Infrared Thermometer

Operator's Manual

Before using this infrared thermometer, please read the user's manual carefully and use it accordingly. Please keep the user's manual property for reference at any time (the pictures in this manual are for reference only).

Contents

1 Product Introduction

1.1 Intended use

The infrared thermometer we produced is specially for measuring body temperature, it can measure human ear and forehead temperature, it suitable for medical unit and home use.

1.2 Contraindications

otitis externa, otitis media

1.3 Features

1) This machine has two functions, it can measure both ear and forehead temperature.

2) 1 second measure the temperature, easily and fast.

3) Sensor measurement technology, high precision.

4) Automatically power-off, if left idle for 60 seconds.

5) One-key measurement, easy to use.

6) Alarm for fever, better to know your body situation.

7) Stores 12 sets recent measurement data, easy for your data contrast.

8) Safety by infrared measuring, avoid the damage of the measuring by traditional mercury thermometer.

1.4 Structure
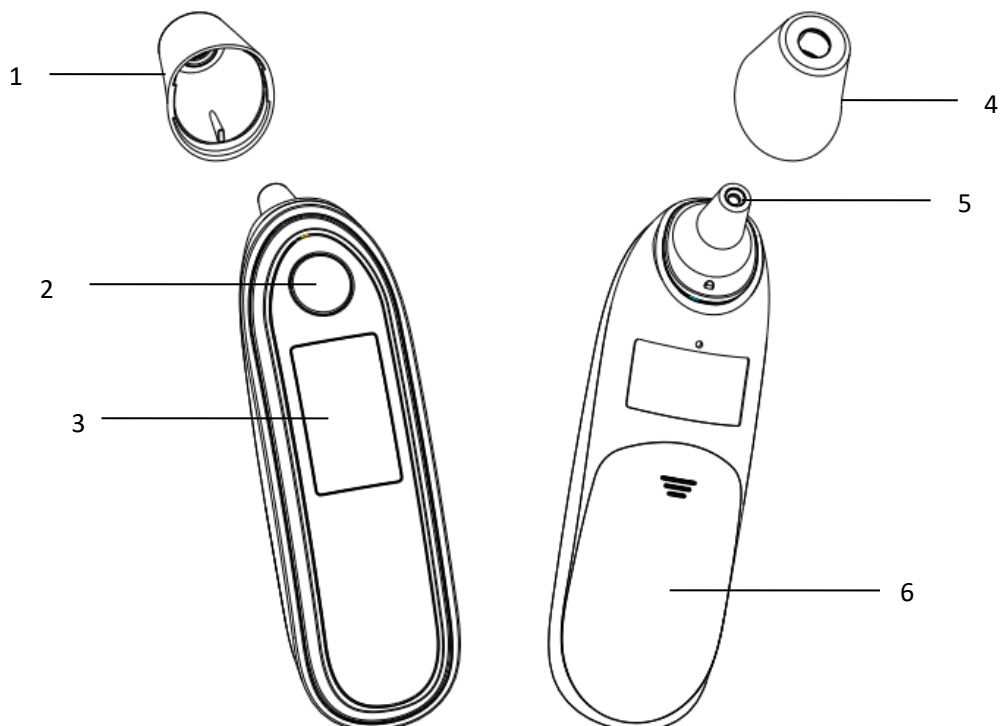
1. Forehead Temperature Cap

2. Start Button

3. Display Screen

4. Forehead Temperature Cap

5. Sensor Probe

6. Battery Cover

1.5Display
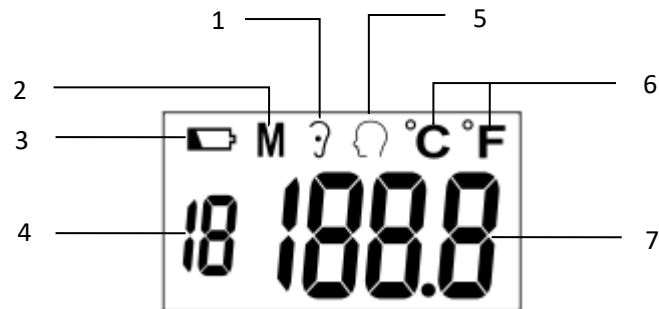
1. Ear Temperature Indicator

2. Memory Mode

3. Low Battery Indicator

4. Memory Data Sets Number

5. Forehead Temperature Indicator

6. Temperature Unit

7. Temperature Reading

2 Battery Installation Usage

1) Remove the battery cover as the arrow direction according.

2) Inset 2 AAA powerful batteries, ensure each battery is in the proper direction.

3) Close the battery cover.

3 Measurement

The infrared thermometer can automatically identify now is under forehead or ear temperature.
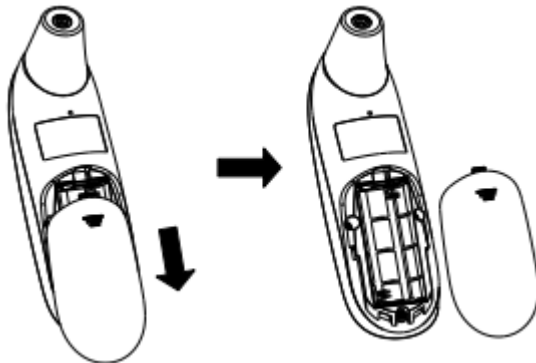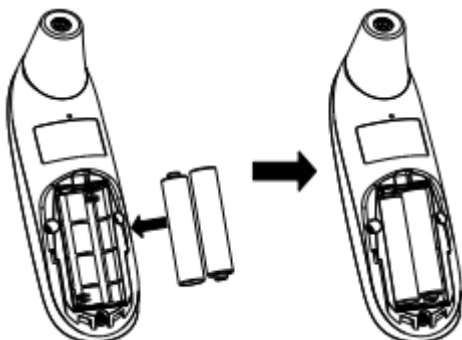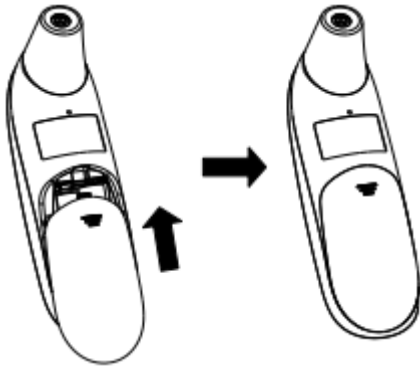
3.1 Measuring Steps

Step 1: Inset the battery, press the Start button, all symbols appear on the display, 1 second later it appears the temperature measured last time, the sign 'M' appears at the same time.
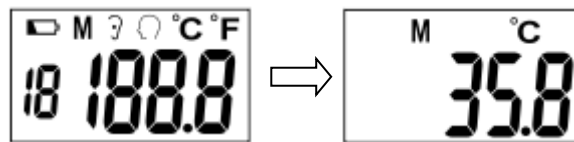
Step 2: The sign "M" disappear, forehead/ear indicator appear, it meas the place you measured last time, then the temperature unit flickering, now is the measuring interface.

Step 3：Direct the probe to measuring area （Shown in Figure 3.1.1 and 3.1.2）, press the "measuring" button till a "Beep" sound from the speaker. Measuring program starts. Keeping device in position for one second after two "Beep" sounds, the temperature value will show on screen along with the model symbol.

Step 4: During next 6 seconds when test result lasting on the screen, user can no longer make a measurement until a sound of "Beep" aural reminder and a "" symbol twinkling on the screen.

Step 5: No operation in 60 seconds, the device will record the last measuring data and shut

down automatically.

3.1.1 Method to Measuring Ear Temperature

Take off the forehead temperature cover. With the subject's head upright, take hold of the outer part of the ear, gently pull back and upward to straighten the ear canal, put the probe to ear canal slowly till the body of device stay completely close to ear canal.

⚠ Attention ⚠

Pull ear back in children younger than one year of age

Pull ear back and upward for all people older than one year of age.

3.1.2 Method to Measuring Forehead Temperature

Do not take off the forehead temperature cover, locate the probe to midway of subject's forehead, stay close to skin.

3.2 Memory View

Click the power button while the device in off state, "M" symbol will appear on the screen one second after the screen light up. Press the "Measure" button to review the record. The test result will show up with a model symbol distinguish forehead temperature or ear temperature. Press "Measure" button in five seconds to check the next group data of total 12 groups. Once new data recorded, the sequence No. increase consecutively, group No. 12 disappears and the newest record will always be No. 1.

3.3 ℃/℉ Switch

Pressing down "Power" button for 3 seconds when the device in off state，the unit will be switched between ℃/℉。

Cautions：This operation is unable to recycle switch，turn off and operate as 3.3 again to switch the unit back.
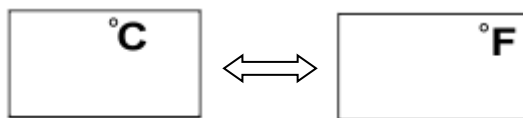
3.4 Fever Prompt Function

Thermometer has fever prompt function. When body temperature is over 37.5°C during measurement, the thermometer will give out a long "beep" sound together with three short ones in order to remind the person who is under test that he/she gets a fever. At the same time, backlight of 3 different colors will indicate the state of temperature: normal, on the high side or fever.

Green backlight: Below 37.5 ℃, indicating temperature is normal;

Yellow backlight: Between 37.6~38.0℃, indicating temperature is on the high side（should pay attention to the temperature）;

Red backlight: over 38.1℃, indicating fever (should see a doctor as soon as possible).

3.5 Common Malfunction and Solutions

Phenomenom	Possible Reasons	Solutions
▭Flicker	power deficiency	Replace battery immediately
▭ Blank screen	Thermometer is power off automatically.	Restart by pressing the power key
	Battery isn't installed properly	Check the battery board
	Battery has no power	Replace battery immediately
	Screen is still blank	Contact distributor and send back the product for repair
Lo	TEMP is too low	———————
	Environment TEMP is too low	Measurement in proper environment
Li	TEMP is too high	———————
	Environment TEMP is too high	Measurement in proper environment

3.6 Notes

3.6.1 Note for Ear Temperature Measurement

- People with ear diseases such as otitis externa, or otitis media should not use.
- If the measuring probe is covered with ear wax, it will lead to inaccurate measurement, even lead to cross infection between different people. Therefore, after each temperature measurement, users must use alcohol to clean measuring probe in order to keep it clean.
- After using alcohol to wipe measurement sensor, please wait for 5 minutes before measurement, so as to restore the thermometer to the necessary working temperature.

3.6.2 Note for Forehead Temperature Measurement

- Please measure at the same point when doing forehead temperature measurement, , otherwise the temperature value will have difference.
- In order to ensure the measurement accuracy, there should no hair, sweat, cosmetics and dirt, etc on the forehead when measurement.
- Cold coverage, sweating, and other cooling measures on fever patient's forehead will make the measurement result lower. Users should avoid measurements in this case.

3.6.3 Others

- Please keep the sensor and probe clean before and after measurement;
- Best work environment temperature is between 10℃ and 40℃.
- Don't use the thermometer in extreme environment, namely temperature is below -20℃ or over 50℃, humidity is over 95%RH.
- When the people being measured comes from a place where the temperature has a big difference from the test environment, he/she should stay in the test environment for at least 5 minutes in order to keep balance of the body temperature. Otherwise, the measurement result

will be influenced.

- If the product is taken from a place where the temperature has a big difference from the test environment, then the product should be placed in the test environment for 20 minutes before measurement.
- Please keep the surrounding environment stable. Don't measure in the fan, air conditioning vent airflow circle.
- Please avoid using the thermometer under direct sunlight, even outdoor.
- Measurement time interval in 20s.
- Advise to measure few minutes later after waking up.
- Do not measure after swimming or bathing or other reasons not yet completely dry.
- Please do not measure temperature after exercising, bathing or meal within 30 minutes,
- Before measuring body temperature, do not make any diet, and do not engage in sports activities.
- Do not measure baby temperature during or after breast-feeding.
- The thermometer can take away from the temperature measurement sites, only after the end of the voice prompts to hear the temperature.

Recommendations made three measurements in the following three cases, then take the higher value as the measurement results.

1) Children under three with weakened immune systems (in particular, to judge by children or without fever thermometer);
2) Not yet fully familiar with the use of a thermometer, so each measured temperature value may not be the same;
3) When suspect the measurement value is low.

4 EMC Statement

Electromagnetic fields might interfere with the normal operation of the instrument. And this instrument it is possible to produce other electronic products, electromagnetic interference, therefore, in the instrument Please note the following:

Note: 1, the infrared thermometer or the user to use the infrared thermometer should be prescribed under the electromagnetic environment in the following table, as this may cause the product does not work properly.

2, the portable and mobile RF communications equipment may affect the normal use of the infrared thermometer, please use the infrared thermometer at the recommended electromagnetic environment

3, the infrared thermometer should be close to or stacked with other equipment, if you must be close to or stacked use, it should be observed to verify normal operation in the configuration can its use.

Table 201

Guidance and manufacturer's declaration - electromagnetic emission - infrared thermometer		
Infrared thermometers intended use in the electromagnetic environment specified below, the purchaser or user should ensure that it is used in the following Electromagnetic Environment:		
Emission test	Compliance	Electromagnetic environment - Guidelines
RF Transmitter CISPR 11	1 group	Infrared thermometer only for its internal functions and uses radio frequency energy. Therefore, it is the very low radio frequency transmitter, and the possibility of interference in nearby electronic equipment is small.
RF Transmitter CISPR 11	B type	Infrared thermometers are suitable for use include household equipment and connected directly to the public low-voltage residential home for all the facilities for power.
Harmonic emission GB 17625.1	Not Applicable	
Voltage fluctuations / flicker emission GB 17625.2	Not Applicable	

Table 202

Guidance and manufacturer's declaration - electromagnetic immunity			
Infrared thermometer is expected in the following provisions of electromagnetic environment, buyers or users shall ensure that its use in the electromagnetic environment：			
Immunity test	IEC 60601 test level	Qualified level	electromagnetic environment—guide
electrostatic dis charge IEC 61000-4-2	±6 kV Contact Discharge ±8 kV air discharge	±6 kV Contact Discharge ±8 kV air discharge	The ground should be wood, concrete or ceramic tile, if the ground covered with synthetic material, the relative humidity should be at least 30%
Electrical transient bursts IEC 61000-4-4	±2 kV to power cord ±1 kV to input/out put cable	Not applicable	Network power supply should be used in the quality of a typical commercial or hospital environment
Surge IEC 61000-4-5	±1 kV cable to cable ±2 kV cable to ground	Not applicable	Network power supply should be used in the quality of a typical commercial or

			hospital environment
The power input line voltage sag and short supply interruption and the voltage change IEC 61000-4-11	＜5% UT，continue 0.5 period （on UT，＞95% sag） 40% UT，continue 5 period （on UT，60% sag） 70% UT，continue 25 period （on UT，30% sag） ＜5% UT，continue 5s period （on UT，＞95% sag）	Not applicable	Network power supply should be used in the quality of a typical commercial or hospital environment.If the user of this equipment need to run continuously during power outage, recommend this device adopts the uninterruptible power supply or batteries
power frequency magnetic field （50 Hz/60 Hz） IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic field should have in a typical commercial or hospital environment level of power frequency magnetic field characteristics of the typical place
Note ：UT Refers to the communication network voltage before applying test voltage			

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Guide and manufacturer's statement – Electromagnetic immunity			
Infrared thermometer is expected in the following provisions of electromagnetic environment, buyers or users shall ensure that its use in the electromagnetic environment：			
Immunity test	IEC 60601 test level	Qualified level	electromagnetic environment—guide
radio-frequency conduction GB/T 17626.6 radio frequency	3V （effective value） 150kHz~80MHz	Not applicable	Portable and mobile radio frequency communication equipment should not be more than the recommended separation distance near any part of this equipment is used, including the cables. The distance should be calculated by the transmitter frequency and the corresponding calculate. recommended separation distance

RF IEC 61000-4-3	3 V/m 80 MHz～2.5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz～800 MHz $d = 2.3\sqrt{P}$ 800 MHz～2.5 GHz In formula： P—According to the transmitter manufacturers transmitter maximum rated power output and the unit for watts（W）； d—The recommended distance between, the unit is m（m）。 Fixed field strength of the RF transmitter based on electromagnetic survey to determine a, b in each frequency range should be less than in line with the level。 Near the mark symbol of the following equipment possible interference。

Note 1：on 80 MHz an 800 MHz frequency point，Using high frequency formula。

Note 2：These guidelines may not be suitable for all situation, electromagnetic propagation by buildings, objects, and the effect of absorption and reflection of the body。

a   Stationary transmitter, such as: wireless cellular/cordless phones and ground mobile radio base station, amateur radio, am and FM radio and television broadcasting, etc., the field intensity in theory can predict. For the evaluation of fixed rf transmitter electromagnetic environment, electromagnetic site survey should be taken into account. If this equipment can be measured field intensity is higher than the place of the above applicable radio frequency (rf) in line with the level, is this equipment should be observed to verify their works. If the observed abnormal performance, the supplementary measures may be required, such as to adjust the direction of the device or location。

b   Throughout 150 kHz ~ 80 MHz frequency range, the field strength should be lower than 3 V/m。

Table 206

recommend isolation distance between portable/mobile type RF communication equipment and this equipment			
Infrared thermometer is expected to be used in RF harassment controlled electromagnetic environment. According to the maximum rated output power of communication equipment, buyers or users can prevent electromagnetic interference through the following recommended maintaining the minimum distance between portable/ mobile RF communication equipment (transmitter) and this equipment.			
The maximum rated output power W	isolation distance corresponding to different transmitter frequency /m		
	150 kHz～80 MHz $d = 1.2\sqrt{P}$	80 MHz～800 MHz $d = 1.2\sqrt{P}$	800 MHz～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 those transmitter maximum rated output power not listed in above chart, the recommended separation distance is d, unit is meters(m), and it can be determined by formula in corresponding transmitter frequency column. Here P is the maximum rated output power provided by transmitter manufacturer, the unit is watt(W).

Note1: Between frequency points 80 MHz and 800 MHz, please adopt high frequency formula.

Note2：These guidelines may not be suitable for all conditions, electromagnetic propagation is influenced by building, object and the absorption and reflection of human body.

5 About the Temperature

1) the concept of body temperature: the body temperature refers to the body's internal temperature, the so-called normal body temperature is a healthy person's body temperature, in accordance with the measurement location, time, different objects may show different results.

2) the normal body temperature, the different parts of the body to measure the results are not the same. Therefore, different parts of the measurement results should not be used to compare with each other. In physical health, multi test several times, prior to know their "normal temperature".

6 Maintenance and Attention

The probe of infrared thermometer is one of the most important parts, the front probe is most vulnerable. So be careful when using the measurement, avoid damaging the probe.

Please wipe the LCD screen and the shell is gently with clean soft cloth;

Please place infrared thermometer in a cool and dry place, avoid direct sunlight;

- if you do not plan to use it for a period of time, please cover the cap and remove the battery;

Please click the following ways to clean the probe:

Use a cotton stick or soft cloth gently wipe with water or alcohol, and do not place this product in water or a liquid immersion;

Is the packaging products should be stored in a temperature of - 20 DEG C - 50 DEG C, relative humidity is not more than 85%, non corrosive gases and well ventilated room.

If it is not in use for a long time (more than 3 months), please remove the battery storage. In addition to the battery not being used for a long time, battery leakage may be caused caused by fault;

The treatment of waste batteries according to the city of relevant environmental protection regulations for processing;

- if there is in need of repair, can provide information required for the circuit diagram and maintenance, if there is any doubt from circuit maintenance , contact the manufacturer.

- if you don't comply with the above note matters and other proper use and lead to machine failure,

the company does not assume responsibility for the quality.

Production specifications

No.	Item	Specifications
1	Name	Infrared Digital Thermometer
2	Duration of use	3 years
3	Product Categories	Internal power supply equipment BF type application part
4	Units of measurement	°C & °F key to switch
5	Range	34.0°C～43.0°C
6	Range Indicator	<34.0°C Show Lo，>43.0°C Show Hi
7	Accuracy	< 35.0°C and >42.0°C : ±0.3°C 35.0°C~ 42.0°C : ±0.2°C
8	Measuring position	Ear / forehead auto-sensing
9	Measuring interval	About 6 s
10	The ambient temperature exceeds	≧40.0°C：show Hi < 10.0°C：show Lo
11	Buzzer frequency	About 4Khz
12	Automatic shut-down	60 seconds after no operation
13	Low Voltage Tips	<2.4V ，Battery symbol flashes
14	Memory function	Save last measured 12 memories (without memory Lo / Hi)
15	Operating Voltage	DC 2.4～3.3V
16	Working current	Standby：< 2uA，Power：<5 mA (VDD=3.0V) Without backlight
17	battery	2×1.5V AAA
18	Tri-color backlit	≤37.5°C Green 37.6°C～38.0°C Yellow ≥38.1°C Red
19	Normal operating conditions	Ambient temperature：10°C～40°C Relative humidity：≦85% Atmospheric pressure：70kPa～106kPa
20	Size	120mm×40mm×30mm（L×W×H）
21	N.W.	50g

After-sale Service.

1. One year free warranty period will be provided after sales.

2. Our company cannot provide the free warranty service due to the malfunction caused by personal reason, details as follow:

  1）The malfunction caused by disassemble and modify the product.

  2）The product inner malfunction caused by dropping while picking up or operating.

  3）The malfunction caused by improper used or lack of reasonable cared.

  4）The malfunction caused by operating not following the operator's manual.

  5）The malfunction caused by natural disasters, such as flooding, fire.

  6）The malfunction caused by improper repaired by repair shop which isn't authorized by us.

3. Please show your valid warranty card and shopping vouchers when you need free service.

4. Please bring the product to repaired shop which is our authorized when you need free repaired.

5. When performing warranty service, if needed, you can provide information on product components to circuit diagrams and repairable identified by our qualified technical personnel.

6. We will collect reasonable charge when we repair some malfunctions which out warranty service.