9.ERROR MESSAGE

The screen display	Significance of display	Possible causes and debugging method
	Measurement temperature is too high	The measuring temperature is higher than: ● 42.9°C/109.22°F(Body temp) ● 100°C/212°F(Object temp)
	Measurement temperature is too low	The measured temperature is below: ● 32°C/89.6°F(Body temp) ● 0°C/32°F(Object temp)
	The ambient temperature is too high	The environment temperature is higher than the 40°C/104°F (Body mode/Object mode)
	The ambient temperature is too low	The environment temperature is below: ● 16°C/60.8°F(Body temp) ● 5°C/41°F(Object temp)
	Error display	System failure
	Blank screen	Please check whether the battery is properly installed and to check the negative and positive poles of the battery (<+>and<->).
	No battery indicator	If the display screen shows only a fixed battery image, the battery should be replaced immediately.

10.CLEANING AND STORAGE

Clean the shell and sensing head with a cotton cloth wetted or moisten with the 70% isopropyland make sure not to let the liquid into the inner part of the product. We advise that you should clean your thermometer when you finished your personal measurements every time.

Do not use abrasive cleaning agent, diluent or gas to clean. Do not immerse the product in water or other liquid.

Be careful not to scratch the LCD surface. If not used for a long time, please remove the battery from the apparatus in order to avoid damaging the thermometer from battery leakage.

11.REPLACE THE BATTERY

This product comes with two 1.5V AAA batteries. When the LCD displays the battery symbol"▼",it is time to replace the batteries. As shown in the following picture, slide the battery cover off the end of the thermometer, insert new equivalent battery type and carefully replace the battery cover.

 

12.TECHNICAL SPECIFICATIONS

Product name: Non-contact Infrared Thermometer
Type of Protection Against Electric Shock: Internally Powered Equipment
Degree of Protection Against Electric Shock: Type BF applied part
Mode of operation: Continuous
Accuracy: Body mode:±0.2℃ (35.0~42.0℃) ,±0.3℃ (Out of 35.0~42.0℃)
Object mode: ±0.9℉(32℉~212℉)/±0.5℃ (0~100℃)
Measuring range: Body mode: 32.0℃ to 42.9℃/89.6℉ to 109.22℉
Object mode: 0℃ to 100℃/32℉~212℉
(ADJUSTED MODE)
Operation air pressure: 80kPa-106kPa
Operating temperature: temperature: 15℃ to 40℃/59℉to 104℉
Relative humidity:20%~85%RH
Object mode: 5℃ to 40℃/41℉ to 104℉

Screen : Liquid crystal display screen, display unit 0.1 ℃/0.1°F.

Sound: a. Device start and preliminary measurements:
1 short "beep" sound.
b. Complete the measurements:one long "beep" sound.
c. System error or fault: three short "beep".
d Measurement process: fast and slow "beep" sound.

Memory: Memory stores 12 readings .

Backlight display in body mode for body temp
a. Green backlight shows when the temperature below 37.5°C/99.5°F.
b. Orange backlight shows when the temperature is among 37.5°C~37.9°C,99.5°F~100.2°F.
c. Red backlight shows when the temperature is higher than 38°C/100.4°F

Storage / transportation temperature: -20°C to 55°C(-4°F to131°F)
Relative humidity< 95%

Automatic shutdown: After about 60 sec without operation

Battery: DC 3V (DC 1.5V AAA 2 PCS)

Size: 150mm(L) X 86mm(W) X 40mm (H)
Weight: About 144g (With the battery)

Power off statu : Object temperature and time circulate showing for 20sec.
EXPECTED SERVICE LIFE of the thermometer : 6 YEARS
EXPECTED SERVICE LIFE of the battery:2 YEARS OR 1000 times use
APPLIED PARTS: Enclosure

13. WARRANTY

We grant you 2 years warranty after date of purchase. This product has been produced with the greatest care according to international quality standards, established in the European Guideline for Medical Products 93/42/EEC, The unit satisfies the requirements of ISO 80601-2-56 and it was subjected to strict testing before delivery. Should you nevertheless have reasons of complaint, please send the thermometer together with the warranty card, filled out, to the service address given on the back.

Any damage caused by improper handling shall not be covered by the warranty. Batteries and packaging are also excluded from the warranty. All other damage claims excluded. A warranty claim must be submitted within the warranty period. Be sure to include: date of purchase, dealer stamp, and name and address of responsible dealer.

14. EMC Declaration

Guidance and manufacturer's declaration-electromagnetic immunity.

The FR series device is intended for use in the electromagnetic environment specified below. The customer or the user of the FR series device should assure that they are used in such environment.

Immunity Tests	IEC60601 test level	Compliance level	Electromagnetic environment-guidance
Electrostatic Discharge(ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 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	N/A	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	N/A	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 % U_T ; 0.5 cycle At 0°,45°,90°,135°, 180°,225°,270° and 315° 0 % U_T; 1 cycle and 70 % U_T; 25/30 cycles Single phase: at 0° 0 % UT; 250/300 cycle	N/A	Mains power quality should be that of a typical commercial or hospital environment. If the user of the VST300 device requires continued operation during power mains interruptions, it is recommended that the VST300 device be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) Magnetic filed IEC 61000-4-8	30A/m	30A/m	Power frequency magnetic fields should be at levels of a typical commercial or hospital environment.

NOTE: U_T is the a.c. mains voltage prior to application of the test level.

15. EMC Declaration(Continued)

Guidance and manufacturer's declaration-electromagnetic immunity.

The FR series device is intended for use in the electromagnetic environment specified below. The customer or the user of the FR series device should assure that they are used in such environment.

Immunity Tests	IEC60601 test level	Compliance level	Electromagnetic environment-guidance
Conducted RF IEC 61000-4-6	3Vrms 150 kHz to 80MHz	3Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the FR series device, including cables, than the recommended separation distance calculated from the equation applicable t the frequency of the transmitter **Recommended separation distance** d=12 $\sqrt{P}$
Radiated RF IEC 61000-4-3	3V/m 80MHz to 2.5GHz	3V/m	d=12 $\sqrt{P}$ 80MHz to 800MHz d=23 $\sqrt{P}$ 800MHz to 2.5GHz 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:"should be less than the compliance level in each freque ncy range." Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE1 At 80MHz and 800MHz, the higher frequency range applies.
NOTE2 These guidelines may not apply in all situations. Electromagnetic 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 VST300 device are used exceeds the applicable RF compliance level above, the VST300 device should be observed to verify normal operation. If abnormal operation is observed, additional measures may be necessary, such as reorienting or relocating the VST300 device.

b) Over the frequency range 150kHz to80MHz, field strengths should be less than 3V/m

16. EMC Declaration(Continued)

Recommend separation distance between portable and mobile RF communications equipment and the FR series device

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

NOTE1 At 80MHz and 800MHz, the separation distance for the higher frequency range applies.

NOTE2 hese guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

JIACOM
Non-contact Thermometer

Model: FR880

Users must read the instructions carefully before using this product

17. Disposal

Once the product life has ended or his components do not work anymore their disposal should be carried out according to the current regulations.

18. Symboles or Abbreviation

Type BF applied parts | Manufacturer | ATTENTION
Follow instructions for use | SN Serial number | Direct current
EC REP European Authorized Representative

CE 0197 CE Mark: conforms to essential requirements of the Medical Device Directive 93/42/EEC.

DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment id necessary.

Shenzhen JIACOM Technology Co.,Ltd
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Webside: www.szjiakang.com

EC REP **Umedwings Netherlands B.V.**
Address: Treubstraat 1,2288EG,Rijswijk, the Netherlands SRN:NL-AR-000000444

CE 0197 IP22

DocID:PC-00880-04
Version number:V02

1. Preliminary remarks

⚠

Please read these instructions for use carefully before first use as correct temperature measurement depends only on the appropriate use of the device. These instructions describe the individual steps of temperature measurement using Infrared Thermometer and contain important and helpful hints for the reliable determination of the body temperature. Be sure to keep these instructions for use for future reference.

2. Introduction

Dear Customer, we are pleased that you have decided to purchase a clinical thermometer.Non-contact Infrared Thermometer is a quality product for measuring the human body temperature on the forehead, It is ideally suited for measurements on children as from 6 months of age, but the thermometer can be used also on adults. Given correct application the device ensures a fast and precise measurement of the body temperature in a very comfortable manner. We wish you all the best for your health.

Indications for Use:

Infrared Thermometer is intended to detect body temperature from forehead in the population including infant (above 6 months), child, adolescent, and adult.

3. BENEFITS OF THE THERMOMETER

Non-contact measurement in a few seconds

High-tech innovative infrared sensor: to complete measurement safely and healthily in a few seconds.

Body and Object temperature measurement

You can choose to perform measurement of either body temperature or object temperature by moving the slide switch.

Fever Prompt

Red backlight display and 10 short beeps to warm the patient that he/she may have a fever.

Display 12 measurement readings

When you enter the memory mode, you can read the last 12 measurement readings.

Automatically display memories

This thermometer will display the last reading automatically for two seconds when starting the device.

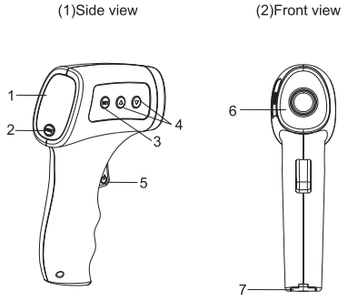
4. IMPORTANT SAFETY INSTRUCTIONS

- Never use the product for other purposes except its original use please comply with the general safety precautions when used for children.
- This thermometer should never be immersed in water or other liquid(not waterproof).For cleaning and storage please read carefully the instructions in section 8.
- The patient is an intended operator and can perform the maintenance the equipment.
- If any operator requests more information such as circuit diagrams, parts list and product descriptions, for repairs carried out by qualified technical personnel, please contact us.
- Warning: No modification of this equipment is allowed
- Please store the thermometer in a clean, dry environment ; avoid direct sunlight; storage temperature should be between -4℉ to131℉/-20℃ to 55℃.
- Please do not use the thermometer if its sensing head or body have been damaged,and do not attempt to repair it when damaged.
- This non-contact thermometer is made up of high quality precision part. Do not drop the instrument!Protect it from severe impact and shock. Please do not twist its body and sensing head.
- Properly dispose of batteries, keeping them from small children and heat.
- If batteries are swallowed consult a doctor immediately.
- If there is water or liquid in the thermometer.Please dry the thermometer and keep users and the thermometer in a stable temperature for at least 30 minutes before use.
- The surface temperature of enclosure is no more than 48 °C when using the device.And if the surface temperature exceeds 41 °C,patient contact time should no more than 10min.

Warning:

Using the Non-contact Thermometer should not replace visiting a doctor.

5. DESCRIPTION OF PRODUCT



No	Item	Description
1	Display screen	Displays measurement readings and other corresponding symbols
2	MODE button	Press to choose body temp or object temp
3	SET button	Press to choose °F and °C
4	Memory check button	Press each one button can check the memory record
5	Power button	Used to turn on the machine and test the temperature
6	Sensing head	Infrared sensing for measurement
7	Battery cover	Protect the battery

6. DISPLAY SCREEN AND IMAGE DESCRIPTION

Description of all kinds of images in display area

Image	Setting	Description
	Body temp	Can perform measurement of body temperature
	Object temp	Can perform measurement of object temperature
	Degree centigrade	Measure by degree centigrade
	Degree Fahrenheit	Measure by degree fahrenheit
M	Memory mode	Display measurement value from memory

Different types of information in display area

Display screen	Procedure	Description
Body temp / Object temp 888.8	Starting up	Turn on this device by pressing O/I button. All information will be shown for two seconds.
Body temp 36.8 / Object temp 58.8	Memory	The last reading will automatically display on the screen for two seconds, containing M image, measurememt mode image (humanbody or object).
Body temp --- / Object temp ---	Preparation of measurement	This device has been prepared for measuring, image of ℃/°F will keep twinkleing.
Body temp 36.9 / Object temp 59.8	Finish of measure-ment	Reading will be displayed on the LCD screen, red backlight for measurement value＞fever point,orange backlight = a low fever, green backlight for measurement value < fever point.
Body temp 36.9 / Object temp 59.8	To enter the next measure-ment	Around two seconds later, the image of ℃ will twinkle, this device is ready for the next measurement.

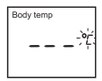
7. USING THE THERMOMETER

Measurement of human body temperature

1. Press the MODE button to decide to test body temp or object temp.

2. Press power button, all images on screen will display.
3. The last reading and M image will automatically display for two seconds.

4.Press the SET button to decide the scale to be °F or °C.
5. The thermometer will enter the ready state:
   a.A short beep.
   b.Image of ℃ and reference position will twinkle on the screen.



6. To start the measurement, aim the thermometer at the center of the Forehead no more than 5 cm away. If there is hair, sweat or dust on the forehead, please remove and wipe clean in order to improve accuracy.

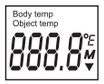
7. Press the “SCAN”button for two seconds,release and the measurement is started.
8. You will hear a long beep,that means the measurement has finished,you can read the temperature value on the screen, as shown below.

8. Intelligent analysis of body temperature

- If the measured temperature is below 37.5 ℃, the measurement result will display on screen with a long beep and green backlight.
- if the measurement temperature is among 37.5°C~37.9°C (99.5°F~100°F),the measurement result will display on the screen and orange backlight will show to inform you have a low fever.
- If the measured temperature is higher than 99.5℉ (37.5℃) , the measurement result will display on screen with 10 short beeps. The back light display and the short beeps alert the patient that he/she has a temperature above 37.5℃.

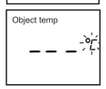
Measurement of the object temperature

1. Press the MODE button to decide to test body temp or object temp.



2. Press O/I button, all images on screen will display.

3. The last reading and M image will automatically display for two seconds.
4. The thermometer entered the ready state:
   a. A short beep.
   b. Image of ℃/°F and reference position will twinkle on the screen.



5. Aim the thermometer at the center of object no more than 5 cm away. If there is water, dust or dirt on the object, please wipe clean in order to improve accuracy.

6. Press the power button for 2 seconds, while aiming at the center of the object, release and the measurement started.
7. You will hear a long beep, that means the measurement has finished, you can read the temperature value on the screen, as shown below.

Attention:

- Please keep users and the thermometer in a stable room temperature for at least 30 minutes before use.
- After continuous measurement, please wait at least two minutes to turn on or off the thermometer again.
- Do not take a measurement immediately or a period of time after nursing.
- Never use the thermometer in a high temperature environment.
- Before or during measurement, do not drink ,eat, or move.
- Please clean the scanning area and remove dust,hair or sweat before using the thermometer.
- Please remove water, dust or dirt on the object before measurement.
- Please do not remove the thermometer before hearing the long beep at the end of measurement.
- If the sensing head is found to be dirty after or during measurement or before putting the thermometer back into the box, use alcohol cotton to wipe it carefully please.
- Please try to take measurement in the same area; results will be different in different areas.
- Because the temperature regulating function of baby is not perfect, do not take measurement immediately after the baby go into the environment with large temperature difference, to avoid temperature measurement deviation.
- Suggest using general type thermometers for measuring in the following cases:

  1) Measurement results are higher or lower than expected.

  2) Newborn baby younger than 100 days.

  3) Children under 3years old who have a defective immune system, have very serious fever or no fever phenomenon.

8. USING THE THERMOMETER

a. Body temp memory check : when the machine is in the turn on state, press the MODE button to make sure it in the Body temp mode, then press the UP or DOWN mark to check the momory reocrd.

b. Object temp memory check : when the machine is in the turn on state, press the MODE button to make sure it in the object temp mode, then press the UP or DOWN mark to check the momory reocrd.

Time setting:

Press the SET button for more than 12sec can enter the time setting status when the machine is in the measuring status, Press the UP or DOWN mark to adjust the value, When the value confirmed, press the SET can confirm, then enter the next setting.

If you press the SET button for about 4sec can decide to close the beep voice or not, if yes, press the SET button ASAP, if not, don't press SET button.