NON-CONTACT *Thermometer*

READ ALL INSTRUCTIONS BEFORE USE

INTRODUCTION

BOOTS Non-Contact Thermometer is a hand held, battery powered device that is intended to be used for the monitoring of body temperature of people of all ages. It measures the infrared energy emitted from the skin surface of the forehead so there is no need for contact with the skin. It is accurate and simple to operate and can be used in the home or by a doctor in a clinic.

Boots Non-Contact Thermometer is proven to be clinically accurate and allows you to measure body temperature without touching. This means that when your child is sick, you can take their temperature hygienically, without waking or disturbing them. It can also be used to measure the temperature of a room and other objects such as food, bath water and bottled milk.

The thermometer has an automatic shut-off feature to prolong battery life.

Signs and symbols

The following symbols appear in these instructions for use and on the device:

	Caution! Risk to the user.
	Note! Risk to the device.
	Note Note on important information.
	Observe the instructions for use
	Application part, type BF
	Disposal in accordance with the Waste Electrical and Electronic Equipment EC Directive – WEEE
CE 0483	The CE labelling certifies that the product complies with the essential requirements of Directive 93/42/EEC on medical devices.
	Manufacturer
Storage	Permissible storage temperature and humidity
Operating	Permissible operating temperature and humidity
	Keep dry
SN	Serial number
	Important information/tip
▷	Cross-reference to another section.

1. Safety notes

1.1 Risks to the user

- Only use the device once you have read and understood these instructions for use.
- Retain these instructions for use. The instructions for use must be accessible to all users. All instructions must be followed.
- The thermometer needs to be in the room in which the measurement is taken for at least 30 minutes before use.
- The Boots Non-Contact Thermometer is only designed for the measuring area on the human body stated in the instructions for use.
- The device is only intended for the purpose stated in these instructions for use.
- Children must not be allowed to use the device. Medical products are not toys.
- Check before each use that the lens is intact. If it is damaged, please contact your local Boots store.
- The device has been designed for practical use, but is not a substitute for a visit to the doctor.
- Temperature is not the only indication of illness. If you feel unwell, whether or not you have a high temperature, seek medical advice.
- Should you have any questions about using the device, please contact your local Boots store.

1.2 Risks to the device

- Do not subject the device to mechanical impacts.
- Do not expose the device to direct sunlight.
- Do not expose the device to liquids. The device is not waterproof. Avoid all direct contact with water or other liquids.
- Have the device repaired by authorised service centres only, otherwise its warranty is invalidated.
- Portable and mobile HF communication systems may interfere with this device. More details can be requested from the stated Customer Service address or found at the end of the instructions for use.

2. Information about this thermometer

The temperature measurement varies depending on the part of the body where the measurement is taken. In a healthy person, the variance can be between 0.2 °C and 1 °C (0.4 °F and 1.8 °F) in different parts of the body.

Normal temperature range with various thermometers

	Measurements	*Thermometer used*
Forehead temperature	35.8 °C to 37.6 °C (96.4 °F to 99.7 °F)	Forehead thermometer
Ear temperature	36.0 °C to 37.8 °C (96.8 °F to 100.0 °F)	Ear thermometer
Oral temperature	36.0 °C to 37.4 °C (96.8 °F to 99.3 °F)	Conventional thermometer
Rectal temperature	36.3 °C to 37.8 °C (97.3 °F to 100.0 °F)	Conventional thermometer

Notes
- Temperatures measured with different thermometers should never be compared with one another.
- Tell your doctor what type of thermometer you used to take your temperature and on what part of the body. Also bear this in mind if you are diagnosing yourself.

Holding the thermometer for too long in the hand before taking a measurement can cause the device to warm up. This means the measurement could be incorrect.

Influences on body temperature

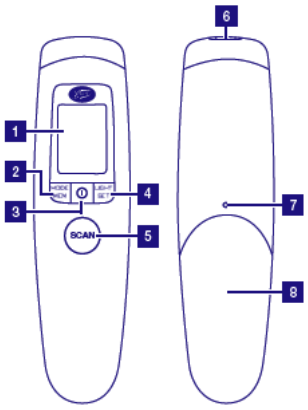
Body temperature is the measure of the body's ability to generate and get rid of heat. Even with large temperature variations in the environment, the body is able to control its temperature within a narrow range. Many factors can influence body temperatures and include:

- A person's individual metabolism
- Age (*Body temperature is higher in babies and toddlers than in adults. Greater temperature fluctuations occur faster and more often in children. Normal body temperature decreases with age.)*
- Clothing
- Outside temperature
- Time of day (*Body temperature is lower in the morning and increases throughout the day towards evening.)*
- Activities (*Physical and, to a lesser extent, mental activities increase body temperature.)*
- Illness (*A raised temperature is used by the body to fight illness.)*

Notes
Taking the body temperature provides a current measurement of a person's temperature. If you are uncertain about interpreting the results or if the values are abnormal (e.g. fever), please consult your doctor. This also applies in the case of slight temperature changes if there are other symptoms of illness such as agitation, severe sweating, flushed skin, fast pulse rate, tendency to collapse, etc.

3. Unit description

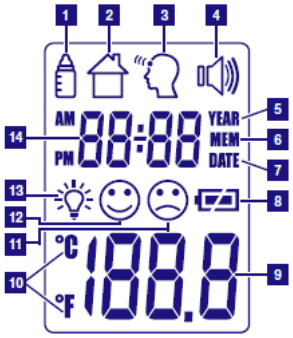
1 Display
2 **MODE/MEM** button
3 On/Off button ⏻
4 **LIGHT/SET** button
5 **SCAN** button
6 Measuring sensor
7 Battery compartment lock
8 Battery compartment lid



Buttons	Functions
⏻	Turns the device on and off.
SCAN	Starts the temperature measurement.
MODE/MEM	**MODE** Sets the measurement mode. **MEM** Displays stored measurements.
LIGHT/SET	**LIGHT** Manual switch on of the illuminated display. **SET** Sets the basic functions.

3.1 Display description

1 Object temperature mode
2 Room temperature mode
3 Forehead temperature mode
4 Acoustic signal symbol
5 Year
6 Memory function
7 Date
8 Battery level
9 Temperature/memory space number display
10 Celsius/Fahrenheit measurement unit
11 Measurement ≥ 38.0°C (≥100.4°F) "fever"
12 Measurement < 38.0°C (<100.4°F) "no fever"
13 Illuminated display symbol
14 Year/date/time display



4. Initial use

If provided, pull out the battery insulating strip at the battery compartment or remove the protective film from the battery and insert the battery with the correct polarity.
▷ 9. Batteries
After a brief self-test the thermometer is ready for forehead measurement. The default acoustic signal setting is OFF.

5. Switching on and setting the thermometer

Briefly press the On/Off button ⏻.
After a brief self-test the thermometer is ready for forehead measurement.
The device always starts up in forehead temperature mode.

5.1 Setting the basic functions

This menu allows you to set the following functions individually, one after another.

Time format → Date → Time → Temperature meas. unit → Acoustic signal → Illuminated display

Time format

- With the thermometer switched on, press and hold the **LIGHT/SET** button for 5 seconds.

The time format option flashes on the display (fig. 1).

- Use the **MODE/MEM** button to set your preferred time format and confirm with the **LIGHT/SET** button.

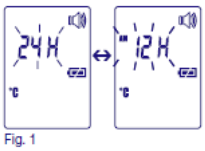


Fig. 1

Date

The year flashes in the display (fig. 2).

- Use the **MODE/MEM** button to set the year and confirm with the **LIGHT/SET** button.

Day/month flashes in the display (fig. 3).

- Use the **MODE/MEM** button to set the day and month, and confirm with the **LIGHT/SET** button.

ⓘ *In the 24h format, the date is displayed as day/month. In the 12h format, it is displayed as month/day.*

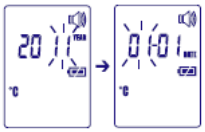


Fig. 2 Fig. 3

Time

The time flashes in the display (fig. 4).

- Use the **MODE/MEM** button to set the time and confirm with the **LIGHT/SET** button.

ⓘ *In the 12h format, the time is displayed as AM/PM.*

Fig. 4

Temperature meas. unit

The temperature measurement unit flashes in the display (fig. 5).
You can set the device to display the temperature in degrees Celsius (°C) or degrees Fahrenheit (°F).

- To display the temperature in Celsius, select **°C** using the **MODE/MEM** button and confirm with the **LIGHT/SET** button.
- To display the temperature in Fahrenheit, select **°F** using the **MODE/MEM** button and confirm with the **LIGHT/SET** button.

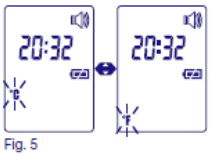


Fig. 5

Acoustic signal

The acoustic signal symbol flashes in the display (fig. 6).
You can activate/deactivate the acoustic signals (device activation, measurement in progress, measurement completion). The default setting is OFF.

- To activate the acoustic signals, select ON using the **MODE/MEM** button and confirm with the **LIGHT/SET** button.
- To deactivate the acoustic signals, select OFF using the **MODE/MEM** button and confirm with the **LIGHT/SET** button.

Fig. 6

Illuminated display

The light symbol flashes in the display (fig. 7).
You can activate or deactivate the automatic illuminated display (appears following forehead temperature measurement).

- To activate the automatic illuminated display, select ON using the **MODE/MEM** button and confirm with the **LIGHT/SET** button.
- To deactivate the automatic illuminated display, select OFF using the **MODE/MEM** button and confirm with the **LIGHT/SET** button.

Fig. 7

You can also activate the illuminated display manually by briefly pressing the **LIGHT/SET** button.
The display lights up for 5 seconds.

ⓘ The automatic and manual illuminated display cannot be used while measurement is in progress.

6. Forehead measurement

Before taking a measurement please:
1) Make sure the thermometer has been in the room in which it is to be used for at least 30 minutes.
2) Check that the lens is clean and undamaged.
3) The battery indicator shows the battery has some charge.
4) Avoid holding the thermometer for longer than the time taken to take a measurement.

Notes
Remember that

- physical activity, increased perspiration on the forehead, taking vasoconstrictive medication and skin irritations can distort the result,
- the forehead, or the temples, must be free from perspiration and cosmetics.

Briefly press the On/Off button ⏻.
After a brief self-test the device is ready for forehead temperature measurement. The device is in forehead temperature mode. This is indicated by the symbol.

1. Hold the thermometer 2 to 3 cm from the measuring point. Press the **SCAN** button and move the thermometer from side to side over the forehead area (fig. 8). Measuring greater than 5cm from the forehead will provide inaccurate results.
During measurement you will hear short beeps (only if the acoustic signal is activated), which signal that the thermometer has found a new highest measurement.
End of measurement is signalled by a long beep.


Fig. 8

2. Release the **SCAN** button. The measuring time is usually 2 seconds but may take up to 30 seconds.
3. You can now read the measured value.

In addition to the temperature, the fever ☹ or no fever ☺ symbols also appear in the display:
The no fever symbol ☺ indicates that the body temperature is within normal range; the fever symbol ☹ indicates a measurement equal to or higher than 38°C (100.4°F).
If the acoustic signal is switched on, three beeps will sound once the measurement is complete if the temperature is equal to or higher than 38°C (100.4 °F).
When the forehead symbol stops flashing, the device is ready to take another measurement.
The measurement is automatically saved with the date/time and the "fever" ☹ / "no fever" ☺ classification.

6.1 Displaying saved measurements

The device only stores measurements in forehead temperature mode. The device automatically stores the values from the last 60 measurements. When 60 storage places are exceeded the oldest value is deleted.

The memory can be called up as follows:

- With the thermometer switched on, press and hold the **MODE/MEM** button for 5 seconds.
The most recent measurement is displayed.

- *With each subsequent pressing of the* **MODE/MEM** *button, first the storage space number is displayed followed by the measurement upon release.*
- *In the upper line, the time and date are displayed alternately.*

7. Measuring object temperature / room temperature

Object temperature mode

If you want to measure an object temperature with this thermometer, switch to object temperature mode.

- With the thermometer switched on, briefly press the **MODE/MEM** button.
  The device switches to the object temperature mode.
- Hold the thermometer 2 to 3 cm from the measuring point. Briefly press the **SCAN** button and read the temperature in the display (fig. 9). Measuring greater than 5cm from the object will provide inaccurate results.

Fig. 9

Measurements taken in object temperature mode are not stored.

Room temperature mode

If you want to use the thermometer to measure the room temperature you need to switch to room temperature mode.

- With the thermometer switched on, briefly press the **MODE/MEM** button twice.
  The device switches to the room temperature mode.
- *The room temperature is immediately displayed (fig. 10).*

Fig. 10

Measurements taken in room temperature mode are not stored.

8. Error messages

Error message	Problem	Solution
Er1	Measurement during self-test, device not yet ready for measurement.	Wait until the forehead symbol stops flashing.
Er3	Room temperature below 10 °C or over 40 °C (<50 °F, >104 °F).	Room temperature must be between 10 °C and 40 °C (<50 °F, >104 °F).
Hi	(1) Forehead temperature mode: The temperature recorded is higher than 42.2 °C (108 °F). (2) Object temperature mode: The temperature recorded is higher than 80 °C (176 °F).	Operate the thermometer only between the specified temperature ranges. In the event of a repeated error message, contact your retailer or Customer Services.
Lo	(1) Forehead temperature mode: The temperature recorded is lower than 34 °C (93.2 °F). (2) Object temperature mode: The temperature recorded is lower than -22 °C (-7.6 °F).	Operate the thermometer only between the specified temperature ranges. In the event of a repeated error message, contact your retailer or Customer Services.
	The batteries are empty.	Replace the batteries.

9. Batteries

The device requires two AAA (LR03) batteries.

- Open the battery compartment.
  Use a pointed object to press down on the battery compartment lock and at the same time slide the battery compartment downwards.

- Take the used batteries out of the battery compartment.
- Insert new batteries.
  Make sure that the batteries are inserted the right way round.
- Close the battery compartment.

Used batteries should not be disposed of in normal household waste. You are legally required to dispose of the batteries. Dispose of them via your local Boots store or your local recycling point.
Note: The codes below are printed on batteries containing harmful substances: Pb = battery contains lead, Cd = battery contains cadmium, Hg = battery contains mercury. The batteries in this device do not contain any pollutants.

10. Cleaning the device

⚠
- The measuring sensor is the most sensitive part of the thermometer. Take great care of the measuring sensor when cleaning the device.
- Do not use any harsh cleaning products.
- Always observe all safety notes for user and device.
  Safety notes ▷ Page 19.

Clean the measuring sensor after each use. Use a clean cloth or cotton bud that can be moistened with disinfectant or 70 % alcohol.
To clean the entire device, please use a soft cloth slightly moistened with a mild soapy solution. Under no circumstances may liquid enter the device.
Do not use the device again until it is completely dry.

11. ⚠ Storing the device

The device must not be stored or used at an excessively high or low temperature or humidity (see technical specifications), in sunlight, in association with an electrical current or in dusty locations. Otherwise inaccuracies can occur.
If prolonged storage is planned, you should remove the batteries.

12. Disposing of the device

Please dispose of the device in accordance with EC Directive – WEEE (Waste Electrical and Electronic Equipment).
If you have any queries, please contact the appropriate local authorities.

13. Technical Data

If the device is used other than in accordance with the specifications, perfect functioning cannot be guaranteed!
The accuracy of this thermometer has been carefully checked and developed with regard to a long useful life.
If using the device for commercial medical purposes, it must be regularly tested for accuracy by appropriate means. Precise instructions for checking accuracy may be requested from the service address.
We reserve the right to make technical changes to improve and develop the product.

Measurement method	Non-contact infrared measurement
Type	FT90/1
Basic functions	Forehead temperature measurement Object temperature measurement Room temperature measurement
Measurement units	Celsius (°C) and Fahrenheit (°F)
Operating conditions	10 °C to 40 °C (50 °F to 104 °F) with a relative humidity of ≤ 95 %
Storage conditions	-20 °C to 50 °C (-4 °F to 122 °F) with a relative humidity of ≤ 85 %
Measurement distance	2 to 3 cm from the measuring point. Measuring greater than 5 cm from the measuring point will provide inaccurate results.

Measurement range and accuracy of forehead temperature measurement	Forehead temperature measurement 34 °C to 42.2 °C (93.2 °F to 108 °F) Measurement accuracy 36 °C to 39 °C: ±0.2 °C (96.8 °F to 102 °F: ±0.4 °F) In the remaining measurement range ±0.3 °C (±0.5 °F)
Clinical repeat precision	0.23 °C (0.41 °F)
Measurement range and accuracy Object temperature measurement	Object temperature measurement -22 °C to 80 °C (-7.6 °F to 176 °F) Measurement accuracy ±4% or ±2 °C (±4 °F)
Memory function (forehead only)	Automatically stores the last 60 measurements.
Acoustic signal	Default setting is OFF. This can be set within the thermometer (with device activation, during measurement, when measurement is complete). See basic settings section.
Display	LCD display
Energy saving functions	Device automatically switches off after 1 minute.
Dimensions Width x depth x height	approx. 47.6 mm x 29.0 mm x 188.0 mm
Weight	82 g (without batteries)
2 x AAA (LR03) batteries	Batteries last for approx. 3000 measurements Activated functions such as acoustic signal or illuminated display also reduce the battery life.

14. Guidelines

This device complies with the EU Directive 93/42/EC concerning medical products, the Medical Devices Act, the ASTM E 1965 - 98 and the European Standard EN60601-1-2 and is subject to particular precautions with regard to electromagnetic compatibility.

15. Included in the carton

- Boots Non-contact Thermometer
- 2 x AAA (LR03) batteries
- Storage case
- Instructions for use

Beurer GmbH
Söflinger Str. 218
89077 ULM
Germany

Text revised 04/18
Distributed by:
The Boots Company PLC
1 Thane Road
Nottingham England NG2 3AA

www.boots.com

CE 0483

16. Electromagnetic Compatibility Information

The Boots Non-Contact Thermometer model number is FT 90.

Table 1
For all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacturer's declaration – electromagnetic emissions		
The FT 90 is intended for use in the electromagnetic environment specified below. The customer or the user of the FT 90 should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	The FT 90 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The FT 90 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Not applicable	

Table 2
For all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacturer's declaration – electromagnetic immunity			
The FT 90 is intended for use in the electromagnetic environment specified below. The customer or the user of the FT 90 should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	Not applicable	Portable and mobile RF communications equipment should be used no closer to any part of the FT 90, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$ $d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the compliance level in each frequency range b. Interference may occur in the vicinity of equipment marked with the following symbol:
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies. **NOTE 2** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the FT 90 is used exceeds the applicable RF compliance level above, the FT 90 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the FT 90. b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Table 3
For ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Guidance and manufacturer's declaration – electromagnetic immunity			
The FT 90 is intended for use in the electromagnetic environment specified below. The customer or the user of the FT 90 should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	6 kV contact 8 kV air	6 kV contact 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/ burst IEC 61000-4-4	2 kV for power supply lines 1 kV for input/output lines	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	1 kV line(s) to line(s) 2 kV line(s) to earth	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % UT (> 95 % dip in UT) for 0.5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles < 5 % UT (> 95 % dip in UT) for 5 sec	Not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of the FT 90 requires continued operation during power mains interruptions, it is recommended that the FT 90 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE UT is the a.c. mains voltage prior to application of the test level.			

Table 4
For ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the FT90			
The FT 90 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the FT 90 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the FT 90 as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. **NOTE 1** At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. **NOTE 2** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

795.99_FT90_2018-06-19_02_IM_Boots Subject to errors and changes