

Medical Infrared Thermometer

Manual Book



- (1) Infrared sensor
- (2) LCD liquid crystal display
- (3) "↓" button
- (4) "↑" button
- (5) Settings
- (6) Measure
- (7) Battery Cover

Please read this product manual carefully before using this product

Chief Manufacturer:

Hunan Honggao Electronic Technology Co., Ltd

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1. Product name: Medical infrared thermometer

2. Product Description

Model type: HG01







This product measures human body temperature by collecting infrared thermal radiation from human forehead. Its operation is simple and hygienic. Users only need to point the forehead by the probe and press the measurement button to measure body temperature. It is provided for home and medical. The product mainly consists of an infrared temperature sensor, an amplifier circuit, a single-chip microcomputer, a digital-to-analog converter, a digital display part (LCD display), a power supply and a shell.









Application: To detect the body temperature of the object by measuring the thermal radiation from the ear or forehead.

3. Technical Parameters

Temperature range	32.0°C ~ 42.5°C (Lower than 32.0°C: shows LO°C; Higher than 42.9°C: shows HI°C)	
Maximum error	35.0°C ~ 42.0°C : ±0.2°C 32.0°C ~ 34.9°C : ±0.3°C 42.1°C ~ 42.9°C : ±0.3°C	
Maximum testing range	The maximum allowable clinical repeatability should not exceed the range of ± 0.3 °C	
Resolution	0.1°C	
Power supply	DC 3.0V (2×AAA battery)	
Size	136mm×38mm×33mm	
Automatic shut-down	<2min	
Operating environment	10.0°C ~ 40.0°C (50.0°F ~ 104.0°F) RH≤85%	
Transport/storage condition	-20.0°C ~ 55.0°C (-5.0°F ~ 131.0°F) RH≤93%	
Memory function	Can at least display 15 measured values	
Temperature(°C)	Backlight	Buzzer
32.0°C-37.4°C	/	Beep
37.5°C-37.9°C	/	Beep
38.0°C-42.5°C	/	Beep
Lower than 32.0°C	Shows LO °C	/
Higher than 42.5°C	Shows HI °C	/
Higher than Alarming point	/	Beep Beep Beep

4. Symbol Representation

Symbol	Representation		Ambient environment mode
	Battery status		Type B Equipment
	Celsius		Attention to enclosed files
	Fahrenheit		

Symbol	Representation	Symbol	Representation
	Memory function		Forehead mode
	Voice function		Refer to manual book
	Measured temperature		Please throw as it scraps
	CE certification mark		FDA certification mark

5. Settings

- The Current mode is displayed when the power is on. Short press the “Setting” button to switch between the measurement mode (Body Temperature and Surface Temperature)

1: Temperature unit Setting: Long press the “Setting” button for 2 seconds. The screen displays “F1” . And the current unit icon flashes (i.e. Celsius). Press: “▼” button to select Fahrenheit temperature. Press the "▲" button to select the Celsius temperature.

2: Temperature alarm point Setting: Press and hold the "Setting" button for 2 seconds. The screen displays “F1” . Press the "Setting" button once to enter F2, then press the "▲" button to increase the temperature value by 0.1° C (0.1° F) and press the "▼" button to decrease the temperature value by 0.1° C (0.1° F). Note: The default value of the alarm is 38° C (100.4° F)

3: Temperature Shifting: Press and hold the "Setting" button for 2 seconds. “F1” appears on the screen, press the “Setting” button twice to enter F3, and then press the "▲" button to increase the temperature value by 0.1° C (0.1° F), or press the "▼" button to decrease the temperature value by 0.1° C (0.1° F). If the season changes, please adjust the thermometer.

4: Prompt on/off Setting: Press and hold the "Setting" button for 2 seconds, the screen displays “F1” , press the “Setting” button 3 times to enter the F4 interface. Press the "▲" button to turn

on the beep sound. (“ON” symbol will appear on the screen) or turn off the beep sound (“OFF” symbol will appear on the screen).

After you complete any of the above setting, you shall long press the “Setting” button to save. An automatic shutdown will not save your settings.

6. Safe Operation Instructions

Body temperature measurement

- Power on, all icons will be displayed on the screen, self-test will be completed after one beep, and measurement mode will be entered.
- Confirm that the screen above displays that it is temperature mode, the thermometer should align vertically to the forehead, from about 3 to 5 cm. About 0.5 seconds after pressing the button, a "beep" is heard, displaying a measured temperature. If the temperature value exceeds the temperature alarm point (which is 38° C), a “DiDi...” alarm sound will be on.

Reminder

- 1) Before and after use, please keep the inner cavity of the sensor and probe clean; 2) Please use the measuring instrument in a stable temperature environment. When the ambient temperature changes greatly (such as from indoor to outdoor), please leave it for half an hour before measurement; 3) Do not start measuring body temperature immediately after measuring extremely high or low temperature objects. If so, please leave it for 30 minutes before measurement; 4) When the object comes from a place with a large temperature difference from the measurement environment, it should be tested after staying in the environment for another 30 minutes; 5) Try not to measure with sweating, under forehead hair, water, or cosmetics. Do not measure body temperature within 30 minutes after exercising, bathing, and having meals.

Out of measurement range

Body temperature mode

When the measured value is lower than 32.0°C, “Lo” is displayed. When the measured value is higher than 42.5°C, “Hi” is displayed.

7. Battery Replacement

- Open the battery cover and remove the old battery;
- Put two new DC1.5V batteries, please pay attention to the positive and negative directions;

Reminder

- 1) When not in use for a long time, please take out the battery, to protect against leakage. Strict ban on placing batteries in fire to avoid an explosion!
- 2) Dispose the used batteries properly in accordance with local regulations to avoid environmental pollution;







8. Maintenance and precautions

Reminder:

Since the product is a reusable device, please pay attention to the cleaning process after use;

- 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 with a little medical alcohol or water to wipe the dirt;
 - 2) The inner cavity of the sensor and the probe is clean: Wipe the inner cavity of the probe or the top of the sensor gently with a clean soft cloth or cotton swab with a little medical alcohol. Use it after the alcohol has completely evaporated;
- Before using, please read this instruction manual carefully and make sure the battery is installed;
- It is forbidden to immerse the measuring instrument in any liquid, and it is forbidden to be placed in an excessively high or low temperature environment for a long time;
- It is forbidden to collide, drop, mix with sharp objects, and do not disassemble by yourself;
- Do not use in strong electromagnetic interference environment;
- Keep the measuring instrument out of the reach of children;
- Please practice for several times before using it;
- Measurement results are not a substitution of doctors' diagnosis;

9. Troubleshooting

Symbol	Situation	Handling
	The measured temperature is too hot above 42.5 °C	Wait until the temperature is proper
	The measured temperature is too cold under 32 °C	Wait until the temperature is proper
	The ambient temperature is lower than 5° C	Place the product under suitable ambient temperature for 30 minutes and restart
	The ambient temperature is higher than 45° C	Place the product under suitable ambient temperature for 30 minutes and restart
	Low battery	Replace the battery immediately
 Blank Screen	<ol style="list-style-type: none"> ① Forehead thermometer has shut down automatically ② The battery is not installed properly ③ The battery is dead ④ If the screen is still blank 	<ol style="list-style-type: none"> ① Press the button to turn on ② Check whether the battery is installed correctly ③ Replace with new battery ④ Contact the factory for repairment

10. Safety features

1 Classified by anti-shock type: an internal power supply for the electrical device.

2 Classified by the degree of protection against electric shock: Type B.

3 Classified by the degree of protection against harmful ingress: ordinary equipment. 4 Classified according to the degree of safety used in the case of a mixture of flammable anesthetic gas and air or a mixture of oxygen or nitrous oxide: equipment that is not suitable for use in places with flammable anesthetic gas.

4 Power supply: DC 3.0 V (two AAA batteries).

11. EMC



Reminder:

- Medical infrared thermometers comply with the relevant electromagnetic compatibility YY0505 standard;
- User should install according to the electromagnetic compatibility information provided in the random file;
- Portable and mobile RF communication equipment may affect the performance of the thermometer. Try to avoid strong electromagnetic interference while using, such as near mobile phones, microwave ovens, etc.
- Manufacturer's declarations are in the attachment.




Warning:

- Medical infrared thermometers should not be used close to or stacked with other equipment. If they must be used close to or stacked, they should be proved to be able to work normally in which they are used;
- The use of accessories and cables other than those specified may result in increased emissions or reduced immunity of medical infrared thermometers.

Guidance and manufacturer's declaration - electromagnetic emissions		
The medical infrared thermometer is expected to be used in the electromagnetic environment specified below. The purchaser or user of the medical infrared thermometer should guarantee its use in this electromagnetic environment:		
Launch test	Compliance	Electromagnetic Environment - Guide
Radio frequency emission GB 4824	1 group	Medical infrared thermometers use radio frequency energy only for their internal functions. Therefore, its RF emissions are very low and there is little chance of causing interference to nearby electronic equipment
Radio frequency emission GB 4824	Class B	Medical infrared thermometers are suitable for use in all facilities, including domestic installations and public low-voltage power supply networks directly connected to residential homes

Harmonic emission G B 17625.1	Not applicable		
Voltage fluctuation / flicker emission GB 17625.2	Not applicable		
Guidance and manufacturer's declaration - electromagnetic immunity			
Medical infrared thermometer intended for use in the electromagnetic environment specified below, the customer or the user should ensure that it is in this environment of electromagnetic manipulation by:			
Immunity test	IEC 60601 test level	Coincidence level	Electromagnetic Environment - Guide
Electrostatic discharge GB/ T 17626.2	± 6 kV contact discharge ± 8 kV air discharge	± 6 kV contact discharge ± 8 kV air discharge	The floor should be wood, concrete or tile. If the floor is covered with synthetic material, the relative humidity should 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	± 1 kV differential mode voltage ± 2 kV common mode voltage	Not applicable	Not applicable
Voltage sags, short interruptions, and voltage changes on power input lines GB/ T 17626.11	< . 5% <i>the</i> U_T , duration 0.5 cycles (On U_T on, > 95% of sag) 40% <i>the</i> U_T , duration 5 cycles (On U_T , 60% of sag) 70% U_T for 25 cycles (On U_T , 30% of sag) < . 5% U_T , duration 5s (On U_T , > 95% of sag)	Not applicable	Not applicable
Power frequency magnetic field (50/60Hz) GB / T 17626.8	3A/m	3A/m , 50/60 Hz	Power frequency magnetic fields should be in typical commercial or hospital environment.
NOTE: U_T refers to the AC network voltage before the test voltage is applied			
Guidance and manufacturer's declaration - electromagnetic immunity			
The medical infrared thermometer is expected to be used in the electromagnetic environment specified below. The purchaser or user of the medical infrared thermometer should guarantee its use in this electromagnetic environment:			
Immunity test	IEC 60601 test level	Coincidence level	Electromagnetic Environment - Guide

<p>Radio frequency conduction GB / T 1762 6.6</p> <p>Radio frequency radiation GB / T 17626.3</p>	<p>3 V (effective value) 150 kHz to 80 MHz</p> <p>3 V / m MHz80 ~ 2.5GHz</p>	<p>Not applicable</p> <p>3 V / m</p>	<p>This distance should be calculated by a formula corresponding to the frequency of the transmitter.</p> <p>Recommended isolation distance:</p> <p>$d = 1.2\sqrt{P}$</p> <p>$d = 1.2\sqrt{P}$ 80MHz to 800 MHz</p> <p>$d = 2.3\sqrt{P}$ 800 MHz ~2.5 GHz</p> <p>Where:</p> <p>P — According to the maximum rated output power of the transmitter provided by the transmitter manufacturer, in watts (W)</p> <p>d — Recommended isolation distance in meters (m).</p> <p>The field strength of the fixed RF transmitter is determined by surveying the electromagnetic field, and in each frequency-range should be lower than the compliance level.</p> <p>Interference may occur near the equipment marked with the following symbol.</p> 
<p>NOTE 1: At 80MHz and 800MHz frequencies, the higher frequency band formula is used.</p> <p>NOTE 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by absorption and reflection from buildings, objects and people.</p>			
<p>A fixed transmitters, such as: a wireless (cellular / cordless) telephones and land mobile radio base stations, amateur radio, AM and FM radio broadcast and TV broadcast, the field strength which cannot be accurately predicted theoretically. To assess the electromagnetic environment of fixed RF transmitters, surveys of electromagnetic sites should be considered. If the measured field strength of the medical infrared thermometer is higher than the applicable RF compliance level above, the medical infrared thermometer should be observed to verify its normal operation. If abnormal performance is observed, supplementary measures may be necessary, such as reorienting or relocating the medical infrared thermometer.</p> <p>A In the entire frequency range from 150KHz to 80 MHz, the field strength should be lower than 3V /m.</p>			
<p>Recommended distance for medical infrared thermometers</p>			
<p>Medical infrared thermometers are expected to be used in electromagnetic environments where radio frequency radiation disturbances are controlled. Depending on the maximum rated output power of the communication device, the purchaser or user can prevent electromagnetic interference by maintaining the minimum distance between portable and mobile RF communication devices (transmitters) and medical infrared thermometers as recommended below.</p>			
<p>Transmitter's rated maximum Output power / W</p>	<p>Isolation distance corresponding to different frequencies of the transmitter / m</p>		
	<p>150 kHz to 80 MHz</p> <p>$d = 1.2\sqrt{P}$</p>	<p>80 MHz to 800 MHz</p> <p>$d = 1.2\sqrt{P}$</p>	<p>MHz 800 ~ 2.5 GHz</p> <p>$d = 2.3\sqrt{P}$</p>
<p>0.01</p>	<p>Not applicable</p>	<p>0.12</p>	<p>0.23</p>

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 rated maximum output power of the transmitters not listed in the table above, the recommended isolation distance d in meters (m) can be determined using the formula in the corresponding transmitter frequency column, where P is provided by the transmitter manufacturer Transmitter maximum output power in watts (W).

NOTE 1: At 80 MHz and 800MHz, the higher frequency range formula is used.










NOTE 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by absorption and reflection from buildings, objects and people.

List of accessories: certificate and battery pair

Date of production: see product label

Lifespan: 5 years

Graphic interpretation:

 Production batch marking	 Product Series	 Life Span
 Production Date	 Voltage lower than 2.6V	 Type B
 Trash	 Refer to the instructions	 Refer to the manual

Warranty Card, Certificate

Warranty Card	
Buyer Information	Dealer Information
Date of purchase _____	Distributor Name _____
Model Purchased _____	Distributor Address _____
Customer Name _____	Dealer Phone Num _____
Contact _____	Distributor Stamp _____

Certificate of Quality

Product name: Medical infrared thermometer

Product model: HG01

Inspection Department: Quality Department

Production date and batch number:

see product body barcode

This product is qualified to pass the inspection

inspector's stamp:

泓高文件, 严禁复制

Product name: Medical infrared thermometer

Manufacturer: Hunan Honggao Electronic Technology Co., Ltd.

Address : Building 5, Comprehensive Industrial Park, Tenghui Venture Park, Nanxian Economic Development Zone, Yiyang City, Hunan Province

Medical Device Registration Certificate Number:20202070605

Medical Device production license number: 20200041

Service Phone: 0737-2762899

Production date number see product

Life Span: five years

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