

# Digital Thermometer

## Instruction Manual

Model : FT7122 (MT-B321FB)

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**Read the instruction manual thoroughly and carefully before using the unit.**

### What is “normal” body temperature?

“Normal” body temperature varies from person to person, changes according to time of day and body location. Hot or cold baths, physical exercise, smoking and drinking, hot or cold drinks may change body temperature b one degree or more.

The following table shows the temperature ranges:

	What is fever?	Average normal temperature ranges
Forehead	Over 37.8°C	36.1 ~ 37.8°C
Rectal*	Over 38°C	36.3 ~ 38°C
Oral (mouth)*	Over 37.8°C	36.1 ~ 37.8°C
Axilla (armpit)*	Over 37.2°C	35.2~ 37.2°C

\* Fever definitions according to American Medical Association

The thermometer is designed to measure the temperature in the forehead, in approx.. between the end of eyebrow and the hairline. It is important to know that the thermal characteristics of each measurement body location – forehead, axillar, oral or rectal – are unique. The variance in temperature measurement in different body locations is due to the human body and not the thermometer.



It is recommend to measure the body temperature when healthy to establish the specific normal temperature.

**⚠️ PRECAUTIONS FOR USE**


1. The device can be used by all persons, including children, elderly person & Patient. Handicapped persons and Children need assistance by another person to use the device.
2. Use of the device is not intended to be a substitute for consultation with your physician.
3. Disregarding the information given in this instruction manual is considered to be abnormal use.
4. The device is for indoor use only. Please do not use the device under a noisy environment.
5. Keep the thermometer out of reach of children
6. After showering, exercising, eating or drinking, wait for 30 minutes before you intend to measure your temperature.
7. Do not store the unit in direct sunlight, at a high temperatures, in high humidity or dust. The performance of the unit may be degraded.
8. Normally speaking, body temperatures in the morning (lower) will be different from that in the afternoon (higher). So, please measure your body temperature in the same place and at the same time of day.

**⚠️ WARNING:** No modification of this equipment is allowed.

**PRODUCT DESCRIPTION**

	①	<ol style="list-style-type: none"> <li>1. LCD Screen</li> <li>2. On/off button</li> <li>3. Sensor</li> <li>4. Battery Cover</li> </ol>
	②	
	③	
	④	

## TECHNICAL SPECIFICATIONS

Measurement time:	5 seconds
Measurement location:	The area between the end of eyebrow and the hairline
Measurement range:	35.0°C ~ 43.0°C
Accuracy:	±0.2°C – 35.0°C ~ 35.4°C ±0.1°C – 35.5°C ~ 42.0°C ±0.2°C – 42.1°C ~ 43.0°C
Display unit:	0.1°C
Storage (transport) condition:	-25°C ~ 55°C (-13°F ~ 131°F ) / 30% - 85% RH / 700 – 1060hpa
Operation condition:	15°C ~ 35°C (59°F ~ 95°F ) / 10% – 95% RH / 700 – 1060hpa
Battery:	One Lithium CR2032 battery (3V)
Battery life:	1,000 measurements approximately (under normal use)
Weight:	Approx. 25 grams including battery
Dimensions:	93.65 mm (L) x 34.75 mm (W) X 24.85 mm(T)
Memory:	Last reading display when turn on
Applied part:	 type BF (sensor)
Degree of protection from liquid and solid particle:	IP 22
The thermometer is not waterproof.	

Note 1: The thermometer is an adjusted mode clinical thermometer

Note 2: This thermometer converts the forehead temperature to display its “oral equivalent”.

### °C / °F SWITCH

To switch between °C and °F, press and keep pressing the on/off button for 5 seconds when power off, then the LCD screen will show the default unit. Press the button again to switch to the opposite unit.

### MEASURING GUIDELINES

1. Measurement location is the area between the end of eyebrow and the hairline.
2. Do not place the thermometer on scarred tissue compromised by skin disorder, open sores or abrasions and patients in trauma.
3. Temperature readings are affected by many factors including exercise and drinking prior to taking a reading.
4. Consult your physician when using drug therapies that may raise the local skin temperature in the forehead; this may lead to incorrect reading.


5. If the thermometer has been stored at a cold temperature, allow the unit to warm naturally to room temperature before using.
6. Performance of the device may be degraded if operated or stored outside stated temperature and humidity ranges.

## **OPERATION**

### **Before measuring:**

1. Sweat will affect the reading result on the forehead, so please make sure your forehead is clean before measurement.
2. Move the hair aside from the measurement location and apply the probe to the bare skin.

### **Taking temperature**

1. Press on/off button to turn on the unit.
2. The LCD window will display full segments for approx.. 1 second.
3. Then, the last measured value will be shown on the LCD screen with “M” icon (memory).
4. Finally, you will see “Ok” on the LCD screen, it means the thermometer is ready for measurement.
5. Place the probe sensor in the area between the end of eyebrow and the hairline.
6. Gently press and hold it against the measurement location to ensure good contact with the skin is maintained.
  - ⚠ Correct placing and good contact with the skin ensure reliable readouts.
  - ⚠ Make sure the thermometer and the patient do not move while measurement is in progress.
7. When you will hear a long beeping sound, it means the measurement is finished.
8. Remove the probe sensor and the LCD screen will display the measured value.
9. If the measured value is over 37.8°C (100 °F), six consecutive beeps will be heard to indicate fever alarm.
10. For re-measurement, please wait until you see ” Ok” on the LCD screen.
11. After measurement, if no button is pressed, the thermometer will enter standby mode after 1 minute. Under this mode, current room temperature and the icon  will be shown on the LCD screen. If you want to switch to Forehead mode, please press on/off button again.


12. To turn off the thermometer under any mode, press the on/off button.

⚠ Do not make any measurement until you see “Ok” on the LCD screen. If you measure the body temperature before seeing “Ok” on the LCD screen, the thermometer won’t detect the temperature.

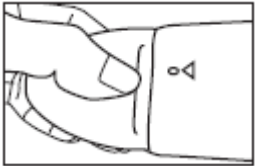
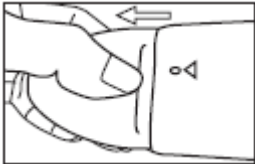
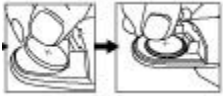
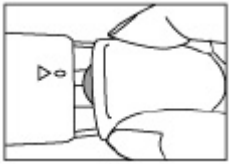
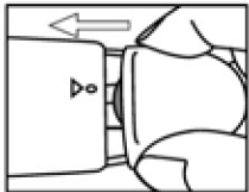
⚠ Make sure that the probe completely touches the skin as below.

⚠ For all types of thermometers, slight temperature variations can happen. Therefore, it is recommended to take several readings (removing the thermometer from the forehead between each measurement) and take the highest one into account.

### BATTERY REPLACEMENT

When the battery symbol “” is displayed on the LCD screen, please replace the battery and follow the instructions below.



Steps	Drawings	Instructions
1		Gently press the top of the battery cover so as to release the battery cover.
2		Slide back the battery cover.
3		Take the battery out. When placing a new battery, please make sure the polarity of battery (“+” is upward) is correct.
4		Place the battery cover on the top of battery compartment.
5		Replace the battery cover.

⚠ Do not recharge the battery.




⚠ Do not swallow the battery which may be fatal.

⚠ Do not dispose of the battery in fire as it may explode.

⚠ Do not attempt to disassemble the unit except battery replacement.

⚠ It is recommended to remove the battery from the thermometer when it is not used for some time.

### TROUBLESHOOTING

Error signals	Problems & Solutions
	Q: If the temperature is more than 43°C/109.4°F, the LCD displays "Hi". A: Recheck the measured object before measuring.
	Q: If the temperature is below 35°C/95°F the LCD will keep displaying "Lo". A: Recheck the measured object before measuring.
	Q: Informing battery replacement time. A: Replace the battery.
<b>Err 1</b>	Q: Operation temperature is out of range. A: Put the device at a place with normal room temperature (15°C ~35°C/59°F ~ 95°F) for, at least, 30 minutes before measuring.
<b>Err 3</b>	Q: If the thermometer has some problems and can't measure temperatures, the LCD will display "Err 3". A: Send the thermometer back to your retailer or the store you bought.

### EXPLANATION OF **LOT** NUMBER

The date of manufacture is included in the **LOT**. The **LOT** has 5 numbers. The first number means the year (0-9). The second number means the month (Jan. - Sep.: 1-9, Oct.: A, Nov.: B, Dec.: C). The third and fourth numbers mean the date (1-31). And the last number means the batch of the month.

Example: **LOT** 95051

year    date  
 ▲     ▲  
 ▼     ▼  
 month   batch of the month

### CLEANING/DISINFECTION AND MAINTENANCE

1. When continuous re-measurements are required, clean the sensor by medical alcohol (75%), then wipe it with clean and dry cloth (medical cotton) before each use.
2. After cleaning, wait at least 2 minutes before taking a measurement for the unit to readjust to room temperature.
3. Use only a soft dry cloth to clean the body of the thermometer (if necessary). Never use an abrasive cleanser or submerge the thermometer in water or other liquids.
3. Keep the product under normal room temperature (15°C ~ 35°C/59°F ~ 95°F).
4. We recommend to verify the accuracy by an authorized laboratory every 2 years.

## DISPOSAL

1. Please dispose of the product and the battery separately.
2. The product and the battery should not be disposed of with household waste.
3. Please follow local waste / battery disposal regulations.









## LIMITED WARRANTY

This thermometer is guaranteed for 2 years from the date of purchase against Manufacturer's defect under normal use. If your unit does not function properly due to defective parts or assembly, we will repair it free of charge. All parts are covered by this warranty except the battery and damage to the unit due to improper handling.

## APPLYING STANDARDS

1. MDD 93/42/EEC
2. EN 60601-1:2006 + AC:2010
3. EN 60601-1-2:2007
4. EN ISO 80601-2-56:2012
5. ASTM E1112:00

## Symbol & Explanation

	<p>The CE mark and Notified Body Registration Numbers, the requirement of Annex V article 3 from Medical Device Directive 93/42/EEC are met.</p>		<p>Manufacturer</p>
	<p>Warning</p>		<p>Authorized representative in the European Community.</p>
	<p>Consult instruction for use.</p>		<p>Type BF applied part</p>
<p><b>IP 22</b></p>	<p>A coding system to indicate the degrees of protection provided by an enclosure against access to hazardous parts, ingress of solid foreign objects, ingress of water and to give additional information in connection with such protection.</p>		<p>The unit should not be disposed of with other household wastes at the end of its working life.</p>
	<p>Batch code (reference label on the device)</p>		

## Guidance and manufacturer's declaration – electromagnetic emissions

The FT7122 is intended for use in the electromagnetic environment specified below. The customer or the user of the FT7122 should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The FT7122 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 FT7122 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	

## Guidance and manufacturer's declaration – electromagnetic immunity

The FT7122 is intended for use in the electromagnetic environment specified below. The customer or the user of the FT7122 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 %.
Power frequency (50/60 Hz) magnetic field	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.



IEC 61000-4-8			
NOTE $U_T$ is the a.c. mains voltage prior to application of the test level.			

### Guidance and manufacturer's declaration – electromagnetic immunity

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Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	<p>Portable and mobile RF communications equipment should be used no closer to any part of the FT7122 including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p><b>Recommended separation distance</b></p> $d = 1,2 \sqrt{P}$ $d = 1,2 \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2,3 \sqrt{P} \quad 800 \text{ MHz to } 2,5 \text{ GHz}$ <p>where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p>



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 FT7122 is used exceeds the applicable RF compliance level above, the FT7122 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the FT7122.
- b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

**Recommended separation distances between portable and mobile RF communications equipment and the FT7122**

The FT7122 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the FT7122 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the FT7122 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 metres (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.

EXAMPLE 1 As indicated in Table 6 of IEC60601-1-2:2007 for ME EQUIPMENT, a typical cell phone with a maximum output of 2 W yields  $d=3,3$  m at an IMMUNITY LEVEL of 3 V/m.