

Óxímetro de pulso de dedo

Español

Descripción General

El oxígeno combina la hemoglobina de células de sangre rojas cuando ellos dos pasan por pulmón. Después de pasar el pulmón, el es transportado a través de cuerpo como la sangre arterial. El equipo de Oxímetro del pulso usa dos frecuencias de Luz(Rojo y infrarrojo) que segura el porcentaje de saturación de la hemoglobina en la sangre y el oxímetro. Este porcentaje es nombrado en "Saturación de sangre y oxímetro o SpO₂". El Oxímetro del pulso mide y muestra la velocidad del pulso, y al mismo tiempo el también puede medir el nivel de SpO₂.

Esquema del principio de operación. (Figure 2)

1. Tubo emisión de rayos infrarrojos.
2. Tubo de recepción de rayos infrarrojos

Descripción General

1. Leer completamente este manual antes de usar el equipo.
2. El funcionamiento del oxímetro se puede ver afectado por unidades de electrocirugía cercanas (ESU).
3. El oxímetro debe ser capaz de medir el pulso adecuadamente para poder obtener una medición de SpO₂ precisa. Verifique que nada obstruya la medición del pulso antes de confiar en la medición del oxímetro.
4. No usar este equipo en ambientes MRI o CT.
5. No usar el equipo en situaciones que se requieran alarmas. Este aparato no tiene alarmas. No es válido para monitorizaciones continuas.
6. No use el oxímetro en ambientes explosivos.
7. Este equipo está diseñado únicamente como un complemento en la evaluación del paciente. Debe ser utilizado en conjunción con otros métodos de valoración de signos y síntomas clínicos.
8. Si se usa por largo tiempo, se debe cambiar periódicamente el punto de detección en función del estado del paciente.
9. Como máximo cada 30 minutos se debe cambiar el punto de detección, examinar la integridad y el estado de circulación de la piel del paciente y hacer ajustes correctos.
10. No esterilice el equipo en autoclaves, con oxido de etileno, o sumergiéndolo en cualquier líquido. Este equipo no está preparado para ser esterilizado.
11. Siga las ordenanzas locales en cuanto al desecho y reciclado de los componentes del equipo, incluyendo las baterías.
12. Este equipo cumple con las normas IEC 60601-1-2:2007 de compatibilidad electromagnética para equipo y/o sistemas de electroterapia. Sin embargo, debido a la proliferación de equipos de transmisión por radio-frecuencia es posible que altos niveles de estas interferencias debido a su proximidad o fuerza de la fuente puedan interferir en su funcionamiento.
13. Los equipos portátiles o móviles de RF pueden afectar a los equipos de electro medicina.
14. Este equipo no está pensado para ser usado durante el transporte del paciente fuera de las instalaciones hospitalarias.
15. No debería ser usado al lado o encima de otros equipos médicos.
16. No desarmar, reparar o modificar el equipo sin la autorización del fabricante.
17. Los materiales que están en contacto con la piel del paciente contienen silicona médica y plástico y han pasado el test de citotoxicidad ISO10993-5 y el test de irritación y de hipersensibilidad retardada ISO 10993-10.
18. Solo Rx: "Precaución: Las leyes federales (USA) restringen la venta de este dispositivo por o bajo prescripción de un médico con licencia."

Las mediciones inexactas pueden ser causados por

1. Importantes niveles de hemoglobina disfuncional (tales como carbonilo - hemoglobina o metahemoglobina);
2. Colorantes intravasculares, como indocianina verde o metileno azul;
3. Luz ambiental alta. Cubra el área del sensor si es necesario;
4. Movimiento excesivo del paciente;
5. Alta frecuencia de interferencia electroquirúrgica y desfibriladores;
6. Pulsaciones venosas;
7. La colocación de un sensor en una extremidad con un manguito de presión arterial, un catéter arterial o línea intravascular;
8. El paciente tiene hipotensión, vasoconstricción grave, anemia grave o hipotermia;
9. El paciente está en parada cardíaca o en shock;
10. Uñas esmaltadas o artificiales;
11. La calidad del pulso débil (baja perfusión);
12. Hemoglobina baja

Contraindicación

No es para monitoreo continuo.

Propiedades del producto

1. Pantalla OLED dual muestra SpO₂, PR, barra de pulso y onda.
2. Brillo ajustable, 6 modos de visualización.
3. Indicación de bajo voltaje: se indica cuando el voltaje de la batería es bajo y puede afectar al normal funcionamiento del oxímetro.
4. El producto se apagará automáticamente cuando no hay señal durante más de 8 segundos.
5. Auto apagado. Usa 2 baterías tipo AAA alcalinas

Uso del aparato

El oxímetro de pulso es un dispositivo portátil no-invasivo destinado a la detección puntual de la saturación de oxígeno de la hemoglobina arterial (SpO₂) y la frecuencia de pulso de pacientes adultos, adolescentes y niños en hospitales, instalaciones hospitalarias y atención domiciliaria.

Método de uso

1. Coloque dos baterías tipo AAA con los polos indicados en la cabina de las mismas y coloque la tapa porta pilas.
2. Abra la pinza según se muestra en la figura.
3. Ponga el dedo en el orificio de caucho (el dedo debe ser medido suficientemente dentro), luego suelte la pinza.
4. Presione el botón del interruptor en el panel frontal.
5. No mueva el dedo ni el cuerpo en medio de la detección.
6. Lea directamente los datos en la pantalla.
7. Presione el interruptor para más de largo de un segundo, ajustará el brillo del oxímetro. Hay 10 niveles de brillo. El defecto es el nivel cuatro.
8. Después de dar vuelta en el oxímetro, cada vez que usted presiona el interruptor, el oxímetro cambiará a otro modo de exhibición. Hay 6 modos de exhibición. (Figure 3)

Instalación de la batería

1. Introduzca 2 pilas tipo AAA correctamente de acuerdo con la indicación de los polos del porta pila. Si la polaridad no es correcta, puede dañar el oxímetro.
2. Empuje la tapa del porta pilas horizontalmente a la dirección indicada por la flecha dibujada. (Figure 4)

Nota:

Por favor, retire las baterías si no piensa usar el equipo durante un largo periodo de tiempo

Uso de la cuerda de seguridad

1. Atraviese la cuerda por el orificio.
2. Atraviese el extremo grueso de la cuerda por la parte del extremo delgado ya atado y ténsela. (Figure 5)

¡Aviso!

- Mantenga el oxímetro lejos del alcance y la vista de los niños. Contiene pequeñas partes como la tapa del porta pilas, baterías, y cintas que pueden ser peligrosas.
- No cuelgue la cinta de cables eléctricos.

Mantenimiento y almacenaje

1. Cambie las baterías cuando se encienda la luz indicadora de batería baja.
2. Limpie la superficie antes de usarlo.
3. Saque las baterías si el oxímetro no va a funcionar durante un largo periodo de tiempo.
4. Es aconsejable almacenar este equipo en a temperatura entre -25°C ~+70°C humedad ≤93%.
5. Mantener el equipo en lugar seco. La humedad puede afectar la vida útil del equipo, incluso puede averiarlo.
6. Deseche las pilas de acuerdo con la ley y reglamentos locales.

Limpieza del oxímetro

Por favor, use alcohol medico para limpiar el soporte de silicona donde se coloca el dedo con un paño suave humedecido con 70% alcohol isopropílico. También limpie el equipo antes y después de cada uso.

No vierta ni pulverice líquidos sobre el oxímetro, y no permita que ningún líquido entre en las aberturas del dispositivo. Deje que el oxímetro se seque completamente antes de volver a usarlo.

El oxímetro no requiere calibración de rutina o mantenimiento, salvo la sustitución de las baterías.

La vida del dispositivo es de cinco años cuando se usa para mediciones cada 15 días y 10 minutos por una sola medición. Deje de utilizarlo y póngase en contacto con el centro de servicio local en las siguientes situaciones:

- Se muestra en la pantalla un error descrito en el párrafo Problemas y soluciones.
- El oxímetro no se puede encender en ningún caso y no es por causa de la batería.

- Hay una grieta en el oxímetro o daños en la pantalla y como resultado no puede leer la medición, el muelle no funciona, o el botón de encendido no responde.

Desinfección

Las partes aplicadas que tocan el cuerpo del paciente deben desinfectarse una vez después de cada uso. Los desinfectantes recomendados incluyen: etanol 70%, isopropanol 70%, glutaraldehído 2% desinfectantes líquidos.

La desinfección puede causar daños al equipo y por lo tanto no se recomienda para este oxímetro de pulso, a menos que se indique lo contrario en el calendario de mantenimiento de su hospital. Limpie el oxímetro de pulso antes de desinfectarlo.

PRECAUCIÓN: Nunca use EIO o formaldehído para la desinfección.

Especificaciones

1. Tipo pantalla OLED
2. SpO₂
3. Rango medición: 70%~100%
Exactitud: 70%~100%: ±2%; 0%~65% sin definición
Resolución: 1%
4. Pulso
Exactitud: 30bpm~99bpm, ±2bpm; 100bpm~235bpm, ±2%
Resolución: 1bpm
5. Especificaciones sonda LED

	Longitud onda	Radiación energía
Rojo	660±3nm	3.2mW
IR	905±10nm	2.4mW

NOTA: La información sobre el rango de longitud de onda puede ser especialmente útil para los médicos.

5. Baterías

Dos baterías alcalinas tipo AAA

Consumo corriente: menor que 40mA

Duración batería: Dos baterías alcalinas tipo AAA 1.5V, 1200mAh pueden funcionar continuamente durante 18 horas.

6. Condiciones de uso

Temperatura funcionamiento: 5°C ~40°C

Temperatura de almacenaje: -25°C ~+70°C

Humedad ambiental: 15% ~ 93% funcionando sin condensación; ≤93% almacenado sin condensación

Presión Atmosférica: 70kPa ~106kPa.

7. Respuesta del equipo

Se muestra en la figura adjunta.

El tiempo de respuesta más lento de media es de 8s. (Figure 6)

8. Clasificación

Según el tipo de protección contra descarga eléctrica: Equipo con alimentación interna;

Según el grado de protección contra descargas eléctricas: Tipo BF;

Según el grado de protección contra la entrada de agua: IP22

Según el modo de funcionamiento: FUNCIONAMIENTO CONTINUO

Resumen del estudio clínico

Los siguientes detalles se proporcionan para revelar el rendimiento real observado en el estudio de validación clínica de voluntarios adultos sanos. La declaración de análisis de valor ARMS y el gráfico Bland-Altman de los datos se muestran de la siguiente manera:

Declaración de Análisis de Valor de ARMS

Item	90~100	80~<90	70~<80
#pts	78	66	63
Bias	1.02	0.40	-0.48
ARMS	1.66	1.46	1.93

Bland-Altman gráfico de trazado (Figure 7)

Problemas y soluciones

Problemas	Posible	Solución
SpO ₂ o PR no se pueden mostrar normalmente	1. El dedo no está colocado correctamente. 2. El valor de SpO ₂ es demasiado bajo para poder ser medido.	1. Retirar y colocarlo de nuevo. 2. Hay excesiva iluminación. 3. Inténtelo una vez más. Revise el equipo y vaya al hospital a tiempo para que le hagan un diagnóstico exacto.
SpO ₂ o PR se muestra inestable	1. El dedo puede no estar introducido lo suficiente. 2. Movimiento excesivo del paciente.	1. Vuelva a colocar el dedo. 2. Cálmese.
El oxímetro no se puede encender.	1. No tiene baterías o están bajas. 2. Baterías mal colocadas. 3. El oxímetro puede estar dañado.	1. Por favor sustituya las baterías 2. Por favor reinstale las baterías 3. Consulte con su distribuidor local
Los leds indicadores se apagan	1. El equipo se apaga solo al no detectar señal durante más de 8 segundos. 2. Las baterías están bajas.	1. Es normal 2. Cambie las baterías.
"Error?"	Err 7 significa que el LED de emisión o recepción está dañado.	Consulte con su distribuidor.

Definición de los símbolos

Symbol	Definición	Symbol	Definición
	Tipo BF.		Temperatura almacenaje y humedad relativa.
	Atención, consulte los documentos adjuntos		Información del fabricante
IP22	Protegido contra filtraciones de agua		Fecha de fabricación
%SpO ₂	Saturación de oxígeno		Aprobación de la Unión Europea.
BPM	Frecuencia de pulso (BPM)		Representante autorizado en la comunidad Europea.
	Indicación de batería baja		Alarma no SpO ₂
	Directiva de Residuos de Aparatos Eléctricos y Electrónicos	SN	No. serie
	Consulte los documentos adjuntos		

Contenido de la caja

1. Oxímetro de pulso de dedo
2. Cinta para colgar.
3. Dos baterías tipo AAA
4. Manual de usuario

Nota:

1. Las ilustraciones usadas en este manual pueden diferir ligeramente de la apariencia real del producto.
2. Las especificaciones pueden cambiar sin aviso previo.

Declaration

Guidance and Manufacturer's declaration – electromagnetic emissions-For all EQUIPMENT and SYSTEMS

Guidance and Manufacturer's declaration - electromagnetic emission		
The MD300C2 Pulse Oximeter is intended for use in the electromagnetic environment specified below. The customer or the user of MD300C2 Pulse Oximeter should assure that it is used in such an environment.		
Emission test	Compliance	Electromagnetic Environment – guidance
RF emissions CISPR 11	Group 1	The MD300C2 Pulse Oximeter 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.
RF emissions CISPR 11	Class B	The pulse Oximeter (MD300C2) 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.
Harmonic emissions IEC 61000-3-2	Not Applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not Applicable	

Guidance and Manufacturer's declaration – electromagnetic immunity-For all EQUIPMENT and SYSTEMS

Guidance and Manufacturer's declaration - electromagnetic immunity		
The MD300C2 Pulse Oximeter is intended for use in the electromagnetic environment specified below. The customer or the user of the MD300C2 Pulse Oximeter should assure that it is used in such an environment.		
Immunity test	IEC 60601 test level	Compliance Level
Electrostatic Discharge (ESD) IEC 61000-4-2	+/- 6kV contact +/- 8kV air	+/- 6kV contact +/- 8kV air
Power frequency (50/60 Hz) magnetic field IEC 61000-4	3A/m	3A/m
		Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.
		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 all EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING

Guidance and Manufacturer's declaration - electromagnetic immunity		
The MD300C2 Pulse Oximeter is intended for use in the electromagnetic environment specified below. The customer or the user of the MD300C2 Pulse Oximeter should assure that it is used in such an environment.		
Immunity test	IEC 60601 test level	Compliance Level
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 Pulse Oximeter (MD300C2), including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d=1.2\sqrt{P}$ 80 MHz to 800 MHz $d=2.3\sqrt{P}$ 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 meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, 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 structures, objects and people.

a Field strengths from fixed transmitters, such as base station 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 Pulse Oximeter (MD300C2) should be observed to verify normal operation. If abnormal performance is observed, additional measurements may be necessary, such as reorienting of the relocating the Pulse Oximeter (MD300C2).

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 SYSTEMS - For all EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and Pulse Oximeter (MD300C2)		
The Pulse Oximeter (MD300C2) is intended for use in electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Pulse Oximeter (MD300C2) can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Pulse Oximeter (MD300C2) 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)	
	80 MHz to 800 MHz $d=1.2\sqrt{P}$	800 MHz to 2.5 GHz $d=2.3\sqrt{P}$
0.01	0.1167	0.2334
0.1	0.3689	0.7378
1	1.1667	2.3334
10	3.6893	7.3786
100	11.6667	23.3334

For transmitters rated at a maximum output power not listed above, the recommended separation distanced 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.

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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Figure 1

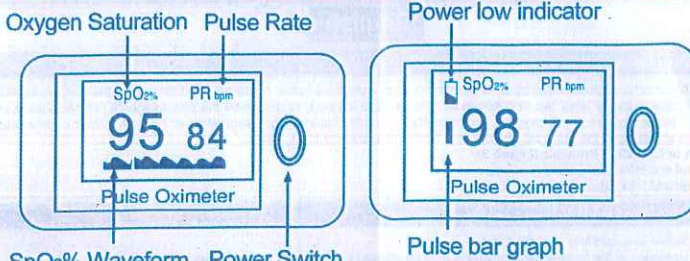


Figure 2

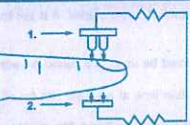


Figure3

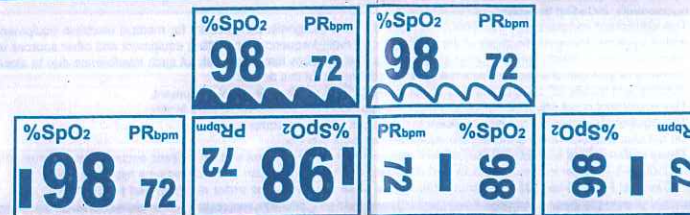


Figure 4

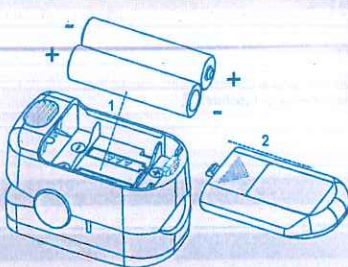


Figure 5

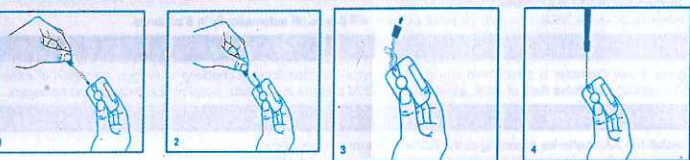


Figure 6

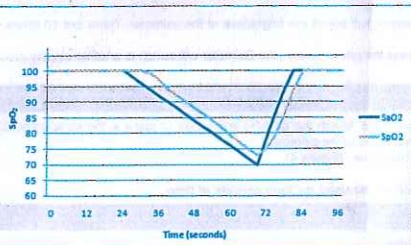
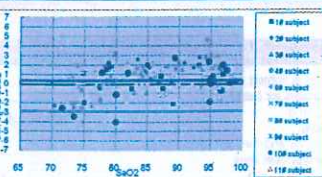


Figure 7



Applicable Models

MD300C2 MD300C21 MD300C21C MD300C22 MD300C23 MD300C25 MD300C26 MD300C29 MD300C20 MD300C2A MD300C2B MD300C2D MD300C2E MD300C2F MD300C2G MD300C2H MD300C2I MD300C203 MD300C21-P

Pay attention:

- Only the device of MD300C203 is single-color OLED screen.
- Only the device of MD300C21-P has the feature of automatically power on.

Notes:

1. The illustrations used in this manual may differ slightly from the appearance of the actual product.
2. The specifications are subject to change without prior notice.

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Revised Date: December 21, 2017

Version: Ver2.0



Infrared thermometer Instruction Manual

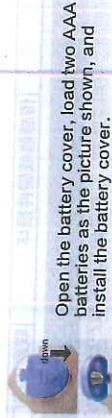


Model: WT-2

Thank you for purchasing Woodpecker Non-contact Infrared thermometer.

- In order to use this product safely, please read the instruction manual before use.
- After reading, please keep it in a safe place for easy check.
- This product is powered by 3V. Please use AAA alkaline batteries. Consumers need to buy a suitable AAA battery by themselves.
- This product is for temperature measurement only, not for disease diagnosis.
- Please consult your doctor for all treatments.

Guilin Woodpecker Medical Instrument Co., Ltd.



2. Function setting:
- 2.1 °C and °F temperature unit conversion
Press the "°C/°F" key to turn on / off, press the "°C / °F" key to enter the temperature unit conversion mode, and select "°C" or "°F".
- 2.2 Conversion of body measurement and object measurement modes
Press the "MODE" key for power on, and press the "MODE" key to select the body measurement mode or object measurement modes.
- 2.3 Measurement
Press and hold the measurement key to test.

10. Operation method

1. Body temperature measurement
Press the "°C/°F" key for power-on, wait for the display for about 2 seconds, and the buzzer will beep once which means that the product enters the forehead temperature measurement mode. Point the device at human forehead, and press the measurement button. With a "beep" sound, the measurements ends and the temperature will be displayed on screen. As shown below:

12. Cautions

- Please read the instruction manual carefully before use. Improper use may cause loss of product performance and incorrect measurement values.
- Other obstacles or local lesions at measured site such as inflammation, trauma, and postoperative will affect the accuracy of measurement.
- This product has been calibrated. If it is used according to the instruction manual, it does not need to be recalibrated.
- This product is not a substitute for physician consultation.
- Please do not take shower or exercise before measurement. Please keep the person being measured and the product in the measurement environment for more than 30 minutes.
- Please use it under the operating environment of this product.
- Please do not drop the product on the ground, and please avoid strong impact and shock.
- If it will not be used for a long time (more than 1 month), please remove the battery and put the product in the package.
- Please do not store the product in environment with direct sunlight, high temperature and humidity, dusty and corrosive gas.
- Do not use if the battery is leaking or moldy. Keep batteries away from fire or throw them into a fire to avoid explosion. Do not mistakenly install the positive and negative poles during use.
- Dispose of the battery, the product or packaging should be in accordance with local regulations.
- Please do not rub the product with toxic liquid or volatile oil, thinner or gasoline.

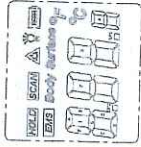
13. Icon description

	Trademark		Recovery
	BF Type Applied part		Keep dry

Voltage dips, interruption and variations on power supply input lines. GB/T 17626.11	< 5kV/UT (> 95% dip in UT) for 0.5 s 40%UT, (60% dip in UT) for 5 circles 70%UT, (30% dip in UT) for 25 circles UT) for 5s	N/A	N/A
Power frequency magnetic field (50/60Hz) GB/T 17626.8	3A/m	3A/m 30Hz	Power frequency magnetic field should be at levels characteristic of a typical location in a commercial or hospital environment.
Note: U ₁ is the alternative current mains voltage prior to application of the test level.			
Conducted RF GB/T 17626.6	3 Vrms 150 kHz ~ 80 MHz	3Vrms 3V/m	Portable and mobile RF communications equipment should not be used closer than the recommended separation distance to any part of WT-2, including cables or connectors. The separation distance should be calculated from the corresponding formula of transmitter frequency. Recommended separation distance: d=1.2/P 80MHz ~ 800MHz d=2.3/P 800MHz ~ 2.5GHz P is the maximum rated power output of the transmitter in Watts (W) provided by transmitter manufacturer. d is the recommended separation distance in meters (m). 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.
Radiated RF GB/T 17626.3	3 V/m 80MHz ~ 2.5GHz		Note 1: At 80MHz and 800MHz, 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 buildings, objects, and human body.

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- △ Note: When measuring, you need to aim at the forehead, <5cm for temperature measurement.
2. Power-off
If there is no operation after the measurement, the product will automatically shut down in about 60 seconds.
3. Cleaning and disinfection
The product and its accessories cannot be autoclaved. Do not use strong acid or alkaline solution for disinfection.
Before each use, the applied part on patient should be wiped and disinfected with 75% medical alcohol.
The product does not need to be cleaned and disinfected frequently during normal use.
When the following conditions are found, please follow the instructions.
(1) External dirt: Wipe the dirt with a clean soft cloth and water, or wipe with a cotton swab and medical alcohol. Wiping with medical alcohol can also have sterilization effect. Take care not to add too much water or alcohol to prevent damage to the product if it flows into the interior.
(2) Internal dirt: The internal infrared detector is an important device. Do not touch or press with your fingers or other objects, otherwise the accuracy of the measurement value will be affected. When the infrared sensor is found to be dirty, wipe it with a cotton swab moistened with 95% absolute alcohol.
Note: Do not wipe the infrared detector with 75% sterilized alcohol (as the water traces will remain). Do not wipe the IR detector with other chemicals (as it will damage the IR detector).
4. Q&A

	Direct current		Handle with care
	AAA battery		Keep away from sunlight
	Follow instructions for use		Atmospheric pressure for storage
	Temperature limit for storage		Humidity limit for storage
	Appliance compliance	WEEE directive	

14. Maintenance

- Always keep the product surface clean and tidy, which will help prolong the service life of the product.
- Take out the battery if it will not in use for a long time, put the product in the package, and place it in a dry environment of about 25°, which will help extend the service life of the product.
- If the product is dirty, wipe it with a dry soft cotton cloth.
- The temperature measuring head should be kept clean. The screen surface must be free from dirt and scratches. If there is a foreign object, it can be cleaned with a cotton swab.

15. Special storage and transport conditions

- Storage conditions:
 - The product must be kept clean and stored in a dry place. Do not place the product in a place subject to electric shock.
 - Do not store the product in extreme temperature environments above 55 ° C or below 20 ° C and humidity above 93%.
- Transport conditions:
 - Excessive impact and shake should be prevented during transportation. Lay it

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 specifically with accuracy. The measured field strength in the location where WT-2 is used exceeds the applicable RF compliance level. If WT-2 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the WT-2.

Recommended separation distance between portable and mobile RF communications equipment and the WT-2

WT-2 is intended for being used in electromagnetic environment where radiated RF disturbance is controlled. As per the maximum power in electromagnetic environment, the customer or user of WT-2 can help to prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communication device (transmitter) and WT-2, recommended below.

Maximum rated power output of transmitter/ W	Separation distance according to frequency of transmitter/ m	
	150kHz ~ 80MHz d=1.2/P	80MHz ~ 800MHz d=1.2/P
0.01	N/A	0.12
0.1	N/A	0.38
1	N/A	1.2
10	N/A	3.8
100	N/A	12
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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.

Note 1: At 80MHz and 800MHz, 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 buildings, objects, and human body.

17. Statement

The date of manufacture is listed on the product packaging label. Product service life: 5 years.

1. Description

This product is a thermometer that uses infrared technology to measure human body temperature. It can measure human body temperature by just pointing the product at the human forehead, pressing the measurement button. The body temperature will be displayed on screen within 1 seconds. It is simple and fast.

2. Intended use and scope of application

By measuring the heat radiation from the forehead, it can show the body temperature of the target group. The product can be reused.

3. Operational environment

Ambient temperature: 16 °C ~ 35 °C
Relative humidity: ≤93%
Atmospheric pressure: 70kPa-106kPa

4. Structure and component

Product structure and composition: It is mainly composed of infrared sensor, circuit board, displaying components and casing

5. Technical data

Product name: Infrared thermometer

Model: WT-2

Measurement site: Forehead

Measuring range: 32.0 °C ~ 42.5 °C

Resolution: 0.1 °C

Maximum allowable error: 32.0 °C ~ 42.5 °C ± 0.3 °C

Battery prompts: low battery prompts

Automatic shutdown time: If there is no operation for 60s, the device will automatically shut down.

Size: about 153 × 93 × 41mm (length x width x height)

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FAQ 1: The temperature cannot be displayed, and the full-screen display is repeated after booting. What is the cause?

Answer: If this kind of problem occurs in the infrared thermometer, it can be basically determined that the battery is low. You can try to replace the battery with a new one.

FAQ 2: When some people's body temperature is measured in the same environment, if the screen displays "Lo", what is the reason?

Answer: The possible causes to be excluded are as follows:

1. When the person's forehead is covered with hair or sweat, the patient had been pasted with antipyretic paste or taken antipyretic drugs, or the forehead is pointed at the air conditioner and strong wind is blown across the surface, "Lo" may appear. Please have a rest in a stable environment for 5-10 minutes before measuring.

2. There are extremely few people whose surface temperature is lower than other people. If an individual shows "Lo" for each measurement, you can compare the forehead temperature with the back of the hand with others, and then test the body temperature of other people for comparison.

B: When the body temperature of an individual (not all human bodies) appears "Lo", it can be deemed as a normal body temperature. The main concern is the over-temperature prompts ("Hi"). The appearance of "Lo" indicates that the surface temperature of the forehead of the human body is very low at this time, which is beyond the display range of the product. The main reasons why the screen shows Lo:

Reasons why the screen shows Lo	Advice
There is hair or sweat on the forehead when reading temperature.	Make sure there are no obstacles on the forehead
Cold air blows forehead	Make sure no cold air is blowing directly on the forehead
Forehead just cold applied	Wait for 10 minutes after cold compress before measuring
The measurement distance is too long	Recommended measurement distance is 3-5cm

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carefully and lightly.

- Do not put it together with dangerous goods during transportation.
- Avoid being exposed to sun, rain, and snow during transportation.

16. Electromagnetic Compatibility

⚠ Cautions:

- WT-2 Infrared thermometer meets the electromagnetic compatibility requirements of IEC 60601-1-2 standard.

- The user should install and use the device as per the electromagnetic compatibility information provided in the accompanying documents.

- Portable and mobile RF communication equipment may affect the performance of the WT-2 Infrared thermometer, so avoid strong electromagnetic interference when using it; therefore, please do not use it near mobile phones, microwave ovens, etc.

- Basic performance: The infrared forehead thermometer can measure human body temperature within the range of 32.0 °C-42.5 °C (maximum allowable error ± 0.3 °C) without electromagnetic interference. When receiving electromagnetic interference, the infrared forehead thermometer can measure human body temperature in the range of 32.0 °C-42.5 °C.

- Guidance and manufacturer's declaration are detailed in the attachment.

⚠ Warnings:

- The equipment or system should not be used in close proximity to or stacked with other equipment. If it must be used close or stacked, it should be able to work normally in the configuration in which it is used.

- Except for cables sold by the equipment or system manufacturer as spare parts for internal components, the use of accessories and cables other than those specified may result in increased emissions or reduced immunity of the equipment or system.

Annex:

Guidance and manufacturer's declaration – electromagnetic emissions		
WT-2 is intended for being used in the electromagnetic environment specified below. The customers or users of WT-2 should ensure that it is used in such an environment.		
Emission test	Compliance	Electromagnetic environment – guidance

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Warranty Card

- Warranty:

- Since the date of sales, with warranty card, this device enjoys one-year free repair.
- During the warranty period, all faults caused by product quality and process structure are covered by the warranty.
- Failure caused by violation of operating procedures or failure to meet the requirements of the equipment is not covered by the warranty.
- Equipment failure or damage caused by improper use or unauthorized disassembly is not covered by the warranty.
- Equipment damage caused by user's improper transportation, storage or other reasons is not covered by the warranty.
- If the warranty card does not have the seal of Woodpecker or the seal is incomplete, the warranty card is invalid.

Product: Infrared thermometer

Model: WT-2

User name	Cell
Address	
Model	Serial number
Date of purchase	Responsible person
Fault description	

Manufacturer: Gulin Woodpecker Medical Instrument Co., Ltd.
Plant address: Information Industrial Park, National High-tech Zone, Gulin, Guangxi, 541004 P. R. China.

Sales department: 0773-2350599/5873196

Fax: 0773-5822450

After-sales service department: 0773-5827898/13977382317

E-mail: woodpecker4@glwoodpecker.com

Website: http://www.gizmn.com, http://www.glwoodpecker.com

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6. Features

- This product can quickly measure human body temperature through the forehead of the human body, with simple operation and fast measurement.
- Type of protection against electric shock: Internal power supply equipment
- Degree of protection against electric shock: BF applied part
- Degree of protection against harmful ingress of water: Ordinary equipment
- Degree of safety application in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide: Equipment cannot be used in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide.
- Type of operation mode: Continuous operating device
- The infrared thermometer does not have an application part that protects against the effects of defibrillation discharge.
- The infrared thermometer has no signal input or signal output.
- Rated voltage of the equipment: DC 3V.
- Non-permanently installed equipment

7. Configurations

Infrared thermometer Certificate	X1	Manual	X1
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8. Contraindication

N/A

9. Installation and adjustment

- Battery installation and replacement
If the product display indicates low battery, replace the battery. Before first use, load the battery.

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FAQ 3: Is the product harmful to the human body and is it radiating to the human body?

Answer: The principle of the product is to calculate the body temperature of the human body by collecting the infrared radiation of the human body. The product does not directly contact the human body and does not cause cross infection of different human bodies. Therefore, it is harmless to the human body, so please rest assured that the use of.

FAQ 4: What is the difference between an infrared thermometer and a mercury thermometer?

Answer: 1. The infrared thermometer is non-contact type. The mercury thermometer needs to directly contact the human body, which is likely to cause cross infection between different human bodies.

2. The mercury thermometer has a long measurement time, which makes it not easy to read and not safe, especially when measuring the temperature of children, it is not easy to grasp because children are active, which brings great inconvenience to parents.

11. Troubleshooting

Anomaly	Cause	Solution
Display object temperature as "Hi" and "Lo"	Ambient temperature exceeds the specified range	Use the product under its using environment conditions
Display body temperature as "Hi"	Body temperature is higher than 43.0 °C	1. Strict operation according to instructions 2. Contact the manufacturer
Display body temperature as "Hi"	Body temperature is below 32.0 °C	1. Strict operation according to instructions 2. Contact the manufacturer
Battery level indicator flashes	Low battery	Replace the battery
Err	Defective sensor or hardware	Contact the manufacturer

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RF emissions GB 4824	Group 1	The WT-2 infrared forehead thermometer uses radio frequency energy only for its internal communication, therefore, its RF emissions are low and there is little chance of interference with nearby electronic equipment.
Conducted emissions GB 4824	Class B	
Harmonic emissions GB 17625.1	Not applicable	WT-2 is suitable for being used in domestic electromagnetic environment that is directly connected to a low voltage power supply network which is for domestic power supply.
Voltage fluctuations/ flicker emissions GB 17625.2	Not applicable	

Guidance and manufacturer's declaration – electromagnetic immunity		
WT-2 is intended for being used in the electromagnetic environment specified below. The customers or users of WT-2 should ensure that it is used in such environment.		
Immunity test	IEC 60601 test level	Compliance level
Electrostatic discharge (ESD) GB/T 17626.2	±8kV Contact discharge ±8kV Air discharge	±8kV/contact discharge ±8kV/Air discharge
Electrical fast transient bursts GB/T 17626.4	±2kV For power supply lines ±1kV For Input Output lines	N/A
Surge GB/T 17626.5	±1kV Line to line ±2kV Line to earth	N/A

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Scan and login website for more information

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