Digital Infrared Thermometer
User Manual
Model: IRT101B

Please read the user manual carefully before using this device.

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1. Important Safety Instructions

1) Check this device before use to ensure it has not been damaged. If yes, please stop to use it.
2) Do not immerse this device in water or other liquids.
3) Do not put this device in a low or high temperature environment for a long time.
4) Do not touch the probe tip with finger. Do not blow the probe with mouth.
5) Do not open, alter or repair this device by yourself. Do not impact, drop, trample and shake it.
6) Use a soft, dry cloth to clean the surface of this device when it is dirty.
7) Do not measure the body temperature in 30 minutes after sports, dinner or bathing.
8) Wait for about 2 hours to take measurements when the ambient temperate difference is large. (for example move the device form indoor to outdoor).
9) Leave a small break of 10 seconds between two measurements.
10) Keep away from children because some parts are small enough to be swallowed.
11) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

    -Reorient or relocate the receiving antenna.

    -Increase the separation between the equipment and receiver.

    -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

    -Consult the dealer or an experienced radio/TV technician for help.

    This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

    Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

2. Device Introduction

Intended use: This digital infrared thermometer is intended to measure human body, object and ambient temperature.

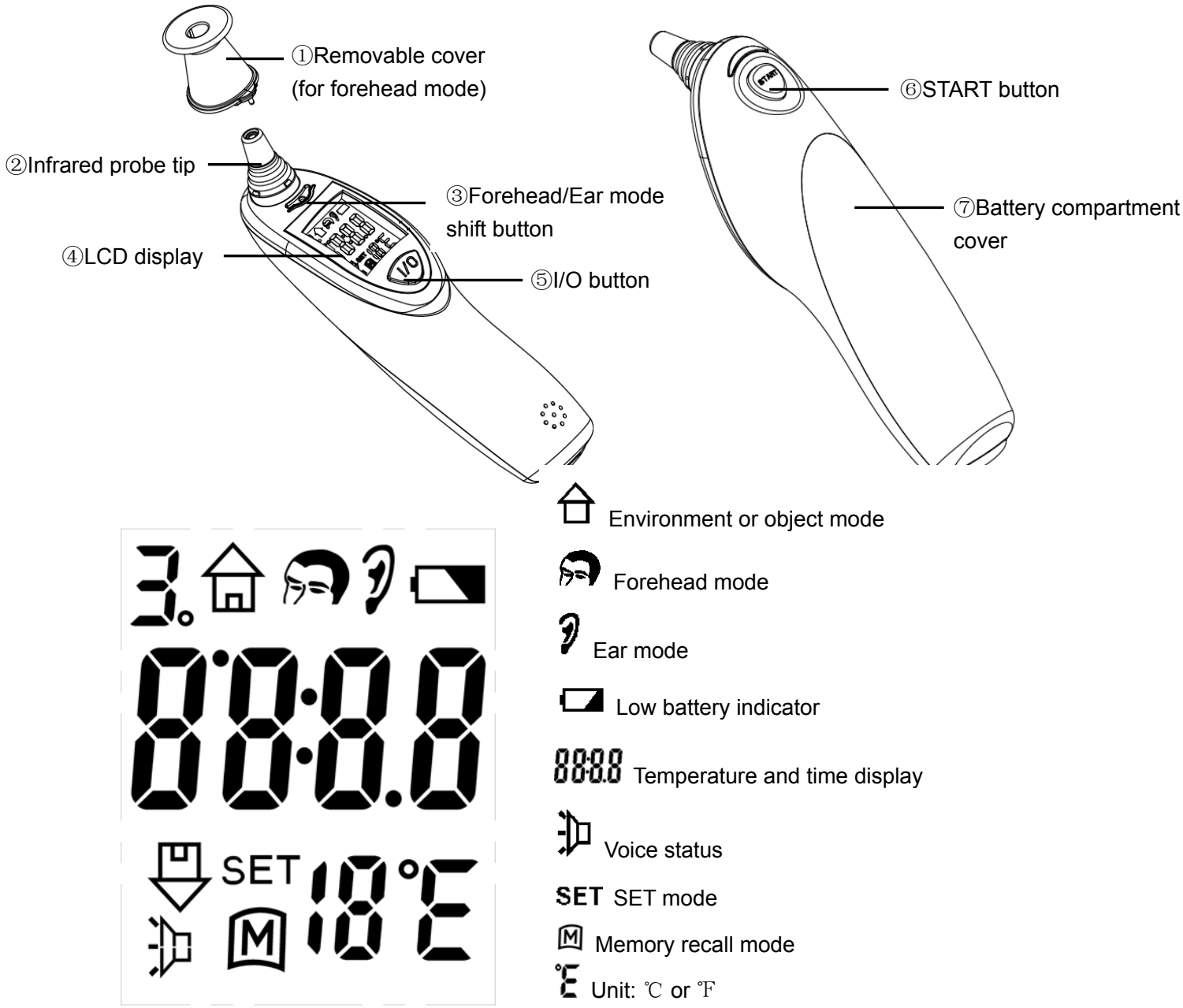


Figure 1 Device configuration and LCD full display

3. Working Mode

3.1 OFF mode

There is no any display on LCD in OFF mode.

If the clock has not been set successfully the device will switch off automatically when without operation for 30 seconds in MEASUREMENT mode.

3.2 MEASUREMENT mode

Press START button ⑥ the device will turn on and enter into MEASUREMENT mode. There are three MEASUREMENT modes: ear mode, forehead mode and ambient or object mode. The LCD display for each mode is listed below for example:

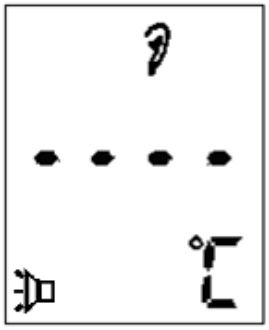


Figure 2 Ear mode

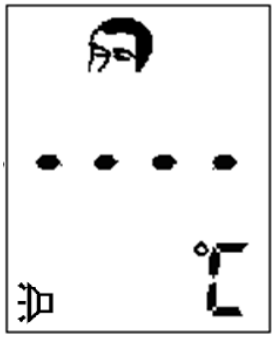


Figure 3 Forehead mode

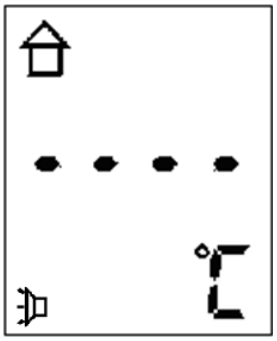


Figure 4 Ambient or Object mode

3.3 TIME/AMBIENT mode

If the clock has been set successfully the device will enter into TIME/AMBIENT mode when without operation for 30 seconds in MEASUREMENT mode. The actual time and ambient temperature will be displayed on the LCD in turn. See Figure 5 for example.

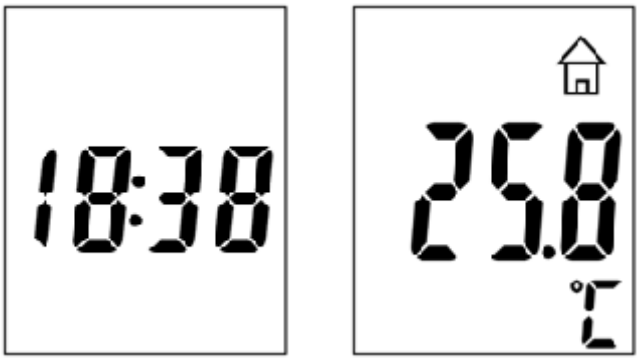


Figure 5

3.4 SETTING mode

In MEASUREMENT mode press I/O button ⑤ the device will enter into SETTING mode. You can set the time, temperature unit (℃ or ℉) and voice status in this mode. Details please see Clause 4.2

4. Preparation before Use

4.1 Install or replace batteries

Open battery compartment cover ⑦ and insert batteries to ensure the polarity (<+> and <->) of the batteries are correct and then close it. If the low battery icon displayed please replace the batteries immediately.

- Use 2pcs AAA alkaline battery.
- Do not mix different types of batteries, or an old battery with a new one.
- Remove the batteries if the device is not going to be used for long time.
- Reset the time and date after replacing the batteries.

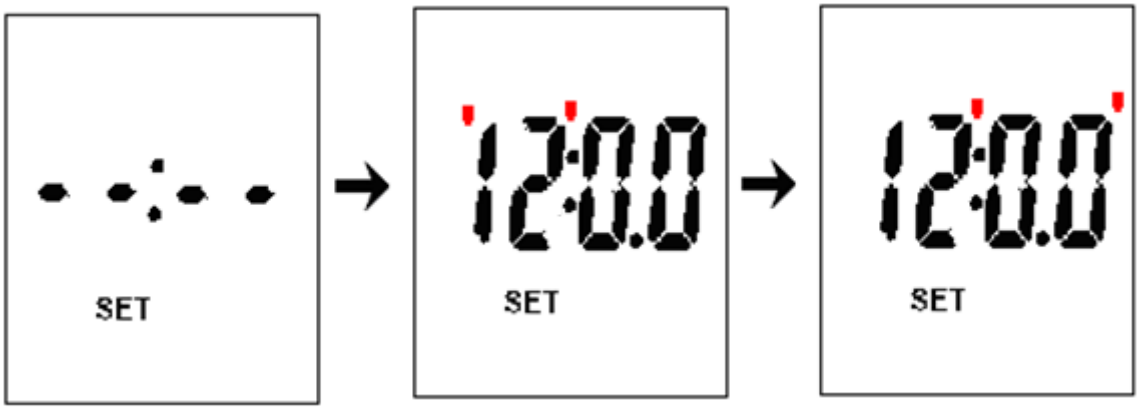
4.2 System setting

Press START button ⑥ the device will enter MEASUREMENT mode then press I/O button ⑤ to enter SETTING mode.

1) The first step will enter into memory recall. It will display the last measurement result.

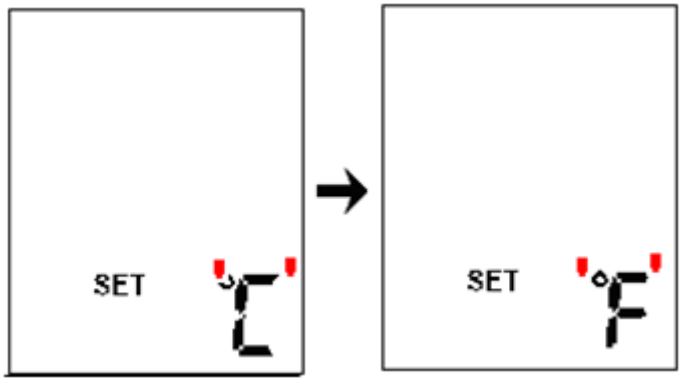
2) Press I/O button ⑤ to enter into setting the hour. Press START button ⑥ to set the hour (see Figure 6b);
3) Press I/O button ⑤ to confirm the hour and enter into setting the minute. Press START button ⑥ to set the minute (see Figure 6c);
4) Press I/O button ⑤ to confirm the minute and enter into setting the temperature unit. Press START button ⑥ to shift the temperature unit between ℃ and ℉ (see Figure 7b);
5) Press I/O button ⑤ to confirm the temperature unit and enter into setting the voice status. Press START button ⑥ to shift the voice between OFF and ON status (see Figure 8a and 8b);
6) Press I/O button ⑤ to confirm the voice status then ready for measurement.

NOTE: During the above procedures if no operation for 10 seconds the device will enter into measurement status. If the clock has not been set successfully the time is invalid.



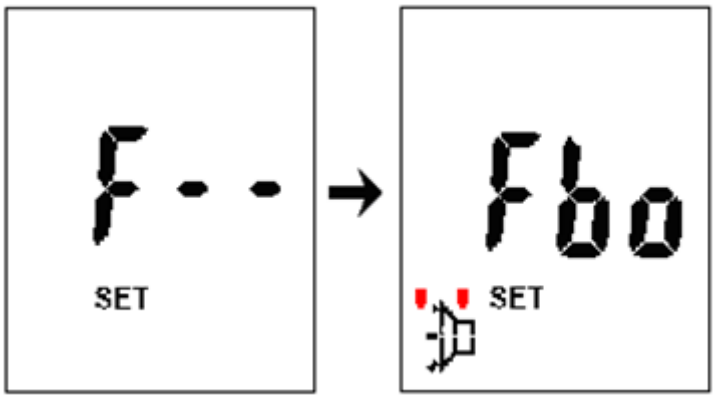
a) b) c)

Figure 6



a) b)

Figure 7



a) b)

Figure 8

5. Temperature measurement

5.1 Ear mode

1) Take off the removable cap ① and press START button ⑥ the device will turn on and LCD display will show all segments for 2 seconds. Then the device will display the last reading if there are readings stored in it. After that a “be” sound is heard and the device is ready for ear measuring mode. (The “be” sound will not be heard if the voice function has been closed.) See Figure 9. If place the removable cap at this time it will shift to forehead measuring mode.

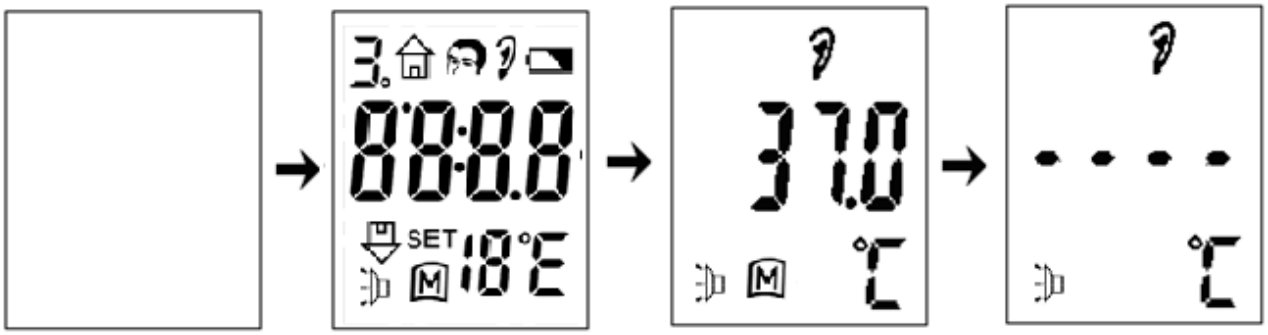


Figure 9

2) Place the probe firmly into ear canal and press START button ⑥ for about one second and then release the button when heard a “be” sound. (The “be” sound will not be heard if the voice function has been closed.)

3) Read the recorded temperature from the LCD display.

5.2 Forehead mode

1) The Forehead/Ear mode shift button ③ will be triggered when placing the removable cap ① on the infrared probe tip ②. Press START button the device will turn on and the LCD display will show all segments for 2 seconds. Then the device will display the last reading if there are readings stored in it. After that a “be” sound is heard and the device is ready for forehead measuring mode. (The “be” sound will not be heard if the voice function has been closed.) See figure 10. If take off the removable cap at this time it will shift to ear measuring mode.

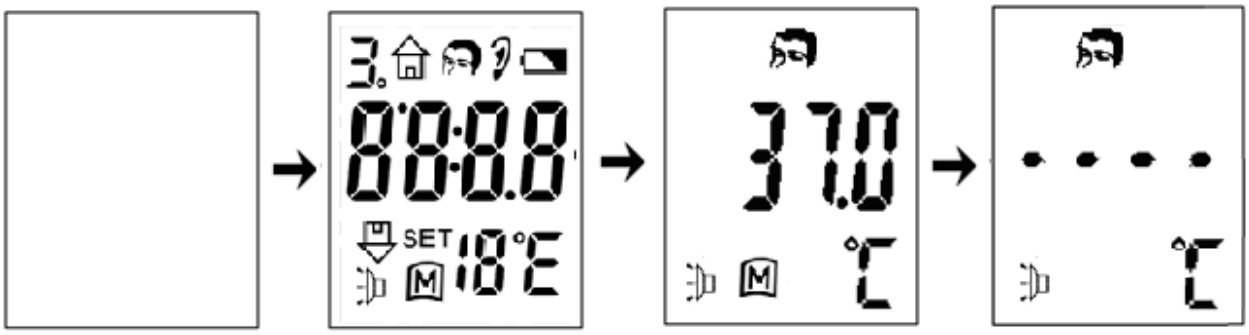


Figure 10

2) Place the removable cap on forehead and press START button for about one second and then release the button when heard a “be” sound. (The “be” sound will not be heard if the voice function has been closed.)

3) Read the recorded temperature from the LCD display.

   Note: The thermometer will display “Lo” when measured temperature is lower than 35.0℃ and display “Hi” when forehead temperature is higher than 42.0℃ in ear or forehead mode.

5.3 Ambient or object mode

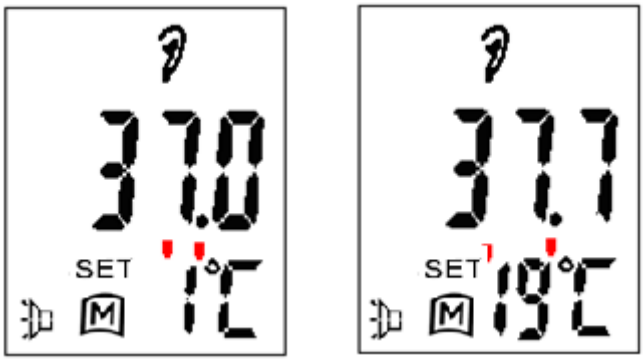
In ear or forehead mode hold START button ⑥ for 2 seconds the ambient or object temperature will displayed on LCD. See figure 11.

Figure 11

5.4 Memory recall

This device can recall the last 19 readings for ear and forehead mode each.

In measuring mode press I/O button ⑤ LCD will display the last reading (Reading 1) (see figure 12 a)) for example). Press START button ⑥ consecutively to recall the other 18 readings in succession. (see figure 12 b))



a) b)

Figure 12

6. APP Software Installation and Use (Special for IRT101B)

6.1 APP software installation

Download the "**Medxing Nurse**" APP software (version: V2.5.608) via the access http://www.medxing.com/index/download.html and then install it follows the instructions.

6.2 APP software use

1) After installation please click on the icon to enter into measurement interface (Figure 13).

2) Press START button ⑥ the device will turn on. Click on "connect to device" (Figure 13) and then a dialog boxes titled "Bluetooth permission request" will appear (Figure 14), by click "Yes" then "Turning on Bluetooth" will display (Figure 15).

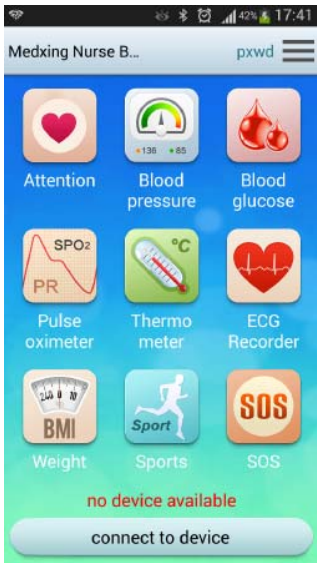


Figure 13

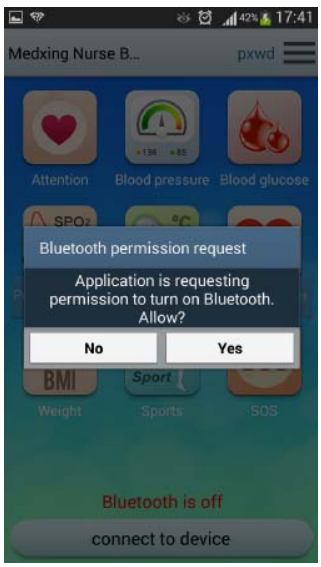


Figure 14

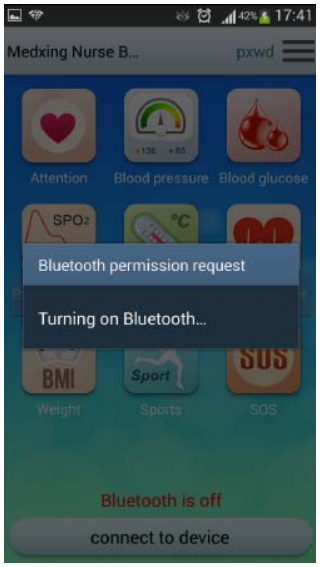


Figure 15

3) After searched the digital infrared thermometer successfully you can connect the thermometer with mobile by clicking the icon of "Thermo meter" and then the interface (Figure 16) will appeared. After click "Enter" it will enter into measurement interface (Figure 17).

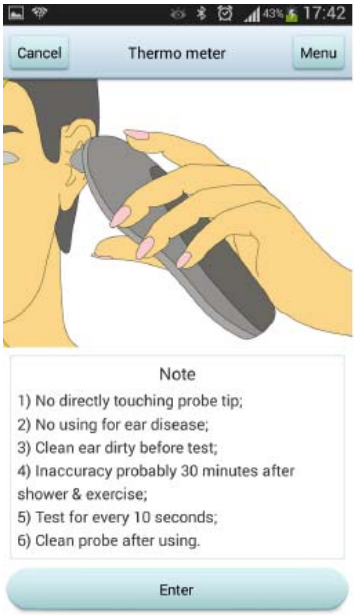


Figure 16

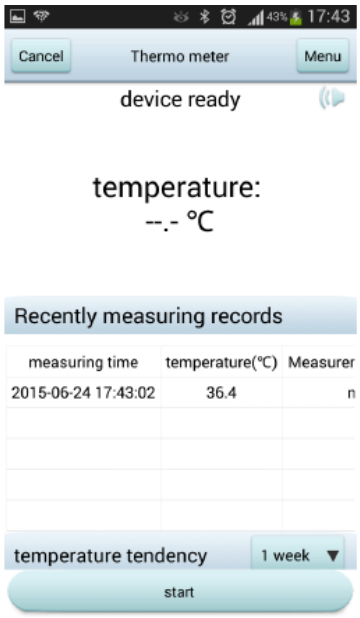


Figure 17

4) 1s after ear temperature or forehead temperature measurement it will remind you to choose the measuring states (Figure 18). After you make a choice you can see the current and recent measurement results (Figure 19).

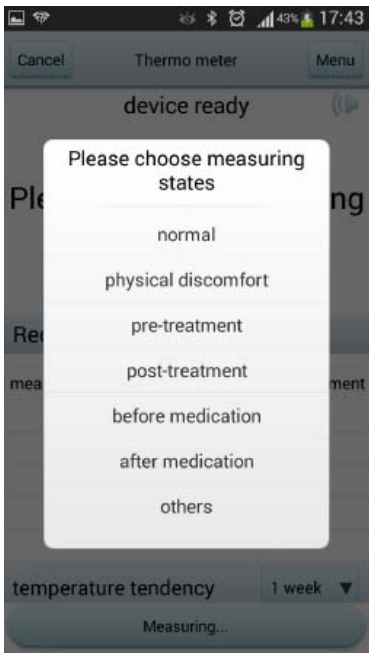


Figure 18

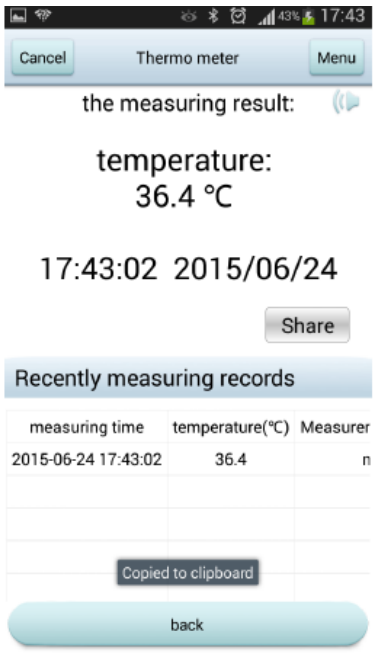


Figure 19

7. Troubleshooting

The Table listed below explains how to troubleshoot the Digital Infrared Thermometer. It lists possible error, along with probable causes, and recommended actions to correct the difficulties.

Error Description	Possible Causes	Solutions
No any display after pressing START button when batteries had been	1) The batteries' polarities had been positioned wrong. 2) The batteries are empty.	1) Check and ensure batteries' polarities are correct. 2) Replace the batteries.

installed successfully.		
Displays “Hi”	The measured body temperature is higher than 42.0℃ (107.6℉)	Check and ensure the probe is clear then remeasure.
Display “Lo”	The measured body temperature is lower than 35.0℃(95.0℉)	Check and ensure the probe is clear then remeasure.

- If above errors are still persists or you have any further questions please call Med-link customer service at 400-058-0755.

8. Cleaning and Disinfection

Use an alcohol swab or cotton tissue moistened with alcohol (70% Isopropyl) to clean the thermometer housing and the measuring sensor. Ensure no liquid enters the interior of the device. Never use abrasive cleaning agents, thinners or benzene or other cleaning liquids. Take care not to scratch the surface of the sensor lens and LCD display.

9. Warranty

This device is covered by a 5 year warranty from the date of purchase. The warranty is valid only on presentation of the warranty card completed by the dealer confirming date of purchase or the receipt.

The warranty covers the device. The battery and packaging are not included.
Opening or altering the device invalidates the warranty.
The warranty does not cover damage caused by improper handling, a discharged battery, accidents or non-compliance with the user manual.

10. Technical Specifications

Product name:	Digital Infrared Thermometer
Measurement mode:	1) Body temperature mode: ear or forehead mode 2) Ambient or object temperature mode
Measurement range:	1) Body temperature: 35.0～42.0℃ (95.0~107.6℉); 2) Ambient temperature: 0～100.0℃ (32.0~212.0℉).
Resolution:	0.1℃/℉
Measurement accuracy:	±0.2℃ (±0.4℉), 35.0～42.0℃(95.0~107.6℉) ±1.0℃, ＜35.0℃(95.0℉) or ＞42.0℃(107.6℉)
Battery:	DC 3.0V (2xAAA alkaline battery)
Temperature limit:	Operating: 16~40°C (60.8~104.0℉); Storage/Transportation: -25.0~+55.0°C (-13.0~+131.0℉)
Humidity limitation (Operating/Storage/Transportation):	≤95%RH, non-condensing
Hyperbaric pressure limitation (Operating/Storage/Transportation):	70~106kPa
Weight:	Approx 71g (without batteries)
Dimensions:	159(L)×55(W)×36(H)mm
Memory recall:	19 sets

Reference to standards:	Safety: IEC/EN 60601-1, EMC: IEC/EN 60601-1-2, performance: EN12470-5, ASTM E1965
Accessory:	2xAAA alkaline battery User manual Warranty card Blister box Storage case (optional)

11. Device Symbols

The following symbols may appear on the product labeling:

	Refer to instruction manual/ booklet		Type BF applied part
	Batch code		Keep dry
	Waste electrical and electronic equipments must be disposed of in accordance with the local applicable regulations, not with domestic waste.		Indicates this device is in compliance with Medical Device Directive 93/42/EEC. XXXX is the Notified Body

12. Electromagnetic Environment

Electromagnetic Interference Caution

This device has been tested and found to comply with the limits for medical devices to the IEC/EN 60601-1-2. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. However, because of the proliferation of radio-frequency transmitting equipment and other sources of electrical noise in healthcare environments (for example, electrosurgical units, cellular phones, mobile two-way radios, electrical appliances, and high-definition television), it is possible that high levels of such interference due to close proximity or strength of a source may result in disruption of performance of this device. This Digital Infrared Thermometer is not designed for use in environments in which the pulse can be obscured by electromagnetic interference. During such interference, measurements may seem inappropriate or the monitor may not seem to operate correctly.

Warning:

Digital Infrared Thermometer should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, Digital Infrared Thermometer should be observed to verify normal operation in the configuration in which it will be used.

Guidance and manufacturer´s declaration – electromagnetic emission – for all EQUIPMENT AND SYSTEMS

1	**Guidance and manufacturer´s declaration – electromagnetic emission**		
2	The model IRT101B/IRT101 is intended for use in the electromagnetic environment specified below. The customer or the user of the model IRT101B/IRT101 should assure that it is used in such an environment.		
3	**Emissions test**	**Compliance**	**Electromagnetic environment – guidance**

4	RF emissions EN 55011	Group 1	The model IRT101B/IRT101 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.
5	RF emissions EN 55011	Class B	The model IRT101B/IRT101 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.

Guidance and manufacturer's declaration – electromagnetic immunity – for all EQUIPMENT and SYSTEMS

Guidance and manufacturer´s declaration – electromagnetic immunity			
The model IRT101B/IRT101 is intended for use in the electromagnetic environment specified below. The customer or the user of the model IRT101B/IRT101 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 IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Guidance and MANUFACTURER'S declaration – electromagnetic IMMUNITY – for ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Guidance and manufacturer's declaration – electromagnetic immunity			
The model IRT101B/IRT101 is intended for use in the electromagnetic environment specified below. The customer or the user of the model IRT101B/IRT101 should assure that it is used in such an environment.			
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	Portable and mobile RF communications equipment should be used no closer to any part of the model IRT101B/IRT101, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** $d = [\frac{3,5}{V_1}]\sqrt{P}$ $d = [\frac{3,5}{E_1}]\sqrt{P}$ 80 MHz to 800 MHz $d = [\frac{7}{E_1}]\sqrt{P}$ 800 MHz to 2,5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the compliance level in each frequency range b Interference may occur in the vicinity of equipment marked with the following symbol:

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 model IRT101B/IRT101 is used exceeds the applicable RF compliance level above, the model IRT101B/ IRT101 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the model IRT101B/IRT101.

[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 EQUIPMENT or SYSTEM - for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the model BP-10P

The model IRT101B/IRT101 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the model IRT101B/IRT101 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model IRT101B/IRT101 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output of transmitter W	**Separation distance according to frequency of transmitter m**		
	150 kHz to 80 MHz $d = [\frac{3.5}{V_1}]\sqrt{P}$	80 MHz to 800 MHz $d = [\frac{3.5}{E_1}]\sqrt{P}$	800 MHz to 2.5 GHz $d = [\frac{7}{E_1}]\sqrt{P}$
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.

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