



Figure 3. Batteries Installation

Instructions to User

Dear users, thank you very much for purchasing the Pulse Oximeter.

This Manual is written and compiled in accordance with the council directive MDD93/42/EEC for medical devices and harmonized standards. In case of modifications and software upgrades, the information contained in this document is subject to change without notice.

The Manual describes, in accordance with the Pulse Oximeter's features and requirements, main structure, functions, specifications, correct methods for transportation, installation, usage, operation, repair, maintenance and storage, etc. as well as the safety procedures to protect both the user and equipment. Refer to the respective chapters for details.

installation, usage, operation, repair, maintenance and storage, etc. as well as the safety procedures to protect both the user and equipment. Refer to the respective chapters for details.

Please read the User Manual carefully before using this product. The User Manual which describes the operating procedures should be followed strictly. Failure to follow the User Manual may cause measuring abnormality, equipment damage and human injury. The manufacturer is NOT responsible for the safety, reliability and performance issues and any monitoring abnormality, human injury and equipment damage due to users' negligence of the operation instructions. The manufacturer's warranty service does not cover such faults.

Owing to the forthcoming renovation, the specific products you received may not be totally in accordance with the description of this User Manual. We would sincerely regret for that.

Owing to the formerising renoration, its specime protects protect protects. The regret for that. This product is medical device, which can be used repeatedly.

WARNING:

Uncomfortable or painful feeling may appear if using the device ceaselessly, especially for the microcirculation barrier patients. It is recommended that the sensor should not be applied to the same finger for over 2 hours.

For the special patients, there should be a more prudent inspecting in the placing process. The device can not be clipped on the edema and tender tissue. The light (the infrared is invisible) emitted from the device is harmful to the eyes, so the user and the maintenance man should not stare at the light.

Banamel or Acrylic fingernail polish or other fingernail applications may distort and/or produce inaccurate readings.

User's fingernail can not be too long.

Please refer to the correlative literature about the clinical restrictions and caution.

This device is not intended for treatment.

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- 1. Instructions for Safe Operations

 Check the main unit and all accessories periodically to make sure that there is no visible damage that may affect patient's safety and monitoring performance about cables and transducers. It is recommended that the device should be inspected once a week at least. When there is obvious damage, stop using the monitor.

 Necessary maintenance must be performed by qualified service engineers ONLY. Users are not permitted to maintain it by themselves.

 The oximeter cannot be used together with devices not specified in User's Manual.Only the accessory that appointed or recommendatory by manufacture can be used with this device.

 This product is calibrated before leaving factory.

 1.2 Warnings

 Explosive hazard—DO NOT use the oximeter in environment with inflammable gas such as some ignitable anesthetic agents.

 DO NOT use the oximeter while the user is measured by MRI and CT.

 The person who is allergic to rubber can not use this device.

 The disposal of scrap instrument and its accessories and packings(including battery, plastic bags, foams and paper boxes) should follow the local laws and regulations.

- regulations.

 Please check the packing before use to make sure the device and accessories are totally in accordance with the packing list, or else the device may have the

possibility of working abnormally.

Please don't measure this device with function test paper for the device's related information.

ttentions

Keep the oximeter away from dust, vibration, corrosive substances, explosive materials, high temperature and moisture.

If the oximeter gets wet, please stop operating it.

When it is carried from cold environment to warm or humid environment, please do not use it immediately.

DO NOT operate keys on front panel with sharp materials.

High temperature or high pressure steam disinfection of the oximeter is not permitted. Refer to User Manual in the relative chapter for instructions of cleaning and infection.

disinfe incution.
Do not have the oximeter immerged in liquid. When it needs cleaning, please wipe its surface with medical alcohol by soft material. Do not spray any liquid on the

Do not have the eximeter immerged in liquid. When it needs cleaning, please wipe its surface with medical airconor by son material. Do not spiny any inquire on medical device directly.

When cleaning the device with water, the temperature should be lower than 60°C.

As to the fingers which are too thin or too cold, it would probably affect the normal measure of the patients' SpO₂ and pulse rate, please clip the thick finger such thumb and middle finger deeply enough into the probe.

Do not use the device on infant or neconatal patients.

The product is suitable for children above four years old and adults(Weight should be between 15kg to 110kg).

The device may not work for all patients. If you are unable to achieve stable readings, discontinue use.

The update period of data is less than 5 seconds, which is changeable according to different individual pulse rate.

If some abnormal conditions appear on the screen during test process, pull out the finger and reinsert to restore normal use.

The device has normal useful life for three years since the first electrified use.

The hanging rope attached the product is made from Non- allergy material, if particular group are sensitive to the hanging rope, stop using it. In addition, pay attention to the use of the hanging rope, do not wear it around the neck avoiding cause harm to the patient.

The instrument dose not have low-voltage alarm function, it only shows the low-voltage, please change the battery when the battery energy is used out. When the parameter is particularly, the instrument dose not have alarm function. Do not use the device in situations where alarms are required.

Batteries must be removed if the device is going to be stored for more than one month, or else batteries may leak.

A flexible circuit connects the two parts of the device. Do not twist or pull on the connection.

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1.4 Indication for Use
The Fingertip Pulse Oximeter is a non-invasive device intended for the spot-check of oxygen saturation of arterial hemoglobin (SpO.) and the pulse rate of adult and pediatric patients in home and hospital environments (including clinical use in internist/surgery, anesthesia, intensive care ect.). This device is not intended for continuous monitoring.

e pulse oxygen saturation is the percentage of HbO₂ in the total Hb in the blood, so-called the O₂ concentration in the blood. It is an important bio-parameter for spiration. For the purpose of measuring the SpO₂ more easily and accurately, our company developed the Pulse Oximeter. At the same time, the device can measure is the state simultaneously. pulse rate simultaneously.
The Pulse Oximeter features in small volume, low power consumption, convenient operation and being portable. It is only necessary for patient to put one of his fingers into a fingertip photoelectric sensor for diagnosis, and a display screen will directly show measured value of Hemoglobin Saturation.

2.1 Classification:
Class II (US, FDA)

2.2 Feature

2.3 Feature

2.4 Feature

2.5 Feature

2.6 Feature

2.7 Feature

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2.7 Feature

2.8 Feature

2.9 Feature

2.8 Feature

2.2 Feature
Operation of the product is simple and convenient.
The product is small in volume, light in weight (total weight is about 50g including batteries) and convenient in carrying.
Power consumption of the product is low and the two originally equipped AAA batteries can be operated continuously for 24 hours.
The product will automatically be powered off when no signal is in the product within 5 seconds.
Low-battery indicator as battery icon flash manner.
2.3 Major Applications and Scope of Application
The Pulse Oximeter can be used to measure human Hemoglobin Saturation and pulse rate through finger, and indicate the pulse intensity by the bar-display. The product is suitable for use in family, hospital(Ordinary sickroom), Oxygen Bar, social medical organizations and also the measure of saturation oxygen and pulse rate.

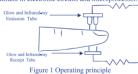
A The product is not suitable for use in continuous supervision for patients.
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a) Temperature: -40°C -+60°C b) Relative humidity: ≤95% c) Atmospheric pressure: :500hPa~1060hPa Operating Environment a) Temperature: 1.00°C

perating Environment a) Temperature: :10 ℃ ~40 ℃ b) Relative Humidity :≤75% c) Atmospheric pressure:700hPa~1060hPa

3 Principle and Caution

3.1 Principle of Measurement
Principle of the Oximeter is as follows: An experience formula of data process is established taking use of Lambert Beer Law according to Spectrum Absort Characteristics of Reductive Hemoglobin (Hb) and Oxyhemoglobin (HbO.) in glow & near-infrared zones. Operation principle of the instrument is: Photoele Oxyhemoglobin Inspection Technology is adopted in accordance with Capacity Pulse Scanning & Recording Technology, so that two beams of different wavelengt lights can be focused onto human fingertip through perspective clamp finger-type sensor. Then measured signal can be obtained by a photosensitive element, informs acquired through which will be shown on screen through treatment in electronic circuits and microprocure.



3.2 Caution

The finger should be placed properly (see the attached illustration of this manual, Figure 5), or else it may cause inaccurate measurement.

The SpO, sensor and photoelectric receiving tube should be arranged in a way with the subject's arteriole in a position there between.

The SpO, sensor should not be used at a location or limb tied with arterial canal or blood pressure cuff or receiving intravenous injection.

Make sure the optical path is free from any optical obstacles like rubberized fabric.

Excessive ambient light may affect the measuring result. It includes fluorescent lamp, dual ruby light, infrared heater, direct sunlight and etc.

Strenuous action of the subject or extreme electrosurgical interference may also affect the accuracy.

Enamelor of Acrylic fingernal polish or other fingernal applications may distort and/or produce inaccurate readings.

3.3 Clinical Restrictions

initial restrictions.

As the measure is taken on the basis of arteriole pulse, substantial pulsating blood flow of subject is required. For a subject with weak pulse due to shock, low ambient/body temperature, major bleeding, or use of vascular contracting drug, the SpO₂ waveform (PLETH) will decrease. In this case, the measurement will be

For those with a substantial amount of staining dilution drug (such as methylene blue, indigo green and acid indigo blue), or carbon monoxide hemoglobin (COHb), or methionine (Me+Hb) or thiosalicylic hemoglobin, and some with icterus problem, the SpO, determination by this monitor may be inaccurate.

The drugs like dopamine, procaine, prilocaine, idiocaine and butacaine may also be a major factor bland for serious error of SpO, measure.

As the SpO, value serves as a reference value for judgement of anemic anoxia and toxic anoxia, some patients with serious anemia may also report good SpO, measurement.

4 Technical Specifications

Display Format: Digital tube Display:
SpO, Measuring Range: 0% - 100%;
Pulse Rate Measuring Range: 30 bpm - 250 bpm;
Pulse Intensity Display: columniation display
Power Requirements: 2 × 1.5V AAA alkaline battery, adaptable range: 2.6V~3.6V.
Power Consumption: Smaller than 25 mA.
Resolution: 1½ for SpO, and 1 bpm for Pulse Rate.
Measurement Accuracy: ±2% in stage of 70%-100% SpO, and meaningless when stage being smaller than 70%. ±2 bpm or±2% (select larger) for Pulse Rate.
Measurement Performance in Weak Filling Condition: SpO, and pulse rate can be shown correctly when pulse-filling ratio is 0.4%. SpO, error is ±4%, pulse rate error is ±2 bpm or ±2% (select larger).

rate error is ±2 bpm or ±2% (select larger).

Resistance to surrounding light: The deviation between the value measured in the condition of man-made light or indoor natural light and that of darkroom is less taan ±1%. It is equipped with a function switch. The Oximeter can be powered off in case no finger is the Oximeter within 5 seconds. Optical Sensor Red light (wavelength is 660nm 6.65mW) 7)

8) 9)

Red light (wavelength is 660nm, 6.65mW) Infrared (wavelength is 880nm, 6.75mW)

5 Accessories

One hanging rope; Two batteries (optional); One User Manual.

6 Installation 6.1 View of the Front Panel





6.2 BatteryStep 1. Refer to Figure 3. and insert the two AAA size batteries properly in the right direction. Step 2. Replace the cover.

APlease take care when you insert the batteries for the improper insertion may damage the device.

6.3 Mounting the Hanging RopeStep 1. Put the end of the rope through the hole.
Step 2. Put another end of the rope through the ough the first one and then tighten it



Figure 4. Mounting the hanging rope

7 Operating Guide

Insert the two batteries properly to the direction, and then replace the cover Open the clip as shown in Figure 5.



Figure 5. Put finger in position
7.3 Let the patient's finger put into the rubber cushions of the clip (make sure the finger is in the right position), and then clip the finger.
7.4 Press the switch button once on front panel.

7.4 Press the switch button once on front panel.
7.5 Do not shake the finger and keep the patient at ease during the process. Meanwhile, human body is not recommended in mov.
7.6 Get the information directly from screen display.
7.7 In boot-strap state, press button, and the device is reset.

A Fingernalis and the luminescent tube should be on the same side.

8 Repairing and Maintenance

Please change the batteries when the low-voltage displayed on the screen.

Please clean the surface of the device before using. When the device with medical alcohol first, and then let it dry in air or clean it by dry clean fabric.

Using the medical alcohol to disinfect the product after use, prevent from cross infection for next time use.

Please take out the batteries if the oximeter is not in use for a long time.

The best storage environment of the device is -40°C to 60°C ambient temperature and not higher than 95% relative humidity.

Users are advised to calibrate the device termly (or according to the calibrating program of hospital). It also can be performed at the state-appointed agent or just occurrence used for the device termly (or according to the calibrating program of hospital).

A High-pressure sterilization cannot be used on the device.

Do not immerse the device in liquid

It is recommended that the device should be kept in a dry environment. Humidity may reduce the useful life of the device, or even damage it.

9 Troubleshooting Trouble Possible Reason The SpO, and Pulse Rate can not be Place the finger properly and try again. Try again; Go to a hospital for a diagnosis if you are sure the The finger is not properly positioned. The patient's SpO, is too low to be detected. ce works all right. Place the finger properly and try again. Let the patient keep calm The finger is not placed inside deep enough. The finger is shaking or the patient is moving. Low battery or no battery. The batteries are not inserted properly. The malfunction of the device. Change batteries Reinstall batterie The device can not be turned on The manufaction of the device. The device will power off automatically when there is no signal. Normal. Change bat The display is off suddenly 2. The batteries are almost drained.

10 Key of Symbols	
Symbol	Description
☀	Type BF
\triangle	Warning – See User Manual
SpO ₂ %	The pulse oxygen saturation(%)
PRbpm♥	Pulse rate (bpm)
	: The battery voltage indication is deficient (change the battery in time avoiding the inexact measure)
	I. no finger inserted An indicator of signal inadequacy
+	Battery anode
	Battery cathode
U	Power switch
SN	Serial number
×	Alarm inhibit
X	WEEE (2002/96/EC)
IP22	Ingress of liquids rank

11 Function Specification			
Display Information	Display Mode		
The Pulse Oxygen Saturation(SpO ₂)	Digital		
Pulse Rate (PR)	Digital		
Pulse Intensity (bar-graph)	Digital bar-graph display		
SpO ₂ Parameter Specification			
Measuring range	0%~100%, (the resolution is 1%).		
Accuracy	70%~100%: ±2%, Below 70% unspecified.		
Optical Sensor	Red light (wavelength is 660nm)		
	Infrared (wavelength is 880nm)		
Pulse Parameter Specification			
Measuring range	30bpm~250 bpm(the resolution is 1 bpm)		
Accuracy	±2bpm or±2% select larger		
Pulse Intensity			
Range	Continuous bar-graph display, the higher display indicates the stronger pulse.		
Battery Requirement			
1.5V (AAA size) alkaline batteries × 2 or rechargeable batter	y		
Battery Useful Life			
Two batteries can work continually for 24 hours			
Dimensions and Weight			
Dimensions	57(L) × 31(W) × 32(H) mm About 50g (with the batteries)		
Weight	About 50g (with the batteries)		

Manual de Usuario

ADVERTENCIA:

ERTENCIA:

Puede aparecer una sensación de incomodidad o dolor si se usa el equipo por períodos prolongados; especialmente en el caso de pacientes con problemas de microcirculación. Se recomienda que el sensor no se utilice en el mismo dedo durante más de 2 horas.

En el caso de pacientes especiales debe realizarse una inspección más prudente de la zona sobre la que se hará la medición. El equipo no debe ponerse en contacto con tejido blando o edematoso.

La luz (el infrarrojo es invisible) emitida por el dispositivo es dañina para los ojos, el usuario y el encargado del mantenimiento no debe mirar fijamente a la bra.

La luz

La persona sujeta a la prueba no debe usar esmalte de uñas u otros cosméticos.

La uña de la persona sujeta a la prueba no debe estar muy crecida.

Por favor lea cuidadosamente el contenido relativo a restricciones clinicas y precauciones.

No está contemplado el uso de este equipo para tratamiento.

anual de Usuario es publicado por nuestra compañía. Todos los derechos reservados.

1 Seguridad

Riesgo de explosión – NO USE el oxímetro en un ambiente con gases inflamables, como es el

Riesgo de explosion – NO USE el oximetro en un ambiente con gases inflamables, como es el o, opr el ejemplo, de algunos agentes anestésicos.

NO USE el oximetro cuando se están realizando MRI y CT en la persona sujeta a prueba.

La persona alfergica al eaucho no puede utilizar este equipo.

La eliminación del equipo desechado y sus accesorios y empaques (incluyendo bateria, bolsas leges y regulaciones locales.

Por favor verifique el embalaje antes del uso para asegurarse de que el equipo y los accesorios se entregan conforme al manifiesto de embalaje, de otra forma el control de facilicame encaptables de control de con

equipo podría funcionar anomalmente.

Por favor no mida este equipo con papel analítico funcional relevante a la información relacionada con el mismo.

servaciones

ga el oximetro alejado del polvo, vibraciones, sustancias corrosivas, materiales

1.2 Obse

explosivos, altas temperaturas y humedad.
Si de toximetro se moja, por favor deje de utilizarlo.
do se transporte de un ambiente frío a un ambiente caluroso o húmedo, por favor no utilizar inmediatamente el equipo.
NO presione las teclas del panel frontal con materiales punzantes.

NO presione las teclas del panel frontal con materiales punzantes.

de debe desinfectar al oximetro con alta temperatura o vapor a presión alta. Vea el Manual

de usuario en el capítulo concerimente a las instrucciones de limpieza y desinfección.

sumerja al oxímetro en líquido. Cuando necesite limpiarlo, por favor impregne su superficie con alcohol medicinal utilizando algún material suave. No aplique

riamente con un aspersor

ningún líquido sobre el equipo.

Al limpiar el equipo con agua, la temperatura debe ser menor de 60°C.

S dedos fuesen muy delgados, o estuviesen muy fríos, la medición normal de SpO2 y del pulso del paciente probablemente se vería afectada, por favor asegure el

más grueso al

sensor (pulgar o dedo medio) a suficiente profundidad.
No utilice el equipo en niños muy pequeños o en neonatos.
El equipo es apropiado para su uso en niños mayores de cuatro años y en adultos (el peso debe estar entre 15kg y 110kg).
Es posible que el equipo no funcione en todos los pacientes. Si no pudiese obtener mediciones
estables, por favor deje de utilizarlo.
Los datos se actualizar ao no una frecuencia menor a los 5 segundos, esto puede variar según el pulso de los diferentes individuos.
Si apareciesen algunas condiciones anormales en la pantalla durante el proceso de realización de la prueba, retire el dedo y reinsértelo para recobrar el uso normal.
El equipo tine un periodo normal de vida útil de tres años desde el momento del encendido.
La cuerda de soporte que viene con el equipo está hecha con material no alergénico, si un grupo específico es sensible a la cuerda de soporte, suspenda el uso. Tenga cuidado, además, de no colocar la cuerda de soporte alrededor del cuello PARA evitar causar daños al paciente.
El instrumento no tiene una función de alarma de bajo voltaje, solo una indicación de bajo voltaje en pantalla, por favor cambie la batería cuando la energía de la misma se agote.
El equipo no tiene una función de alarma por exceso de uso. No emplee el equipo en situaciones que requieran alarmas.
Deben removerse las baterías si el equipo se va a almacenar durante más de un mes, de lo contrario, las baterías podrían presentar fugas.
Un circuito flexible conecta las dos partes del equipo. No tuerza o tire de la conexión.

2 Resumen

2 Resumen
2.1 Aplicaciones Principales y Restricciones de Uso
El Pulsioxímetro puede emplear para medir la Saturación de oxígeno en hemoglobina humana y el pulso; la medición se realiza en el dedo y un gráfico de barras indica la intensidad del pulso. El producto es adecuado para su uso en hogares, hospitales (habitaciones de pacientes), bares de oxígeno, organizaciones médicas sociales; y en situaciones en las que se requiera medir la saturación de oxígeno y el pulso.

A El producto no es adecuado para su uso como herramienta de supervisión continua en pacientes.

A Los valores de medición se sobreestimarán si el paciente sufre de intoxicación por monóxido de carbono, no se recomienda emplear el equipo bajo estas

circunstancias.

eircunstancias.

2.2Parámetros Ambientales

Ambiente de Almacenamiento
a) Temperatura: -40°C -+60°C
b) Humedad relativa: :955%
c) Presión atmosférica: 500hPa-1060hPa

c) Presión atmosferica: 300th a-100th a Ambiente de Operación

a) Temperatura: 10°C ~ 40°C

b) Humedad relativa :≤75%

c) Presión atmosférica: 700hPa~1060hPa

3 Características Técnicas y Precauciones

El dedo debe colocarse adecuadamente (ver la ilustración adjunta en este manual, Figura 4), caso contrario las mediciones pueden resultar imprecisas. El sensor de SpO2 y el conducto receptor fotoeléctrico deben disponerse en tal forma que la arterial, el la ensora que ser estaliza la prueba debe quedar entre ellos. El sensor de SpO2, no debe emplearse en una ubicación o extremidad conectada a una cánula rierial, ligada a un tensiómetro o que esté recibiendo inyección

intravenosa.
A.Asegárese de que la trayectoria óptica esté libre de cualquier obstáculo óptico como tela recubierta de caucho.
5.Una excesiva luz ambiental puede afectar el resultado de la medición. Esto incluye lámparas fluorescentes, luces duales de rubí, calefactores infrarrojos, luz directa del

sol, etc.
6.Actividades enérgicas por parte de la persona sujeta a la prueba o interferencia electro quirúrgica extrema también podrían afectar la medición.
7.La persona sujeta a la prueba no debe usar esmalte de uñas u otros cosméticos.
3.2Restricciones Clínicas

3.2Réstricciones Clínicas

1.Como la medida se toma en base al pulso arterial se requiere un flujo de sangre pulsante sustancial en la persona sujeta a la prueba. En caso de una persona con un pulso débil debido a shock, baja temperatura ambiente o corporal, hemorragia importante o empleo de fármacos vasoconstrictores, la onda de SpO₂ (PLETH) disminuirá. En este caso la medición será más sensible a la interferencia.

2.En aquellas personas bajo los efectos de un cantidad importante de fármacos de tinción (tales como azul de metileno, verde indigo y azul índigo ácido) o de carboxinemoglobina (COHb), metahemoglobina (Me+Hb) o hemoglobina tiosalicílica, y en aquellas personas con problemas ictéricos, este equipo podría arrojar resultades inspectos.

resultados inexactos.

3.Fármacos como dopamina, procaína, prilocaína, y butacaína podrían ser también factores importantes que produzcan errores importantes en la medición de SpO2.

4.Ya que el valor de SpO2 sirve como valor de referencia para el diagnóstico de anoxía anémica y anoxía tóxica, algunas pacientes con anemia severa pueden rej también un buen valor de medición de SpO2.

4 Especificaciones Técnicas

Formato de Presentación de Datos: Pantalla Digital; Medición de SpO, Rango: 0% - 100%; Medición del Pulso Rango: 30 bpm - 250 bpm; Presentación de la Intensidad de Pulso: Gráfico de Barras

Medición del Pulso Rango: 30 bpm - 250 bpm;
Presentación del Pulso Rango: 30 bpm - 250 bpm;
Presentación de la Intensidad de Pulso: Gráfico de Barras
Presentación de la Intensidad de Pulso: Gráfico de Barras
Requisitos Energéticos: 24 LSV AAA batería alcalina, rango adaptable: 2.6V-3.6V.
Consumo Energético: Menor de 25 mA.
Resolución: 1% para la SpO2 y 11pm
Precisión en la Medición: ±2% en el rango de 70%-100% SpO2 y no estimable cuando se está en un rango por debajo de 70%. ±2 lpm o ±2% (considere el valor

mayor) para Pulso
6) Desempeño de la Medición en Condiciones de Pobre Oxigenación: La SpO₂ y el pulso se pueden mostrar correctamente cuando la tasa de oxigenación es de hasta
0.4%. El error de SpO, es de ±4%,
el error en la medición del pulso es de ±2 lpm o ±2% (considere el valor mayor).

7) Resistencia a la luz ambiental: La desviación entre el valor medido bajo condiciones de luz artificial o de luz natural interior, con respecto al valor medido en un
cuarto oscuro es menor de ±1%.

8) El producto cuenta con un botón de encendido. El oxímetro se apagará si no se utiliza en algún dedo durante 5 segundos.

5 Accesorios

Una cuerda de soporte;

Dos baterías (opcional)

Un Manual de Usuario.

6 Instalación



Figura 1 Vista Frontal

use a la Figura 2 e inserte dos baterías AAA apropiadamente y en la dirección correcta. ⚠Coloque las baterías con cuidado ya que una inserción inapropiada podría dañar el equipo



Figura 2 Instalación de las Baterías

6.3Montaje de la Cuerda de Soporte

1) Coloque un extremo de la cuerda a través del agujero.

Haga pasar el otro extremo de la cuerda a través del primero y ajuste.



Figura 3 Montaje de la cuerda de soporte

7Guía de Operación

7.1 Inserte las dos baterías según la dirección correcta y luego recoloque la cubierta
 7.2 Abra el clip en la posición mostrada en la Figura 4.



Figura 4.Coloque el dedo en posición

El dedo del paciente debe reposar en los rebordes de caucho del clip (asegúrese de que el dedo está en la posición correcta) y luego asegure el dedo al clip.

Presione una vez el botón en el panel frontal.

No mueva el dedo y mantenga al paciente quieto durante el proceso de medición. No se recomienda que el cuerpo del paciente o del sujeto de la prueba esté en viginento.

movimiento.
7.6 Recabe la información directamente de la pantalla.
7.7 En condiciones de arranque presione el boto para resetear el producto sanitario.

<u>A Las uñas y el tubo luminiscente deben estar del mismo lado.</u>

Símbolo	Descripción			
∱	Tipo BF			
\triangle	Advertencia – Vea el Manual de Usuario			
SpO ₂ %	La saturación de oxigeno detectada a través del pulso (%)			
PRbpm	Pulso o frecuencia cardiaca (lpm)			
_	El indicador de voltaje de bacteria señala deficiencia (cambie la batería a tiempo para evitar mediciones inexactas)			
	No se ha insertado un dedo Un indicador de señal inadecuada			
+	Ánodo de la batería			
	Cátodo de la batería			
(h	Botón de encendido			
SN	Número de serie			
※	Inhibidor de alarma			



Información en Pantalla	Modo de Representación			
Saturación de Oxigeno en Pulso(SpO ₂)	Digital			
Pulso (PR)	Digital			
Pulso (PR) Intensidad del Pulso (gráfico de barras)	Presentación en Gráfico de barras digital			
Especificación del Parámetro de SpO ₂				
Rango de la Medición	0%~100%, (la resolución es 1%).			
Precisión	$70\%\sim100\%$: $\pm2\%$, Por debajo de 70% no estimable.			
Sensor Óptico	Luz Roja (longitud de onda de 660nm) Infrarrojo (Longitud de onda de 880nm)			
Especificación de Parámetro de Pulso				
Rango de la Medición	30bpm~250 lpm (la resolución es de 1 lpm)			
Precisión	±2bpm o ±2% considere el mayor valor			
Intensidad de Pulso				
Rango	Barra de gráficos continua, cuanto más alta se muestre más fuerte es el pulso.			
Baterías Requeridas				
2 baterías alcalinas de 1.5 V (tamaño AAA) o batería	s recargables			
Vida Útil de la Batería				
Dos baterías pueden operar continuamente durante 2 Dimensiones y Peso	4 horas			
Dimensiones	57(L) × 31(W) × 32(H) mm			
Peso	Aproximadamente 50 g (incluyendo las baterías)			

Appendix:Electromagnetism Compatibility
Guidance and manufacture's declaration – electromagnetic emissionsfor all EQUIPMENT and SYSTEMS

Guidance and manufacture's declaration – electromagnetic emission					
The CMS50DL is intended for use in the electromagnetic environment specified below. The customer of the user of the CMS50DL should assure that it is used in such					
	and environment.				
Emission test Compliance Electromagnetic environment – guidance					
RF emissions CISPR 11	Group 1	The CMS50DL 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 emission CISPR 11	Class B	The CMS50DL is suitable for use in all establishments, including domestic establishments and			
Harmonic emissions IEC 61000-3-2	N/A	those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.			
Voltage fluctuations/ flicker emissions IEC 61000-3-3	N/A	, , , , , , , , , , , , , , , , , , , ,			

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

Guidance and manufacture's declaration – electromagnetic immunity The CMS50DL is intended for use in the electromagnetic environment specified below. The customer or the user of CMS50DL should assure that it is used in such an environment.					
Immunity test IEC 60601 test level Compliance level Electromagnetic environment - guidance					
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 KV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floor 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	N/A	Mains power quality should be that of a typical commercial or hospital environment.		
Surge IEC 61000-4-5	±1 kV differential 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	$ \begin{split} & <5\% \ U_{\tau} \ (>95\% \ dip \ in \ U_{\tau}) \\ & \text{for 0.5 cycle} \\ & 40\% \ U_{\tau} (60\% \ dip \ in \ U_{\tau}) \\ & \text{for 5 cycles} \\ & 70\% \ U_{\tau} (30\% \ dip \ in \ U_{\tau}) \\ & \text{for 25 cycles} \\ & <5\% \ U_{\tau} (>95\% \ dip \ in \ U_{\tau}) \\ & \text{for 5 sec} \end{split} $	N/A	Mains power quality should be that of a typical commercial or hospital environment. If the user of the CMSSODL requires continued operation during power mains interruptions, it is recommended that the CMSSODL be powered from an uninterruptible power supply or a battery.		
Power frequency (50/60Hz) Magnetic field IEC-61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields sould be at levels characteristic of a typical location in a typical commercial or hospital environment.		
NOTE U _T is the a.c. mains voltage prior	to application of the test level.				

Guidance and manufacture's declaration – electromagnetic immunity for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING

Immunity test	IEC 60601	Compliance	nce Electromagnetic environment - guidance			
Immunity test	test level	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 CMSSODL, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = \left[\frac{3.5}{V_1}\right] \sqrt{P}$ $d = \left[\frac{3.5}{E_1}\right] \sqrt{P}$ $80 \text{ MHz to } 800 \text{ MHz}$ $d = \left[\frac{7}{E_1}\right] \sqrt{P}$ $800 \text{ MHz to } 2.5 \text{ GHz}$ Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol: ((e))			

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

These guacuines may not apply in an studatoris. Electromagnetic propagation is affected by assorption and reflection from structures, societs almost people. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the CMS50DL is used exceeds the applicable RF compliance level above, the CMS50DL should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the CMS50DL.

Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM for EQUIPMENT or SYSTEM that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the CMS50DL					
portable and mobile Kr communications equipment and the CMSSODE					
The CMS50DL is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the CMS50DL can help prevent					
electromagnetic interference by maintaining a minimum distance be	etween portable and mobile RI	communications equipment (transmitters) and the CMS50DL as recommended		
below, according to the maximum output power of the communications equipment.					
Separation distance according to frequency of transmitter					
Rated maximum output power of transmitter (W)	(m)				
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz		
	$d = \left[\frac{3.5}{V_1}\right] \sqrt{P}$	$d = \left[\frac{3.5}{E_1}\right] \sqrt{P}$	$d = \left[\frac{7}{E_1}\right] \sqrt{P}$		
0.01	0.12	0.12	0.23		
0.1	0.39	0.37	0.74		
1	1.17	1.17	2.33		
10	3.69	3.69	7.38		
100	11.67	11.67	23.33		

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the

frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people

Warranty

Your Drive brand product is warranted to be free of defects in materials and workmanship for two years from the original purchase date.

The device was built to exacting standards and carefully inspected prior to shipment. This two year Limited Liability warranty is an expression of our confidence in the materials and workmanship of our products and our assurance to the consumer of years of dependable service. In the event of a defect covered by this warranty, we will at option, repair or replace the device

This warranty does not cover device failure due to owner misuse or negligence, or normal wear and tear. If you have questions about your Drive device, or this warranty, please contact an authorized Drive Medical provider.

REF MQ3000

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