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IMPORTANT: KEEP FOR FUTURE REFERENCE

In this Box

The packaging box your thermometer came in should have contained:

- 1 x Digital Thermometer
- 2 x AAA batteries
- 1 x User Manual

If any parts were missing please contact Brother Max directly.
Our contact details can be found at the end of this manual.

Important

1. Before using your thermometer, you should read this manual thoroughly so that you understand all instructions and follow all warnings.
2. This manual is provided for information purposes only.
3. The product is not meant to be a substitute for the advice provided by your own physician or other medical professional. You should not use the information contained herein, or from this product's temperature readings, for diagnosing or treating a health problem or disease, or prescribing any medication. If you have or suspect that you have a medical problem, promptly contact your healthcare provider.
4. For specific information about your own body temperature, including what measurement is considered normal for you, **CONSULT YOUR PHYSICIAN.**
5. Before doing so - and only if you have done so before the condition you are consulting a physician about has commenced - it is likely to help your physician if you have completed the measuring exercise described in the 'Your Family Members' Normal Temperature Range' section of this manual on page 15.

Introduction

This thermometer takes the temperature of the Body (Forehead) and Ambient (Room) quickly and accurately.

Body temperature is measured using the heat generated at the surface of the forehead.

Our thermometer has been developed for optimum comfort, ease and speed of use and utilises digital, infrared technology to ensure accuracy.

In this manual, 'ambient' refers to both inside and outside temperature. However, because this product is more commonly used inside than outside, the packaging and manual only refer to ambient mode as 'room'.

This device has the following advantages:

1. **Non-Contact**
By placing the probe (ideally) 2-5cm from the forehead, the patient does not have to be disturbed
2. **Fast and accurate**
Accurate digital reading to 0.2° in just 1 second
3. **Multi-temperature reading**
Digitally measures forehead and room temperature
4. **Easy to use**
Simple function per button, with clear symbols and traffic-light colour changing temperature range indicator
5. **Hygienic and economical**
Just wipe clean, no need for probe covers
6. **Day or night**
Back-lit for easy reading
7. **Last Reading Storage**
The device stores the previous 19 readings taken to refer back to

Frequently Asked Questions

“Why might I be getting an inaccurate Forehead temperature reading?”

- The most common causes are:
 1. The probe not being clean; earwax, perspiration, cosmetics, oil, dust or any other dirt will affect accuracy.
 2. Environmental factors such as exposure to heat or cold. For example, sitting next to a hot radiator or cold air conditioning unit will directly affect forehead temperature, and even result in the temperature on one side of the head being different to the other.
 3. Incorrect setting between Forehead and Ambient modes i.e. taking Forehead temperature when the thermometer is set to Ambient mode.
 4. Not allowing 30 minutes to elapse:
 - Before taking Forehead temperature when coming indoors from the cold or hot.
 - If a coldpack or hotpack have been used on the head.
 - If the thermometer has been stored in a significantly cooler or warmer environment.
 - Comparing a reading from another thermometer that is calibrated to a different range or format.

“Why can I get different measurements from one forehead reading to the next?”

- Every time you place the probe on your forehead, it is likely to be in a different part of your head. Since forehead temperature is affected by environmental factors such as exposure to heat or cold, placing the probe on a different part of your forehead can result in different temperatures especially if, for example, you are sitting next to a hot radiator or cold air conditioning unit.
- Forehead temperature is also affected by proximity to blood veins, as an area which has more veins close to the skin will be warmer than an area that has bone under the skin.

“Why might I be getting an inaccurate Ambient temperature reading?”

- The most common cause of inaccurate Ambient readings is incorrect setting between Ambient and Forehead modes i.e. taking ambient temperature when the thermometer is set to Forehead mode.

“How do I clean wax and other dirt off the thermometer probe?”

- Clean the probe by very gently wiping it with, ideally, a cotton swab moistened with alcohol or a very soft cloth moistened with alcohol. Alternatively a dry cotton swab can be used, or a baby wipe so long as it is very soft and its water content is not so high that it is dripping wet.
- Never use an abrasive cloth as it will damage the probe.
- Always allow the alcohol (or moisture) to completely dry out before taking temperature after cleaning.

“Is it best to measure temperature in the Ear or Forehead?”

- Readings from the ear are always best as you need an internal reading to get the all-important core body temperature which measuring the eardrum gives you as it shares blood supply with the temperature control centre in the brain¹.
- However many children and adults don't want to have a probe put in their ear, either because they just feel uncomfortable with it, or maybe because they are ill and their ear hurts, so forehead readings provide a convenient alternative.

¹ Netter H F, *Atlas of Human Anatomy*, Novartis Medical Education, East Hanover, NJ, 1997

“What is the difference between readings from different parts of the body?”

- Normal body temperature is a range that, as the following table shows, varies by site ²:

Axillary ² :	Oral ² :	Rectal ² :
94.5 - 99.1 °F 34.7 - 37.3 °C	95.9 - 99.5 °F 35.5 - 37.5 °C	97.9 - 100.4 °F 36.6 - 38.0 °C

² Chamberlain, J.M., Terndrup, T.E., *New Light on Ear Thermometer Readings, Contemporary Paediatrics, March 1994.*

- Medical research has not yet determined a definitive correlation between forehead, oral, rectal, ear, and armpit temperature measurements, which is unsurprising given how different sites can be so effected by external factors. Many medical practitioners advise that measurements from different sites should not be directly compared, however some medical practitioners advise the following correlation of temperature results based on an average normal oral temperature of 98.6°F³:

Armpit temperature ³ :	Oral temperature ³ :	Rectal temperature ³ :	Ear temperature ³ :
0.5°F (0.3°C) to 1.0°F (0.6°C) lower than Oral temperature.	0.5°F (0.3°C) to 1.0°F (0.6°C) lower than Rectal or Ear temperature	0.5°F (0.3°C) to 1.0°F (0.6°C) higher than Oral temperature.	0.5°F (0.3°C) to 1.0°F (0.6°C) higher than Oral temperature.

³ Jan Nissl, RN, BS, *Rectal, Ear, Oral, And Axillary Temperature Comparison, Everyday Health, Inc, April 2007*

- Note: When consulting your physician or other medical professional, advise them that you have measured your forehead temperature and if possible, the individual’s normal forehead temperature range (see pg.16).

“Should the Screen light up when the thermometer is in use?”

- Yes, the screen does light up when the thermometer is in use. The screen’s light automatically turns itself on every time a measurement is taken, and automatically turns itself off after 10 seconds (to conserve the batteries).
- Please note that the back-light is barely visible in bright daylight.

“Why are the digits sometimes only partly visible when I first switch the Thermometer on?”

- As the Screen is an LCD (liquid crystal display), the liquid crystals sometimes need to re-set themselves during the first 10-20 seconds of power running through the screen. So long as all digits and icons are visible within 20 seconds, and remain visible when on, this is not a fault.

“What do the different definitions of temperature taking sites mean?”

- Forehead = temple or forehead temperature
- Tympanic = ear temperature
- Oral = mouth temperature
- Ear = ear canal temperature
- Axillary = armpit temperature
- Rectal = anus temperature

A Bit about Body Temperature

Body temperature refers to the internal temperature of the body (also known as core temperature). 'Normal' body temperature depends on when, where and in whom it is measured. Body temperature fluctuates in any given 24-hour cycle. It tends to be lowest in the early morning and highest in the late afternoon. Body temperature also varies from one body part to another, as well as amongst different ages, especially under 6 months and over 65 years of age. Body temperature may also increase as a result of overdressing or strenuous exercise, especially during hot weather.

Incorrect temperature taking may cause false alarm. There are many things that can affect your body temperature like extreme activity, ovulation, pregnancy, smoking and so on.

The following temperature ranges are considered normal:

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

Information from "Determination of Normal Ear Temperature with an Infrared Emission Detection Thermometer" by Chamberlain, J.M., MD, and Terndrup, T.E., MD, published in the Annals of Emergency Medicine, January 1995

Note: Do not self-diagnose. The use of any thermometer is not intended as a substitute for consultation with a physician.

If the temperature of a child under 6 months old reaches 40.0°C / 104.0°F or more, consult a doctor immediately. Please note that, as the patient becomes older, this 40.0°C / 104.0°F ceiling actually falls e.g. a 2 year old may need to consult a doctor immediately if their temperature reaches 39.0°C / 102.2°F.

CAUTION: High prolonged fever always requires medical attention, especially for young children.

Ensuring Safe, Accurate Measurements

Do not touch the probe and keep it free from perspiration, cosmetics, oil, hair, dust or any other foreign body as they will affect the accuracy of temperature measurement.

Clean the probe by very gently wiping it with, ideally, a cotton swab moistened with alcohol or a very soft cloth moistened with alcohol. Alternatively a dry cotton swab can be used. Never use an abrasive cloth as it will damage the probe. Always allow the alcohol (or moisture) to completely dry out before taking temperature after cleaning.

If there any signs of damage to the lens then please stop using and get in touch with us (contact details on page 16)

The thermometer is not waterproof so do not place any part of it near liquid.

Note: Never immerse thermometer in liquids.

Do not expose the thermometer to extreme high or low temperatures for prolonged periods, such as in a particularly hot or cold vehicle or in direct sunlight.

When taking ambient temperature, please wait 20 minutes before taking temperature for the probe to acclimatise when moving from one room to another, and 30 minutes when moving from indoors to outdoors (or vice versa).

Measuring body temperature within 30 minutes of eating, exercising or bathing can give an inaccurate temperature measurement.

When taking forehead temperature, please wait 30 minutes before taking temperature to allow body temperature to adjust when coming indoors from the cold or hot, or if a coldpack or hotpack have been used.

In either mode, wait 30 minutes before taking temperature if the thermometer has been stored in a significantly cooler or warmer environment.

When repeatedly taking forehead temperature, take average reading as small deviations may naturally occur.

If and when informing a medical practitioner of your temperature, ensure you inform them that you measured forehead and, ideally, what your normal temperature range is. For help in gaining a more accurate indication of your own body's normal temperature range, please refer to the 'Your Family Members' Normal Temperature Range' section of this manual.

Specific Notes for Measuring Forehead Temperature

In forehead mode, it is not uncommon for variances in temperature between different parts of the forehead. This is because forehead temperature is affected by:

- 1.** Proximity of the temperature probe to blood veins, since an area which has more veins close to the skin will be warmer than an area that has bone under the skin.
- 2.** To achieve an accurate reading we suggest aiming the probe at the forehead.
- 3.** Environmental factors such as exposure to heat or cold.
For example, sitting next to a hot radiator or cold air conditioning unit will directly affect forehead temperature, and can even result in the temperature on one side of the head being different to the other.

Use of this thermometer is not intended as a substitute for consultation with your physician. It is dangerous for any user to self-diagnose and/or self-treat, even based on the results from this or any thermometer.

General Warnings

Keep the thermometer out of children's reach.

Immediately consult a doctor if your child accidentally swallows a battery.

Avoid knocking, shaking, dropping or stepping on the thermometer. In such an event, carefully inspect the device for signs of damage and immediately return to Brother Max for repair if you suspect any faults.

Do not use a mobile or cordless phone near the thermometer.

Do not disassemble, repair or modify the thermometer.

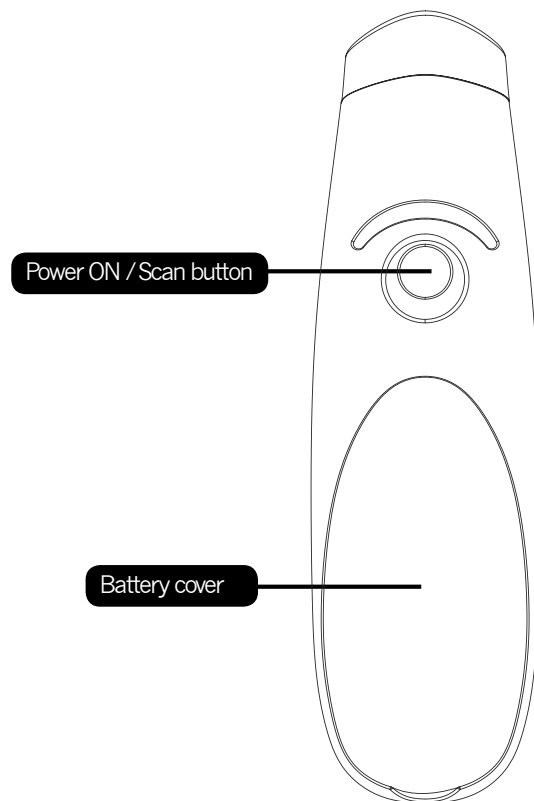
Do not use this thermometer other than for intended use.

Do not immerse the thermometer in water or any other liquid.

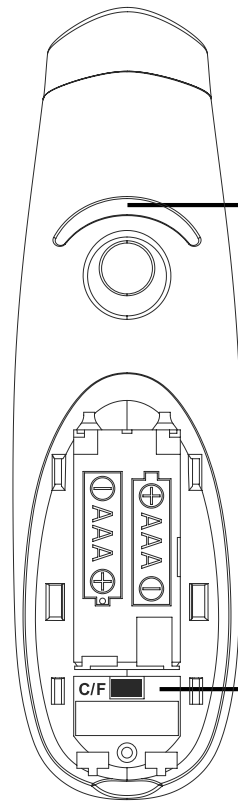
Do not expose the thermometer to direct sunlight.

Store in a clean dry place. Storage limits -20°C to 55°C with 95% maximum humidity.

Key to Functions & Screen Display



Key to Functions & Screen Display - Continued

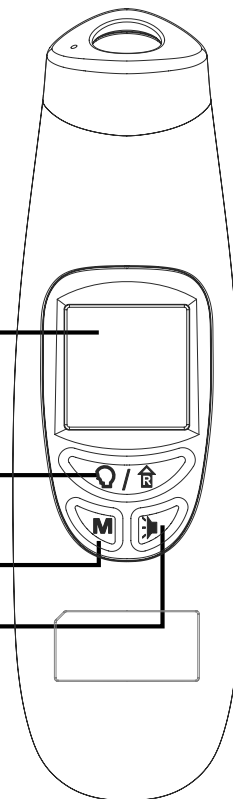


Temperature Range Indicator –
Green / Orange / Red

Green = Normal* temperature range
Orange = Raised* temperature range
Red = High* temperature range

Note: Since the above temperature ranges are averages, refer to page 5 for normal temperature ranges by age

Celsius/Fahrenheit button



Screen Display

Function mode button –
• Forehead (Body)
• Ambient (Room)

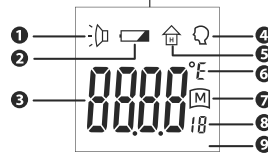
Memory function button

Sound ON/OFF button

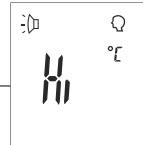
Screen Display

Displays for 1 second when thermometer is turned on

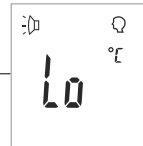
1. Sound
2. Battery level
3. Temperature
4. Forehead (Body) temperature mode
5. Ambient (Room) temperature mode
6. °Celsius / °Fahrenheit
7. Memory function
8. Memory number
9. Backlight (green)



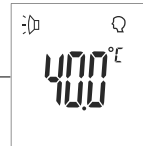
In forehead mode -
Temperature is above
maximum range



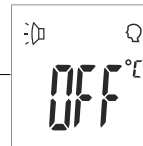
In forehead mode -
Probe out of range
of forehead or
temperature is below
minimum range



When reading a child's temperature,
if display shows 40°C or 104°F
or more, consult your doctor
immediately



Unit is switching to auto OFF mode



If room temperature is higher than
40°C or lower than 16°C, the screen
will display 'Err' when you take
temperature



Temperature Range Indicator

The Temperature Range Indicator is an additional indication of the patient's temperature. Whilst the Display Screen advises the specific temperature, the Temperature Range Indicator provides a quick visual reference of the temperature range by utilising a traffic-light system of green, orange or red.

If the Temperature Range Indicator (Fig. 1) displays:

- Green = the measurement is within the average normal temperature range (of $\geq 36.3^{\circ}\text{C}$ to $\leq 37.3^{\circ}\text{C}$)
- Orange = the measurement is within the average raised temperature range (of $\geq 37.4^{\circ}\text{C}$ to $\leq 37.9^{\circ}\text{C}$)
- Red = the measurement is in the average high temperature range (of $\geq 38.0^{\circ}\text{C}$)



Fig. 1

Note: Since the above temperature ranges are averages, refer to page 5 for normal temperature ranges by age.

How to Use the Thermometer

1 When Using Thermometer for the 1st Time:

- Open the battery compartment by carefully lifting up Battery Cover where indicated (refer to 'Battery Power and Replacement') so as not to scratch or damage cover.
- Insert 2 x AAA batteries **in the direction illustrated** inside the battery compartment.
- Replace the Battery Cover.
- Turn on and use thermometer as described below.

Note: If the batteries have been inserted the wrong way, the thermometer will not work and the handle might warm up, in which case immediately remove the batteries (to prevent damaging the thermometer) and re-insert.

2 Switching Thermometer ON:

- The thermometer can be switched ON in either mode – Forehead or Ambient.
- Start by briefly pressing 'Power On /Scan button' which turns on the thermometer.
- All icons will display on the screen for 1 second followed by a short beep indicating that the thermometer is now ready to use.
- The screen is also backlit for 10 seconds and the display will now show the last setting memory data i.e. last temperature reading and mode. This will remain until either a temperature is taken, the thermometer turns off or the temperature mode is changed.

3 Switching Thermometer OFF:

- Without any operation for 30 seconds i.e. left idle, the thermometer will automatically turn OFF. This is a power-save feature.

4 Switching Between Forehead and Ambient Modes:

- The screen will display either a Forehead or House icon to indicate which temperature mode it is currently in, and will also display the last forehead or ambient temperature taken.
- If it is in Forehead mode but you want ambient mode or vice versa, press the Function mode button and this will change the display icons and a short 'beep' will sound to confirm the change.

5 Measuring Ambient (room) Temperature:

- Once in Ambient mode, briefly press the Power ON / Scan button and keep the thermometer in the same position until a beep sounds, which indicates the measurement is complete. Then read the temperature on the screen.

6 Measuring Forehead Temperature:

- When in Forehead mode, aim the thermometer at the forehead, ensuring that the distance between the probe and forehead is between 2-5cm, and then briefly press the Power ON/Scan button. Keep the thermometer in the same position until a beep sounds, which indicates that measurement is complete.
- The specific temperature will appear on the screen, and the Temperature Range Indicator will give the additional quick visual reference of the temperature range.

Note: There is no need to keep your finger pressed on the Power ON / Scan button to take a reading. In fact keeping your finger pressed on the Power ON / Scan button will prevent the temperature from being read, so always press it briefly, but keep the thermometer in the same position until the beep sounds.

- Immediately after the measurement process (in either mode), both the Display Backlight and Temperature Range Indicator will automatically come on and remain on for 10 seconds.

7 Switching Between Celsius and Fahrenheit:

The Celsius/Fahrenheit button can be found in the battery compartment.

With the device turned on, briefly press C/F button to convert between Celsius and Fahrenheit. The screen icon and temperature will change and a beep will sound to confirm this change.


8 Memory Function:

- With the thermometer ON, press the 'M' Memory Function button to display the previous 19 readings. Press once for the last reading data, press again for the second but last reading data and so on. The data displayed will be the number of the reading, the temperature mode and the actual temperature measurement.

9 Turning Sound ON or OFF:

- With the thermometer ON, press the Sound button to turn the device audible sound ON or OFF.

Battery Power and Replacement

- Every time the thermometer is turned on it will detect the battery life.(Fig. 2)
- Replace both batteries when the screen shows the low battery icon. 
- It is not recommended to let the batteries get VERY LOW to ensure there is always sufficient power available to take temperature.
- When the batteries get VERY LOW, 'Lo' will appear on the screen (Fig. 3) and the battery icon will flash 3 times before the thermometer turns itself off.
- To change the batteries, open the battery compartment by carefully lifting up Battery Cover where indicated (Fig. 4) so as not to scratch or damage cover, remove old batteries and replace with 2 new AAA batteries.

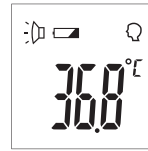


Fig. 2

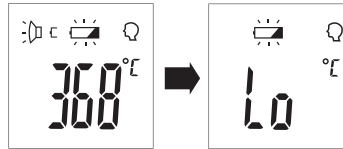
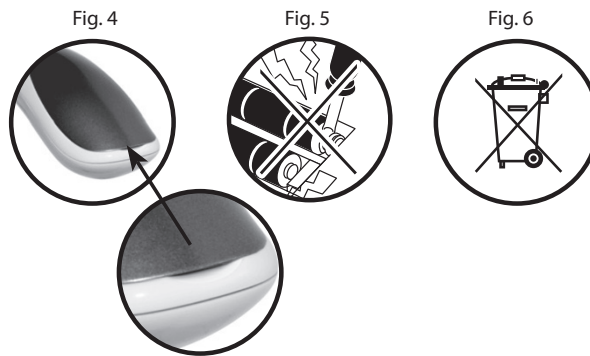


Fig. 3

Battery Safety Guidelines

- If the batteries have been inserted the wrong way, the thermometer will not work and the handle may warm up, in which case immediately remove the batteries (to prevent damaging the thermometer) and re-insert correctly.
- The supply terminals are not to be short circuited, so do not interfere with the metal contacts in the battery compartment (Fig. 5).
- Help the environment by disposing of all products responsibly. The wheelie bin symbol (Fig. 6) indicates the product and batteries must not be disposed of in the domestic waste as they contain substances which can be damaging to the environment and people's health. Please use designated collection points or recycling facilities when disposing of the device or batteries.



Note: Please comply with local guidelines or regulations if discarding the batteries or any part of the thermometer and its packaging.
Remove empty batteries from product to prevent corrosion.
The enclosed batteries are non-rechargeable although rechargeable batteries can be used.
Batteries should be inserted with correct polarity.
Do not mix old and new batteries.

Product Specification

Device name	Non-Contact Forehead & Room Digital Thermometer
Model No.	BM 70933
Measurement modes	Forehead (Body), Ambient (Room)
Power Supply	3V DC, 2 x AAA batteries
Screen Display Measuring range	Forehead (Body): 32.0 – 42.9°C (=89.6 – 109.2°F) Ambient (Room): 15.0 – 40.0°C (=89.0 – 104.0°F)
Accuracy	Forehead (Body): ±0.2°C (= ±0.4°F) 36.0 – 39.0°C (=96.8 – 102.2°F) ±0.3°C outside the above range Ambient (Room): ±1.0°C (= 1.4°F)
Clinical repeatability	Forehead (Body) ± 0.3°C
Operational environment temperature for Forehead (Body)	16.0°C – 40.0°C (=60.8 – 104.0°F) 20% – 80%RH
Storage Environment Temperature	-20.0 – 55.0°C (= -4.0 – 131.0°F) 20% – 95%RH
Screen Display precision	0.1°C (=0.1°F)
Measuring Distance	2cm – 5cm from forehead
Weight	109.5g
Dimensions	154 x 47 x 37mm

Manufacturing Date:

- Manufacturing date is indicated by the LOT number located on the inside of the Battery Cover (see Fig.7). To interpret the LOT number as an actual date, look at just the first two letters whereby the first letter is the year and the second letter is the date, whereby:

1st Letter **G = 2013** **H = 2014** **I = 2015 etc.**
2nd Letter **A = January** **B = February** **C = March etc.**

- So, in the example shown in Fig.7 where “GH” is stated, the manufacturing date is August 2013.



Fig. 7

Error Messages:

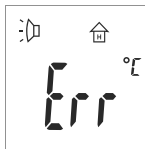


Reason:

1. Temperature reading hampered by hair, perspiration or environmental conditions such as exposure to cold or air flux.
2. The measuring distance is too far.

Solution:

1. Ensure there is no obstruction prior to taking temperature and there is no air flux (such as breeze of wind).
2. Sitting next to a cold air conditioning unit or hot radiator will directly interfere with Forehead temperature.
3. Adhere to the measuring distance (2 – 5cm).



Reason:

1. Ambient (Room) temperature is not within the operating range (16.0 – 40.0°C or 60.8 – 104.0°F).
2. The sensor or thermometer is damaged.

Solution:

Allow the thermometer to adjust to the room environment by remaining in a room for 30 minutes at the correct operating range temperature before taking a temperature.

If not caused by out of range room temperature then stop using and please contact us (see 'Further information').

Compliance:

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

Calibration:

- This infrared thermometer device is initially calibrated at the time of manufacture.
- If the thermometer is used and cared for according to the instructions in this user manual, periodic re-adjustment is not required.
- If at any time you question the accuracy, contact Brother Max.

Your Family Members' Normal Temperature Range

Whilst normal temperature ranges by age are shown on page 5 of this manual, every member of the family will have a slightly different 'normal' temperature range.

So it's a good idea to build up a picture of those normal ranges for each member of the family using your regular thermometer, no matter what type or brand of thermometer you use.

This will help you and your medical practitioner when a family member is unwell as you will have a far more reliable benchmark to compare against.

To do this, take temperature readings for each member of your family:

- At three different times of the day, such as 8am, 1pm and 6pm, but always with at least five hour intervals;
- Over five different days;
- Always from the same body part;
- Always using the same thermometer;
- Always in the same room in your home.

Notes: Do not self-diagnose.

The use of any thermometer is not intended as a substitute for consultation with a physician. If the temperature of a child under 6 months old reaches 40.0°C / 104.0°F or more, consult a doctor immediately. Note that this danger level drops the older the patient becomes.

Our family members' normal temperature range: Forehead

Family Member's Name:

Date:	08:00	13:00	18:00
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F

Our family members' normal temperature range: Forehead

Family Member's Name:

Date:	08:00	13:00	18:00
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F
	°C / °F	°C / °F	°C / °F

Other Products in our Range

We have over 50 products in our range, including:



Visit www.brothermax.com for further information

Further Information

If you have any questions about, or problems with, your thermometer, please get in touch with us (see below for contact details).

For more information on this and all products in our range, including movies demonstrating the features, benefits and maintenance of this product, visit www.brothermax.com

We'd really like to hear from you. We want to know what you like and how our products could make your life even easier or happier. We want to know if you have a parenting challenge that you need a solution for, or a product that you find frustrating. Don't be shy, drop us a line at family@brothermax.com

Please retain our address and packaging for future reference



brother max®

Simple Clever Ideas®



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Product Code: **BM70933**
Version 1.0

