 V type AA (LR 06). For best performance, we recommend Duracell® alkaline batteries. Insert new batteries when the battery symbol appears on the display.

Open the battery compartment. Remove the batteries and replace with new batteries, making sure the poles are in the right direction. Slide battery door back until it snaps in place.

Product specifications

Displayed temperature range:

93.2 °F – 108 °F (34 °C – 42.2 °C)

Operating ambient temperature range:

50 °F – 104 °F (10 °C – 40 °C)

Display resolution: 0.1 °F or °C

Accuracy for patient temperature range

Maximum Laboratory Error 96.8 °F – 102.2 °F (36 °C – 39 °C): ± 0.4 °F (± 0.2 °C)

outside this range: ± 0.5 °F (± 0.3 °C)

Long term storage ranges

Temperature: –4 °F to 122 °F (–20 °C to 50 °C)

Humidity: 95 % non-condensing

Battery life: 2 years / 1000 measurements

Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.
