CARETALK®

TH1009N

User Manual

Please Read this Instruction manual before use

Non-contact Forehead Thermometer

Contents

INTRODUCTION

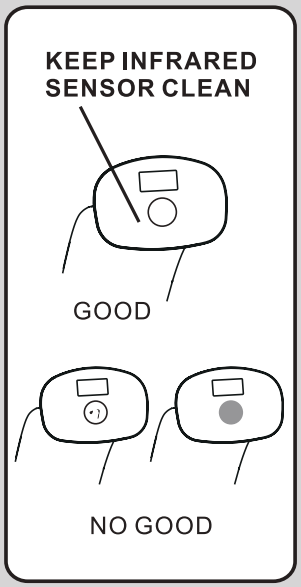
Thank you for purchasing Digital Non-contact Forehead Thermometer TH1009N from Shenzhen Dongdixin Technology Co., LTD. The thermometer has been carefully developed for accurate, safe ,fast and contact-free human body temperature measurements (at a distance of approximately 0-5cm)in the forehead and object temperature measurements.
The reference body site is core and the mode of operation is adjusted mode.

INTENDED USE

The Non-contact Forehead Thermometer is a non-sterile, reusable clinical thermometer intended for the intermittent determination of human body temperature in a touch and no touch mode on the centre of the forehead as the measurement site on people of all ages.

IMPORTANT SAFETY INFORMATION

However, as with any thermometer, proper technique is critical to obtaining accurate temperatures. Therefore, in order to obtain an accurate measurement, please read this manual carefully before using.



- Use of this thermometer is not intended as a substitution for consultation with your physician. Measurement results are for reference only. Contact your physician if you have or suspect any health concerns.
- The users should never to base their treatment decision or decision to seek professional help solely on the measurement with the device , “and ignore other possible symptons of disease. To avoid possible treatment delay, which might

contribute to an injury or aggravation of the underlying disease".

- Conducting self-diagnosis and/or treatment based on the measurement results can be dangerous. Be sure to follow the instruction of your doctor. Be sure to consult a physician if you feel that your health is in poor ondition.
- The probe tip must be kept clean, dry, and undamaged at all times to ensure accurate measurements.
- Lipid on the forehead may cause an inaccurate measurement, so make sure the forehead is clean.
- If you clean the forehead, please waiting for 5~10 minutes before easuring.
- A soiled probe tip will result in inaccurate measurement. Be sure to check that the probe tip is clean before use.
- Do not use forehead measurement mode for measurements other than human body temperature.
- The patient may be the proper operator of the thermometer. Only use the thermometer as described in this user manual. Any other use is deemed improper and may result in damage to property or even personal injury.
- When the device is used to measure the temperature of a child, it has to be operated by an adult. Adults can measure their own temperature.
- The temperature of the storage area differs greatly from that of the measuring area, please wait the thermometer temperature to equalize to the room temperature about 30 minutes before use.
- Body temperature rises after vigorous exercise, a bath or shower, or eating. Wait at least 30 minutes before taking temperature readings.
- Don't store the thermometer to extremes temperature or extremes humidity .Failing to do so may cause inaccuracy.
- Don't operate the thermometer under extremes temperature or extremes humidity. Failing to do so may cause inaccurate measurement.
- Don't use the thermometer if the main body is damaged (for example, the infrared sensor is broken). The continuous use of a damaged unit may cause injury, improper results, or serious danger.
- Please avoid mechanical shock, otherwise the thermometer will be damaged.
- Don't take apart, repair or change any parts of the unit without authorization of the manufacturer, except for replacing batteries.
- Do not use any accessories which have not specified in this instruction

manual.

- Keep the thermometer out of the reach of children and to avoid inhalation or swallowing of small parts. Do not allow children to take their temperatures unattended.
- Please put the dry out batteries in recycle bin not to trash. The batteries may explode on fire.
- If your thermometer will not be used on a regular basis, remove battery to prevent possible damage due to chemical leakage. If battery does leak, remove carefully. Do not allow bare skin to touch leaking fluid.
- This product needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided, and this unit can be affected by portable and mobile RF communications equipment.

BODY TEMPERATURE

Normal body temperature is a range. A person's normal temperature range tends to decrease with age. The following table shows normal temperature ranges by age:
Normal temperature ranges by age:

0 – 2 years	36.4 – 38.0 °C	97.5 – 100.4 °F
3 – 10 years	36.1 – 37.8 °C	97.0 – 100.0 °F
11 – 65 years	35.9 – 37.6 °C	96.6 – 99.7 °F
> 65 years	35.8 – 37.5 °C	96.4 – 99.5 °F

Source: Chamberlain, J.M., et al., Determination of Normal Ear Temperature with an Infrared Emission Detection Thermometer, Annals of Emergency Medicine, January 1995, Vol. 25, pp. 15-20.

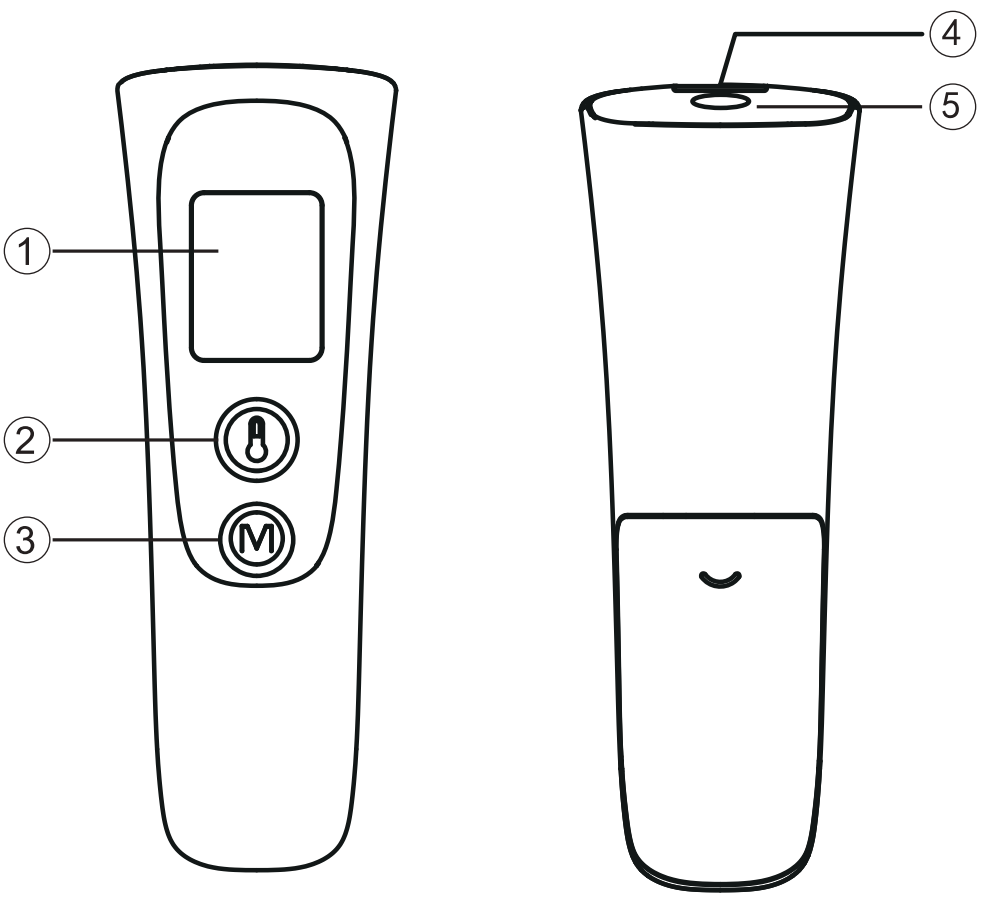
The range of normal temperature varies from person to person and can be influenced by many factors such as time of day, measure from different sites, level of activity, medications, emotion and so on.So we recommend that you practice with the Thermometer on yourself and family members when you are healthy. This way you know how the thermometer works and can feel more confident of the measurements you take when a family member is ill.

PACKAGE COMPONENTS

NO.	DESCRIPTION	QUANTITY
1	Non-contact Forehead Thermometer	1 piece
2	User manual	1 piece

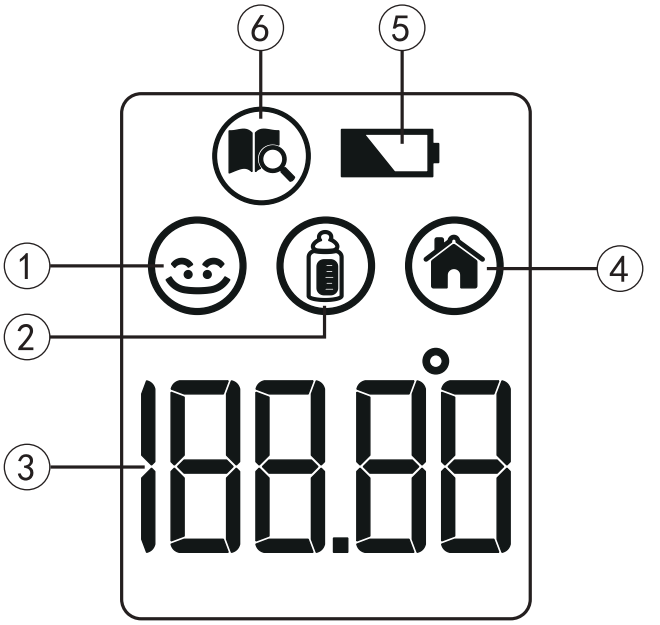
PRESENTATION

Operation panel



1) LCD
2) Measurement button
3) MEM button
4) Distance sensor
5) Infrared sensor

LCD display



1) Forehead temperature symbol
2) Object temperature symbol
3) Temperature display
4) Ambient temperature symbol
5) Low battery symbol
6) Memory symbol

BEFORE USE

1. To achieve accurate measurement, it is very important to check the infrared sensor and sure it is clean before using.
   To clean the sensor, gently wipe its surface with a cotton swab slightly moistened with alcohol and immediately wipe dry with a clean cotton swab.
   After cleaning, wait at least 20 minutes drying time before taking temperatures.

2. Lipid on the forehead may cause an inaccurate measurement, so make sure the forehead is clean. If you clean the forehead, please keep waiting for 5~10 minutes before measuring.

3. If the temperature of the storage area differs greatly from that of the measuring area, please wait the thermometer temperature to equalize to the room temperature about 30 minutes before measuring.

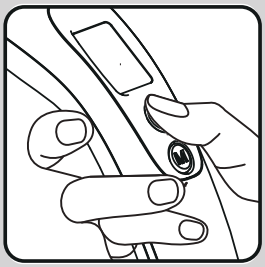
4. Please open the battery cover and move the insulating piece away when you use the thermometer first time, and then the thermometer turns on automatically, the LCD display like left figure. Press any button to turn on when it was turn off.

Caution:

In standby mode, the LCD display environment temperature .

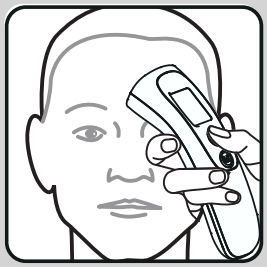
HOW TO MEASURE FOREHEAD TEMPERATURE

1. Place the thermometer in your hand as shown with your thumb on the **[measure]** button.

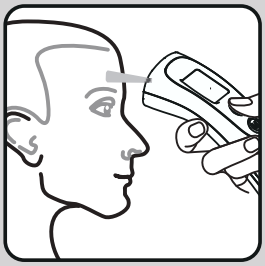


➢ Do not press the button yet.
➢ Make sure the probe is clean before measuring.

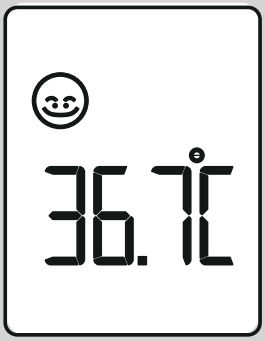
2. Press the **[measure]** button, keeping the thermometer flat until you hear DIDI sound, then the backlight will be light according to temperature. The measurement is complete（approx. 1 second） and the thermometer may be remove from the head.



3. Read the temperature on the display.
Caution:
After press the measure button, the distance sensor will detect the distance between the forehead and thermometer, if the distance is between 0- 5cm, will directly test the forehead temperature, if the distance is more than 5cm , didi sound will be issued, it indicate that the thermometer should be moved to the forehead in 0- 5cm, if not , it will return directly to standby mode.

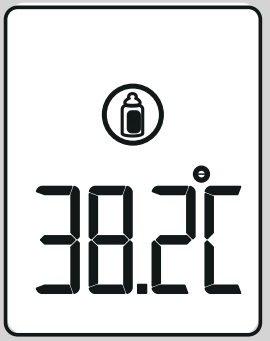


After the test, press the **[MEM]** button or wait for 1 minute to return to the standby mode.



4. After approx. 1 second, you can take a new measurement.

HOW TO MEASURE OBJECT TEMPERATURE



1. Place the thermometer in your hand with your finger on the **[measure]** and**[MEM]** buttons at the same time. Press the **[measure]** button, then the thermometer enter to object temperature measuring mode.

➢ Make sure don't use this mode to measure body temperature.

2. Hold the thermometer and ensure the probe is around 0-5 cm from the liquid or surface whose temperature you want to measure. Press the **[measure]** button to start the measurement.

3. Remove the thermometer from the object. The LCD displays the measured temperature.
   You can press the **[MEM]** buttons to return back to standby mode.
   The thermometer will automatically return back to standby mode after 1 minute if no button is pressed.

TEMPERATURE TAKING HINTS

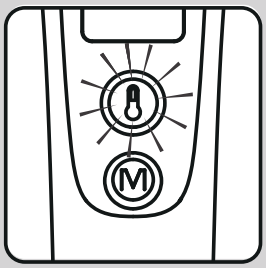
1. External factors may influence forehead temperature. particularly when an individual has:

- ➢ been exposed to very hot or very cold temperatures.
- ➢ been recently swimming or bathing.
- ➢ had their forehead covered.

In these cases, let the individual stay away from the above scenario and station in a room for 30 minutes prior to talking a temperature

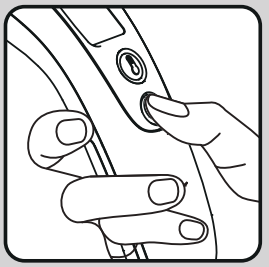
2. With object measurement, the current surface temperature of the object is displayed. It can be different from its internal temperature, especially if the surface is exposed to direct sunlight or a draught.

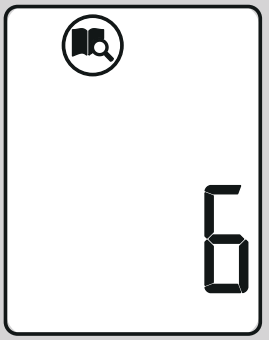
TEMPERATURE INDICATION

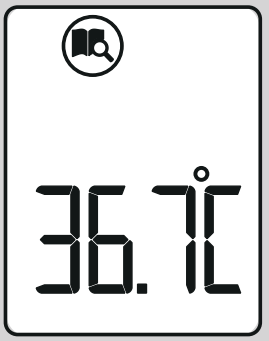


There are two colors LED temperature indicator in this Unit, The relevant LED two light after the measurement The detail range refer to following:

- ➢ Green LED: 34.0°C(93.2°F)~ 37.9°C(100.3°F)
- ➢ Red LED: 38.0°C(100.4°F)~42.9°C(109.3°F)







CHECK THE MEMORY

There are a total of 9 memory data for recording forehead temperature measurements.

The current measurement is always stored in the last storage space.When all storage spaces have been occupied, the oldest measurement is always deleted from the memory.

Press **[MEM]** button to check the memory data. The LCD displays memory number, measured temperature like figures. Press the **[MEM]** button repeatedly to go to the memory number you need.

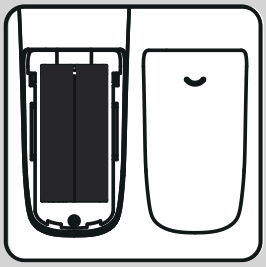
Press **[measure]** and **[MEM]** measuring button at the same time, to go back to standby mode.

CELSIUS/FAHRENHEIT OPTION

In standby mode or measuring mode, you can switch between Celsius (℃) and Fahrenheit (℉) by press and hold **[MEM]** button until you hear one or two "beep" sounds.

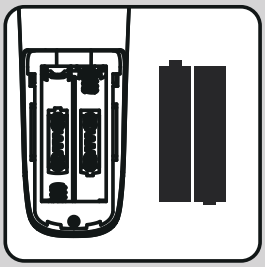
REPLACING THE BATTERY

When the low battery indicator “ ” appears on the LCD, or the thermometer does not function at all, you should replace new battery as soon as possible.
The thermometer is supplied with two batteries (Type AAA).



Move the battery cover, and pull up the batteries, then insert new AAA batteries into the battery compartment.

Make sure you are installing batteries properly, ensure to match the positive and negative polarity marked in the battery compartment. Slide battery cover back until it snaps in place.



Caution:

To protect the environment, dispose of exhausted battery according to national or local regulations.
Keep the battery out of the reach of children.

SPECIFICATIONS

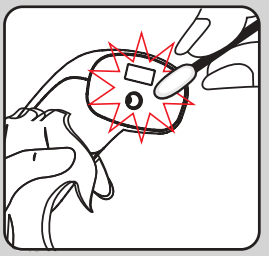
Power supply:	DC 3V (2 x AAA battery)
Body measuring range:	32.0°C ~ 42.9°C (89.6°F ~ 109.3°F)
Laboratory accuracy:	±0.2°C(±0.4°F) for 35.0°C (95.0°F) ~42.0°C (107.6°F) ±0.3°C (±0.5°F) for other range
Object measuring range:	-22°C ~ 80.0°C (-7.6°F ~ 176.0°F)
Object measuring accuracy:	±2.0°C(±4.0°F)
Displayed room temperature range:	5.0°C ~ 59.9°C (41.0°F~139.8°F)
Room temperature accuracy:	±1°C (±2°F)
Dimension:	130.1(L)x45.0(W)x50.3(D)mm
Weight:	About 92.0g (without battery)
Forehead and object operating condition:	15.0°C~40.0°C (59.0°F~104.0°F) with a relative humidity of 15%~85% Atmosphere pressure: 700hPa-1060hPa
Storage and transport condition:	-20°C~55°C (-4°F~131°F) with a relative humidity of 15%~90% Atmosphere pressure: 700hPa-1060hPa

Service life: 2 years
Service life of the battery: With a new battery（Carbon） approx. 6 months based on the use frequency at 5 times/day

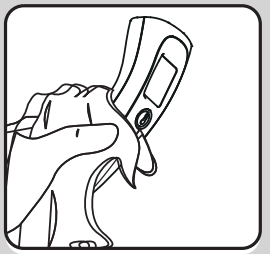
Caution:

This thermometer has been thoroughly tested and inspected to assure proper performance and operation!

CARE AND CLEANING



To ensure accurate measurements, keep the infrared sensor and distance sensor tip clean and free of scratches is very important. Finger prints, dirt will affect the accuracy of the thermometer. In order to get an accurate measurement, please clean the infrared sensor and distance sensor tip. Gently wipe its surface with a cotton swab slightly moistened with alcohol and immediately wipe dry with a clean cotton swab.



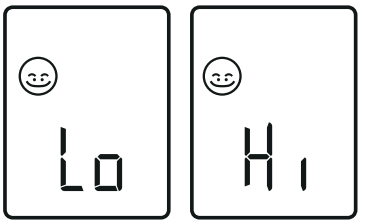
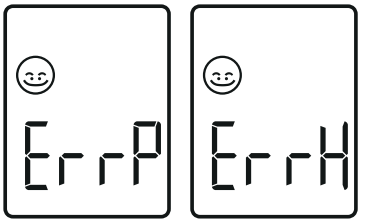
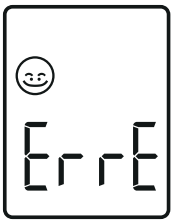
Use a soft dry cloth to clean the body of the thermometer. Never clean the thermometer with an abrasive cleanser, thinner, benzene or submerge the thermometer into water or other liquids.
After cleaning, place the thermometer in the protective case . Store it in a clean, dry place at room temperature. Never expose the thermometer to extreme temperatures,humidity, direct sunlight or shock.

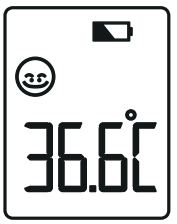
CALIBRATION

The thermometer is initially calibrated during manufacturing, before ex-factory . If the thermometer is used according to the instruction, periodic recalibration is not required. If at any time you question the accuracy of the measurement, please contact the retailer immediately.

Don't attempt to modify or reassemble the thermometer.

TROUBLESHOOTING

Troubles	Checklists	Counter measures
No response / Automatic reset when pull out insulator	Battery used up? Battery in wrong polarity? Poor battery contact	Change new battery or take out battery and reinsert correctly
	The measured temperature is lower than 32.0°C/89.6°F or higher than 42.9°C/109.3°F Please check the operation method	Follow User's Manual for proper measurement.
	Hardware problem	Contact your distributor
	Operating temperature is out of the range	Use the thermometer in the range of operating conditions
	The sensor temperature has not been stabilised.	Wait about 10 seconds and take a measurement again.
The measurement is not accurate or if there is any doubt on the measured result	Please check if the infrared sensor is clean or not	Clean the infrared sensor with cotton swab according to user manual
	Please check the measuring way is correct or not	Ensure you have read the manual and know how to use the thermometer properly.

Troubles	Checklists	Counter measures
The measurement is not accurate or if there is any doubt of the measure result	Please check if you have let the thermometer and patient gets stabilized in the room for 30 minutes at least	Please keep the thermometer and patient in the measuring room at least 30 minutes before using
	Are you using the thermometer indoor	Please take the measurement indoor
	Please check if you held the thermometer in your hand too long and affect the accuracy	Put the thermometer on the table in the room where the measurement is taking place and let it cool down first
	Please check if there is low battery symbol on LCD	Change new battery

NORMALIZED SYMBOLS

Applied part of type BF (The applied part is the probe tip)

Disposal in accordance with Directive 2012/19/EU (WEEE)

CE 0197

Complies with the European Medical Device Directive (93/42/EEC) and amended by directive 2007/47/EC requirements. Notified body TÜV Rheinland (CE0197)

The name and the address of the manufacturer

EC REP

The name and the address of the Authorized EC-representative in Europe

Caution

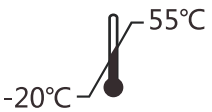
Refer to Instruction Manual.

IP22

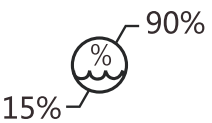
The first number 2: Protected against solid foreign objects of 12,5 mm Φ and greater. The second number: Protected against vertically falling water drops when enclosure tilted up to 15º. Vertically falling drops shall have no harmful effects when the enclosure is tilted at any angle up to 15º, on either side of the vertical.

Date of Manufacture

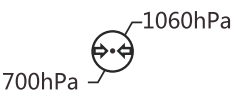
SN Serial number



Transportation and storage temperature: from -20℃ to 55℃



Transportation and storage humidity: from 15% to 90%



Transportation and storage atmospheric pressure limits: from700hPa to 1060hPa

DISPOSAL

Exhausted battery does not belong to household waste. Dispose the battery according to the current federal, state and local regulation. As a consumer, you are obligated by law to return the used batteries.

NOTES:

1) Under the environment with electrostatic discharge, the unit may malfunction and may require user to reset the unit.
2) Dispose the used batteries with care; please consult the retailer for details.

WARRANTY

One year warranty is available from purchasing date, excluding caused failures listed below:

1. Failure resulted in unauthorized disassembly and modification.
2. Failure resulted in unexpected drop during application or transportation.
3. Failure resulted in operation away from proper instruction in User's Manual.

Present the warranty card Card with seal of distribution center (include. name and address) for free repairing .

IMPORTANT INFORMATION REGARDING ELECTROMAGNETIC COMPATIBILITY(EMC)

<table>
<tr><th colspan="3">Declaration - Electromagnetic emission</th></tr>
<tr><td colspan="3">THE THERMOMETER is intended for use in the electromagnetic environment specified below. The customer or the user of THE THERMOMETER should assure that it is used in such an environment.</td></tr>
<tr><th>Emissions test</th><th>Compliance</th><th>Electromagnetic environment - guidance</th></tr>
<tr><td>RF emissions
CISPR 11</td><td>Group 1</td><td>THE THERMOMETER 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.</td></tr>
<tr><td>RF emissions
CISPR 11</td><td>Class B</td><td rowspan="3">THE THERMOMETER 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.</td></tr>
<tr><td>Harmonic emissions
IEC 61000-3-2</td><td>Not applicable</td></tr>
<tr><td>Voltage fluctuations/ flicker emissions
IEC61000-3-3</td><td>Not applicable</td></tr>
</table>

Declaration - Electromagnetic immunity			
THE THERMOMETER is intended for use in the electromagnetic environment specified below. The customer or the user of THE THERMOMETER 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	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 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	± 0.5kV, ± 1 kV line(s) to lines ± 0.5kV, ± 1 kV, ± 2 kV line(s) to earth	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.

Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % UT; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°and 315° 0 % UT; 1 cycle and 70 % UT; 25/30 cycles Single phase: at 0° 0 % UT; 250/300 cycles	Not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of THE THERMOMETER requires continued operation during power mains interruptions, it is recommended that THE THERMOMETER be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 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.			

Declaration - Electromagnetic immunity			
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Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Conducted RF IEC 61000-4-6	3V 0.15 MHz to 80MHz 6 V in ISM and amateur radio bands between 0.15 MHz and 80 MHz	Not applicable	Portable and mobile RF communications equipment should be used no closer to any part of THE THERMOMETER , than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	10V/m 80 MHz to 2.7 GHz	10V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 80 MHz to 2.7 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. Interference may occur in the vicinity of equipment marked with the following symbol: 

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 RF 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 THERMOMETER is used exceeds the applicable RF compliance level above, THE THERMOMETER should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating THE THERMOMETER .

b Over the frequency range 0.15 MHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and THE THERMOMETER

THE THERMOMETER is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of THE THERMOMETER can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and THE THERMOMETER , 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**		
	0.15 MHz to 80 MHz $d = 1.2 \sqrt{P}$	**80 MHz to 800 MHz** $d = 1.2 \sqrt{P}$	**80 MHz to 2.7 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 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.

Declaration-IMMUNITY to proximity fields from RF wireless communications equipment						
Immunity test	IEC60601 test level				Compliance level	Electromagnetic environment guidance
	Test frequency	Modulation	Maximum power	Immunity level		
Radiated RF IEC61000 -4-3	385 MHz	**Pluse Modulation: 18Hz	1.8W	27V/m	27V/m	
	450 MHz	*FM+5Hz deviation: 1kHz sine	2W	28V/m	28V/m	
	710 MHz 745 MHz 780 MHz	**Pulse Moduation: 217Hz	0.2W	9V/m	9V/m	
	810 MHz 870 MHz 930 MHz	**Pulse Moduation: 18Hz	2W	28V/m	28V/m	
	1720 MHz 1845 MHz 1970 MHz	**Pulse Moduation: 217Hz	2W	28V/m	28V/m	
	2450 MHz	**Pulse Moduation: 217Hz	2W	28V/m	28V/m	
	5240 MHz 5500 MHz 5785 MHz	**Pulse Moduation: 217Hz	0.2W	9V/m	9V/m	

Note *-As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

Note** -The carrier shall be modulated using a 50 % duty cycle square wave signal.

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