

Model IR988
Non-Contact Digital Infrared Thermometer
Instruction Manual



Welcome to use the Infrared Thermometer IR988.

To ensure the accuracy of measurement and safety of use, please read the manual carefully before use.



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3.1 Product Introduction

The infrared thermometer is a high-quality product, it adopts infrared technology, each start-up will be self-testing to ensure the accuracy of measurement, this infrared thermometer is mainly used to measure the temperature of the forehead of the human body.

This product can perform accurate and stable temperature measurement. Users only need to point the probe head on the forehead and press the measurement button, and the body temperature can be measured quickly and accurately in one second.

To ensure the accuracy of measurement and safety of use, please read the manual carefully before use.

This product is widely used in schools, customs, hospitals, homes and other places.

3.2 Scope of Application

The body temperature is measured by measuring the human body's thermal radiation.

3.3 Structure and Composition

It consists of a housing, an infrared temperature sensor, a signal receiving processor, buttons, a COB board, a buzzer, and an LCD display.

3.4 Preventive Examination

1. Before measurement, the infrared thermometer shall be proofread to check the function of each component and keep the good performance of the infrared thermometer.
 2. Maintain sufficient power supply to determine whether the external environment is in accordance with the product operating environment.
 3. After the product is packed, it is allowed to be transported by common means of transportation, but it should avoid the mechanical collision of rain, damp and extrusion box.
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3.5 Statement

The clinical accuracy or the clinical deviation of the infrared thermometer has passed the clinical verification, and its safety and effectiveness meet the requirements of the relevant national laws and regulations. For the claimed performance verification method, please contact our customer service department.



4.1 Safety Instructions

This product is intended for use only as described in the instructions.

The manufacturer shall not be liable for any damage caused by improper use.

- I. Do not immerse this product in water or other liquids. For cleaning, wipe with a damp soft cloth.
- II. If you think this product is damaged or abnormal, please stop using it.
- III. Do not open this product without permission.
- IV. The blood vessels constrict and the skin surface temperature drops during the early stages of fever, when the measured temperature is unusually low.
- V. If the measurements do not match the patient's diagnosis or the temperature is abnormally low, the measurements are repeated every 15 minutes or another core temperature area is measure to verify the previous measurements.
- VI. This equipment includes sensitive elements and shall be treated with caution. The storage and operating conditions are described in the Product Specification section.
- VII. This product contains small parts, in order to avoid swallowing, children need to use under adult supervision.

**** Please stay away from the following situations:**

- a) Extreme temperature
- b) Shock and drop
- c) Pollution and Dust
- d) Direct sunlight
- e) Hot and cold environment
- f) If it cannot be used for a long time, please remove the battery and place it.

Warning: This device is not a complete substitute for medical treatment. It is not waterproof and shall not be used in liquids.

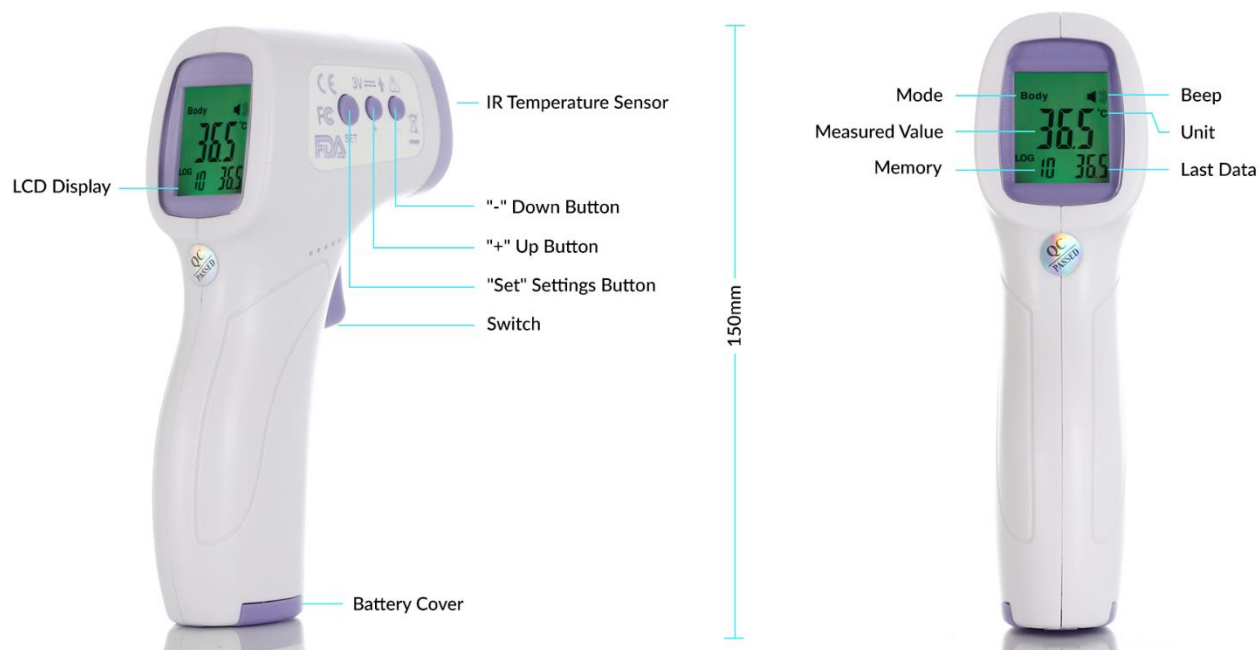


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Instruction Manual

5.1 Structure Introduction



5.2 LCD Backlight Color Description

In the human body mode, the product can intelligently display the measurement results and prompt with different backlight colors, as follows.

3 Color LCD Display		
32.0°C ~ 37.4°C	37.5°C ~ 37.9°C	38.0°C ~ 42.9°C
GREEN	ORANGE	RED

6.1 How to Install Batteries

The machine requires two DC3V (AAA batteries). When the low voltage icon flashes on the screen, the battery needs to be replaced.

Remove the battery back cover in the direction indicated (Step 1)

Replace the battery, and correctly reprint the battery according to the positive and negative poles marked (Step 2)

1. Hold the unit and open the battery back cover in the direction indicated.
2. Insert two DC3V (AAA batteries) batteries and pay attention to the battery polarity indication.



Battery Replacement Cycle for Consumables and Description of The Replacement Method

The removable parts of this product mainly include batteries, before installing accessories, please make sure that the accessories specifications and models are consistent with the original factory regulations, please be sure to use the company's specified model accessories, if necessary, please contact the seller or manufacturer's contact telephone number.

Battery installation and replacement: When the display appears low voltage prompt symbol, please replace the special battery. For installation and replacement, please refer to the Instructions for Installation and Use in this manual.



Batteries and electronic equipment shall be disposed of in accordance with applicable local laws and regulations and shall not be casually thrown into the garbage to avoid irreversible pollution.

7.1 Modify Settings

In the power-on state, long press the SET button (SET) for about 2 seconds to enter the temperature setting interface, and then press (SET) to switch;

Switching sequence: F1 → F2 → F3 shutdown and save.

- 1) F1 interface: Temperature display unit switch, press [+] Plus Sign key and [-] Minus Sign key to modify.
- 2) F2 interface: Adjust the warning temperature, press [+] Plus Sign key and [-] Minus Sign key to modify the temperature value, higher than the temperature value, for red backlight warning.
- 3) F3 interface: The function setting of speakers on and off, press [+] Plus Sign key and [-] Minus Sign key to modify.
- 4) F4 interface: Overall temperature offset setting, press [+] Plus Sign key and [-] Minus Sign key to modify the temperature offset value.
- 5) Press the SET button again to shut down and save the modified settings.

7.2 Key Operations

KEY / BUTTON	FUNCTION	OPTION 1	OPTION 2
SET	UNIT	C	F
- MINUS SIGN	MODE	BODY	SURFACE / OBJECT
+ PLUS SIGN	MEMORY	BACKWARD	FORWARD



8.1 Body Temperature Measurement

This product provides you with a method of measuring the frontal temperature, but it cannot replace the doctor's diagnosis and treatment. In addition, individual body temperature is different. Please use the memory function to understand your normal body temperature and use it as a reference for whether the body temperature rises.

- 1) Point the thermometer to the middle of the forehead-above the eyebrow and keep it vertical. The measurement site must not be covered by hair. The distance between the thermometer and the forehead is recommended to be between 1 and 5 cm.

- 2) Press the key to start

Note 1: The temperature mode is the preset mode

Note 2: The thermometer goes off automatically after turning on

Note 3: Self-check, if an error occurs, it will display on screen.

- 3) About in 1 second, the "body temperature" symbol is displayed on the thermometer screen and the measurement result is displayed.
- 4) Automatic shutdown in 30 seconds if in idle condition.

Before the measurement, please confirm that the measured person has not bathed or exercised within 30 minutes, and has been in a stable environment for at least 5 minutes. Three measurements are recommended. If the three measurements are different, select the highest temperature value.

8.2 Surface Temperature Measurement of Object

This product provides you with the function of measuring the surface temperature of an object.

- 1) Press the [-] Minus Sign key when the system is turned on and press it again. The LCD displays the character "object temperature", which means that it is set to the object temperature measurement mode.
- 2) Automatic shutdown: Automatic shutdown after about 30 seconds of no operation.

When the thermometer is taken from a place with a large temperature difference between the environment to be measured, the thermometer should be placed in a new environment for at least 30 minutes before measuring.



9.1 Memory Function

In the power-on state, press the [+] Plus Sign key to enter the memory value view.

- 1) The greater the value of the memory number, the earlier the measured value, and the smaller the value, the more recent the measured value.
- 2) If there is no memorized value, "----" is displayed.
- 3) The thermometer can store up to 50 sets of most recent measured values, and the values of more than 50 sets are automatically overwritten in chronological order.

Memory Clearing: In the power-on state, press and hold the [+] Plus Sign key for about 3s, the LED displays "CLr" character, after about 2s the memory deletion is completed.

9.2 Maintenance and Precautions

- Keep the inner cavity of the sensor and probe clean, otherwise it will affect the measurement accuracy.

Cleaning method:

1. Surface Cleaning: Use a clean soft cloth or cotton swab to stick a little medical alcohol or water to wipe the dirt.
 2. Sensor and Probe Cavity Clearing: Use a clean software cloth or cotton swab with a little medical alcohol to gently wipe the probe cavity or the top of the sensor. Do not use until the alcohol has completely evaporated.
- Immersion of the thermometer in any liquid is prohibited. Prolonged exposure to excessively high or low temperatures is prohibited.
 - Collision, falling and mixing with sharp objects are prohibited. Disassembly is prohibited.
 - Infrared thermometers shall not be used in sunlight or water.
 - Do not use in strong electromagnetic interference environment.
 - Place the infrared thermometer out of the reach of children.
 - It is recommended that you practice many times to be familiar with the measurement method and try not to change the ex-factory setting.
 - The measurements shall not be a substitute for the engineer's diagnosis.
 - No special maintenance is required during use. Please contact the seller or manufacturer if there is any problem.
 - Please dispose of the waste and residue at the end of the life of the product according to the local laws and regulations.



10.1 Troubleshooting

Display Message	Meaning	Possible Cause / Solving Method
Hi	The ambient temperature is too high	1. Body temperature mode, the display temperature is higher than 42 °C 2. Object temperature mode, the display temperature is higher than 45 °C
Lo Pos	The ambient temperature is too low	1. Body temperature mode, the display temperature is lower than 34 °C 2. Object temperature mode, the display temperature is not lower than 25 °C
Err	The ambient temperature is too high	The ambient temperature of the thermometer is higher than 35 °C
Err	The ambient temperature is too low	The ambient temperature of the thermometer is below 16 °C
POS	Unstable ambient temperature	The ambient temperature is unstable, please place the thermometer on stable environment for more than 30 minutes
Blank Display	Error function display	During system self-test, system failure was found, blank screen is displayed. Please remove the battery and reinstall it.
Battery Icon + Lo	Battery level display	The battery is low, please replace it with a new one immediately

10.2 Calibration and Repair

The accuracy of this infrared thermometer has been strictly tested and it is generally recommended that the thermometer be tested and calibrated once a year to ensure proper functioning and accuracy.

Please do not carry out any maintenance by yourself. If there is a quality issue or any question about the correct measurement of the infrared thermometer, please contact the distributor or manufacturer.



11.1 EMC Statement

Note: Non-contact infrared thermometer meets YY0505 electromagnetic compatibility requirements; User shall install and use it according to the electromagnetic compatibility information provided by random files.

Portable and Mobile RF communication devices may affect the performance of infrared thermometers and avoid strong electromagnetic interference when used, such as near mobile phones, microwave ovens, etc.;

The Guidance and the manufacturer's statement are detailed in the annex.

Note: Non-contact infrared thermometers shall not be used close to or on top of other devices. If they must be used close to or on top of other devices, they shall be observed to verify that they work properly in the configuration in which they are used.

If the physiological parameters measured by the instrument are less than the specified minimum amplitude, it may lead to inaccurate results.

The use of extrinsic accessories and cables other than those supplied by the manufacturer of the infrared thermometer as internal components may result in increased emission and reduced immunity of the infrared thermometer.

Guide and Manufacturer's Declaration -Electromagnetic Emissions		
Non-contact infrared thermometer is intended to be used in the following specified electromagnetic environments and the purchaser of user of the infrared thermometer shall ensure that it is used in this electromagnetic environment:		
Launch test	Compliance	Electromagnetic Environment-Guidance
Radio frequency emission GB 4824	1 Unit	Infrared thermometers use RF energy only for their internal functions. As a result, its RF emissions are low and the potential for interference with nearby electronic devices is low.
Radio frequency emission GB 4824	B type	Infrared thermometers are suitable for use in all installations, including domestic installations and direct connection to the public low-voltage supply network of domestic dwellings.
Harmonic emission GB 17625.1	Not Applicable	
Voltage fluctuation / flicker emission GB 17625.2	Not Applicable	

Recommended isolation distance between portable and mobile RF communications equipment and non-contact infrared thermometers			
Non-contact infrared thermometer is intended to be used in electromagnetic environments where RF radiation disturbances are controlled. According to the maximum rated output power of communication equipment, the purchaser or user may prevent electromagnetic interference by maintaining the minimum distance between the transmitter of portable and mobile radio frequency communication equipment and the non-contact infrared thermometer as recommended below.			
Rated maximum output power of transmitter/W	Isolation distance corresponding to different frequencies of the transmitter/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	Not Applicable	0.12	0.23
0.1	Not Applicable	0.38	0.73
1	Not Applicable	1.2	2.3
10	Not Applicable	3.8	7.3
100	Not Applicable	12	23
For the transmitter rated maximum output power not listed in the table above, it is recommended that the isolation distance d, in meters (m), be determined by the formula in the corresponding transmitter frequency column, where P is the transmitter manufacturer's maximum output rated power in watts (W).			
Note 1: At 80MHz and 800MHz, the formula of higher frequency range is used.			
Note 2: These guidelines may not be appropriate for all situations, where electromagnetic propagation is affected by the absorption and reflection of buildings, objects, and humans.			

Guidance and Manufacturer's Declaration-Electromagnetic Immunity			
Non-contact infrared thermometer is intended to be used in the following specified electromagnetic environments and the purchaser or user shall ensure that it is used in such electromagnetic environments:			
Immunity test	IEC60601 test level	Coincidence level	Electromagnetic Environment-Guidance
Radio frequency conduction GB/T 17626.6	3V (RMS) 150 kHz ~80 MHz	Not Applicable	Portable and Mobile RF Communication Devices shall not be used any part of the non-contact infrared thermometer, including cables, closer than the recommended isolation distance. The distance shall be calculated by a formula corresponding to the transmitter frequency.
Radio frequency radiation GB/T 17626.3 GB/T 17626.8	3V/m 80 MHz ~2.5 GHz	3V/m	Recommended isolation distance: d=1.2 $\sqrt{P}$ 80 MHz~800 MHz d=2.3 $\sqrt{P}$ 800 MHz~2.5 GHz Wherein: P=Based on the transmitter manufacturer's maximum rated output power of the transmitter in Watt (W). d=Recommended isolation distance, in meter (m). The field strength of a fixed RF transmitter is determined by surveying the electromagnetic field, which shall be lower than the coincidence level in each frequency range. Interference may occur near devices marked with the following symbols: 
Note 1: At 80MHz and 800MHz, the formula for the higher frequency band is used.			
Note 2: These guidelines may not be appropriate for all situations, where electromagnetic propagation is affected by the absorption and reflection of buildings, objects, and humans.			
a. The field strength of fixed transmitters, such as the field strength of wireless (cellular / cordless) telephones and ground mobile radio base stations, amateur radios, AM and FM radio broadcasts, and television broadcasts cannot be accurately predicted theoretically in order to evaluate the electromagnetic environment of the fixed RF transmitter, the survey of electromagnetic field shall be considered. If the measured field strength of the non-contact infrared thermometer is higher than the applicable RF compliance level, the non-contact infrared thermometer shall be observed to verify its normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or positioning the non-contact infrared thermometer.			
b. The field strength shall be less than 3 V/m throughout the 150kHz ~ 80MHz frequency range.			

Guidance and Manufacturer's Declaration-Electromagnetic Immunity			
Non-contact infrared thermometer is intended to be used in the following specified electromagnetic environments and the purchaser or user shall ensure that it is used in such electromagnetic environments:			
Immunity test	IEC60601 test level	Coincidence level	Electromagnetic Environment-Guidance
Electrostatic discharge GB/T 17626.2	±6kV contact discharge ±8kV air discharge	±6kV contact discharge ±8kV air discharge	The floor shall be wood, concrete or tile, and if the floor is covered with synthetic material, the relative humidity shall be at least 30%.
Electrical fast transient burst GB/T 17626.4	±2kV to power line ±1kV to input / output line	Not Applicable	Not Applicable
Surge GB/T 17626.5	±1kV differential mode voltage ±2kV common mode voltage	Not Applicable	Not Applicable
Voltage sags, short interruptions, and voltage changes on power input lines GB/T 17626.11	<5%U _n lasting for 0.5 cycles (On U _n , >95% sag) 40% U _n lasting for 5 cycles (On U _n , 60% sag) 70% U _n lasting for 25 cycles (On U _n , 30% sag) <5% U _n lasting for 5s (On U _n , >95% sag)	Not Applicable	Not Applicable
Power frequency magnetic field (50/60Hz) GB/T 17626.8	3A/m	3A/m, 50/60Hz	The power frequency magnetic field shall have the power frequency magnetic field level characteristic of the typical place in the typical commercial or hospital environment.
Note: U _n refers to the AC network voltage before the test voltage is applied.			

12.1 Product Specifications

Machine Type	Infrared Thermometer IR988
Measurement Method	Non-contact
Measurement Site	Forehead / Object Surface
Measuring Distance	3~5cm
Display Range	Body: 34.8°C~42.5°C Object: 0°C~93°C (±1°C)
TEMP Resolution	0.1°C/°F
Max Allowable Error	35°C~42.0°C (±0.2°C) Others (±0.3°C)
Memory Array	32 Units
Operating Environment	Temperature: 16°C~35°C; relative humidity: <80%; Atmospheric pressure: 70kPa~106kPa
Transportation and Storage Conditions	Temperature: -20°C~+35°C; relative humidity: <93%; Atmospheric pressure: 50kPa~106kPa
Auto Standby Function	30s
Power Supply	DC3V (AAA*2)
Size	150x80x41mm
Weight	105.5g

12.2 Warranty and After Sales Support

1. This product is used for five years from the date of purchase; you can enjoy one-year free warranty.
2. The packaging is not covered by the warranty.
3. For the following damage caused by the user, please forgive us for not providing free warranty service;
 - a) Failure caused by unauthorized disassembly and modification.
 - b) Failure caused by accidental drop during use or handling;
 - c) Failure caused by not following the correct instructions in the manual;
 - d) Failure caused by lack of reasonable maintenance;
 - e) When requesting to provide free warranty service, you must hold the warranty card filled with the date of purchase and the seal of the purchase dealer (including the name and address of the dealer).
 - f) Repair services outside the warranty scope will be charged according to the corresponding regulations;
 - g) When requesting free warranty service, please take this product to the dealers of our company for repair.



13.1 Certificate of Compliance

CERTIFICATE OF COMPLIANCE			
PRODUCT NAME	NON-CONTACT INFRARED THERMOMETER	MODEL	IR988
DATE OF INSPECTION		INSPECTOR	

This product has passed the inspection and is allowed to leave the factory.

13.2 Warranty Card

WARRANTY CARD			
BATCH NUMBER		PRODUCT CODE	
SELLER		DATE OF PURCHASE	
CUSTOMER'S NAME		CUSTOMER'S PHONE	
CUSTOMER'S ADDRESS		CUSTOMER'S EMAIL	
FAULT DESCRIPTION			

