F380 series

HANDHELD PULSE OXIMETER

USER'S MANUAL

VER 1.0

Shenzhen Fitfaith Technology Co.,Ltd

2014/12

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Chapter 1. Instructions

This manual provides the instructions necessary to operate F380 series Pulse Oximeter (hereinafter called as the Oximeter) in accordance with its function and intended use. Observance of this manual is a prerequisite and correct operation, and ensures patient and operator safety.

This manual is an integral part of and should always be kept close to the Oximeter, so that it can be obtained conveniently when necessary.

Content of this manual is subject to change without prior notice.

Issued date: 2014.12.25

Version: 1.0

Statement

The manufacturer is responsible for safety, reliability and performance of this product only in that:

- All installation operations, expansions, changes, modifications and repairs of this product are conducted by manufacturer authorized personnel; and
- The electrical installation of the relevant room complies with the applicable national and local requirements; and
- This product is operated under strict observance of this manual.

Guarantee

Free service scope

- The manufacturer provides free service to any product which conforms to the warranty regulations.

Chargeable service scope

- The manufacturer charges customers for service to any product which is outside warranty regulations' range.
- The manufacturer's obligation or liability under his warranty does not include the service of any factitious damage. Or the voltage of power supply network beyond the product's specification, or irresistible natural disaster, or delay resulting from the improper use or application of the product, or the use of parts or accessories not approved by the manufacturer, or repairs by people other than the manufacturer authorized personnel.

Return Policy

In the event that it becomes necessary to return to the manufacturer, please obtain a return authorization first. Please contact the manufacturer's Service Department and provides the model number, serial number, and a brief description of the reason for return. Return shipments will not be accepted if the serial number is not clearly visible.

The customer is responsible for freight charges when this product is shipped to the manufacturer for service (including any relevant customs fees or other freight related charges).

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Chapter 2. Safety Information

The safety statements presented in this chapter refer to the basic safety information that the operator of the oximeter shall pay attention to and abide by, There are additional safety statements in other chapters or sections, which may be the same as or similar to the followings, or specific to the operations.
The following safety terms warning and caution are used throughout this manual to point out hazards and to designate a degree or level or seriousness.

WARNING

Indicates a potential hazard situation or unsafe practice that, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potential hazard or unsafe practice that, if not avoided, could result in minor personal injury or product/property damage.

NOTE

Provides application tips or other useful information to that you get the most from your product.

2.1 Warnings

- The oximeter is intended only as an adjunct in patient assessment. It is not intended as a device used for treatment purposes.
- The oximeter is intended for use only by qualified clinical physicians or well-trained nurses.
- To ensure patient safety, verify this device and accessories can function safely and normally before use.
- When using the oximeter together with the electrical surgery equipment, the user should pay attention to and guarantee safety of the patient being measured.
- EXPLOSION HAZARD: Do not use the oximeter in the presence of flammable anesthetics, explosive substances, vapors or liquids.
- Do not pull or lift the oximeter by its connection cable. That may lead to falling and consequent patient injuries.
- It is not recommended to hang the oximeter when transporting patients. Safety hazards may arise from the large amplitude swing during the transportation.
- Make sure not to use the oximeter and it's transducer during MRI (magnetic resonance imaging) scanning because induced current could potentially cause burns. The oximeter is capable of interfering with the proper performance of MRI, and MRI is capable of interfering with the measurement accuracy of the oximeter.

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- The oximeter and its accessories may be contaminated by microorganism during transporting, use and storage. Use the recommended methods to sterilize and disinfect the oximeter or its accessories when the packing material is damaged, or it has not been used for a long time.

2.2 Cautions

- The oximeter is a commonly sealed device. Keep its surface dry and clean, and prevent any liquid from infiltrating it.
- The device should be appropriately placed. Keep it from falling, strong vibration or other mechanical damage.
- The oximeter should only be maintained by personnel approved by our company.
- Before using the oximeter on patients, the user should be familiar with its operation.

2.3 Notes

- Important! Before use, carefully read this manual, all safety information and specifications.

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Chapter 3. General

3.1 Introduction

The F380 series oximeter is a non-invasive, handheld patient Oximeter. It operates on alkaline or rechargeable battery power supply. It is compact, small, light, and easy for learning and handling. It is suitable for spot-checking and short-time monitoring adult and child patients. It is widely used in the hospital's operation room, ICU, clinic section office, out-patient department, sickroom, emergency treatment, and the recovery and health care organizations, or in the family nursing and in the process of transporting patients.

Parameters measured by the oximeter include: arterial oxygen saturation (SpO2), pulse rate (PR), bargraph and plethysmogram. The oximeter measures these parameters through a SpO2 sensor and displays them on the color TFT LCD screen after certain further processing.

The oximeter is operated and controlled by the buttons on the front panel. It adopts a 2.8 inch color TFT LCD screen in displaying measurements and in supplementary status indication.

3.2 Intended Use

The F380 series handheld pulse oximetry is suitable for hospital's operation room, ICU, clinic section office, out-patient department, sickroom, emergency treatment, and the recovery and health care organizations, or in the family nursing and in the process of transporting patients. Etc.

The product is suitable for spot-checking or short-time monitoring adult, child,and neonate patient.

The product is intended for use only by qualified clinical physicians or well-trained nurses.

3.3 Features

- Lightweight for carrying and Easy-To-Use.
- Silicon rubber shell protection and stable bracket for table usage.
- Using DB9 type connector compatible with Nellcor Spo2 Sensor.
- Support the oximeter probe for adult, neonate and infant.
- Big size 2.8 inch color TFT LCD display for SPO2/PR/Pulse bargraph/ plethysmogram.
- Visual and sound prompt function.
- Adjust the parameters in friendly menu.

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- Low Battery voltage indicator.
- Automatically switch off within 3 minutes when no signal.
- Inner Flash memory can store testing result up to 360 hours.
- USB interface support upload the data to computer and review the history data with software in PC.
- Standard 4X AAA 1.5V Alkaline battery or rechargeable Li battery is available for power supply

3.4 Appearance

Figure 3-1 Front Panel

Figure 3-2 Back Panel

Figure 3-3 Top Side Panel

Figure 3-4 Right Side Panel

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Table 3-1 Appearance description

No.	Description	Remarks
1	LCD display	It displays test result& information, as described in chapter 5.
2	Power on indicator	It displays the power on situation of the machine.
3	Power button 	It turns on or off the device power.
4	Menu button 	It turns on the menu setting and act as confirm function in the menu.
5	Battery charger Light	It displays the charge situation of the battery. Green light for on charge, Red light for charging full.
6	Mute Button 	It turns on or off the sound of alarm and beep of pulse sound.
7	UP button 	It changes the parameter along up direction.
8	EXIT button 	It confirms the selection parameter and exit the submenu.
9	DOWN button 	It changes the parameter along down direction.
10	Speaker	It ring the prompt sound when the test value beyond the limit
11	Bracket socket	It can install a steel bracket
12	Battery compartment	It use 4 AAA Alkaline battery or 3.6V Li battery
13	SpO2 probe socket	It connects SpO2 sensor.
14	Temperature sensor socket	N/A
15	USB port	It connects the computer for data transfer.

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Chapter 4. Installation

4.1 Unpacking and Inspection

Please open the package and remove the instrument and accessories carefully. Check all materials against the packing list.

- Check the oximeter for any mechanical damage.
- Check exposed wires, sockets and the accessories.

Contact supplier immediately in case of any problem.

WARNING

- Be sure to keep the packaging materials from children's reach.
- Disposal of the packaging materials shall comply with your local requirements.

NOTE

- Please save the packing case and packaging material for future transport and storage.

4.2 Connect SpO2 Sensor

You can connect the SpO2 sensor to the oximeter by simply inserting their connectors to the SpO2 socket on the Oximeter's top side panel as shown in figure 3-3.

4.3 power-on

Press the power button  and hold for more than 1 second to turn on the Oximeter, the LCD display lights up on the front panel and the screen displays SpO2 and PR parameter monitoring interface.

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Chapter 5. Display and Operation

The screen of the Oximeter (Display Area) can display the monitoring parameters. The buttons on the front panel operate the Oximeter below this screen. For button details, please refer to figure 3-1 and table 3-1.

5.1 Power-on and Power-off

Press the power button  and hold for more than 1 second to turn on the oximeter. The LCD lights up on the front panel and the screen appear display. When the oximeter is on, press the power button to turn off the oximeter.

Note

- The oximeter is powered by the 4 AAA alkaline batteries or 3.6V Li recharge battery. If the battery power is not enough, the Oximeter may fail to be turned on. It should replace the new battery and the machine will be work.
- In case the SpO2 sensor becomes disconnected, or the SpO2 sensor is connected, but the finger moves away from the sensor, the oximeter will automatically enter the standby mode. Under this mode, when the SpO2 sensor is connected and a finger is inserted into the sensor, the oximeter will automatically resume the operation mode. Otherwise the oximeter will automatically shut down in 3 minutes.

5.2 Monitoring Screen Display and Operation

5.2.1 Parameter Screen Display

The screen will displays the monitoring parameters when the oximeter is turned on.

If the SpO2 sensor is connected to monitor a patient's SpO2, the LCD screen displays the measurements of SpO2, PR, bargraph, plethysmogram, and system information, as shown in figure 5-1.

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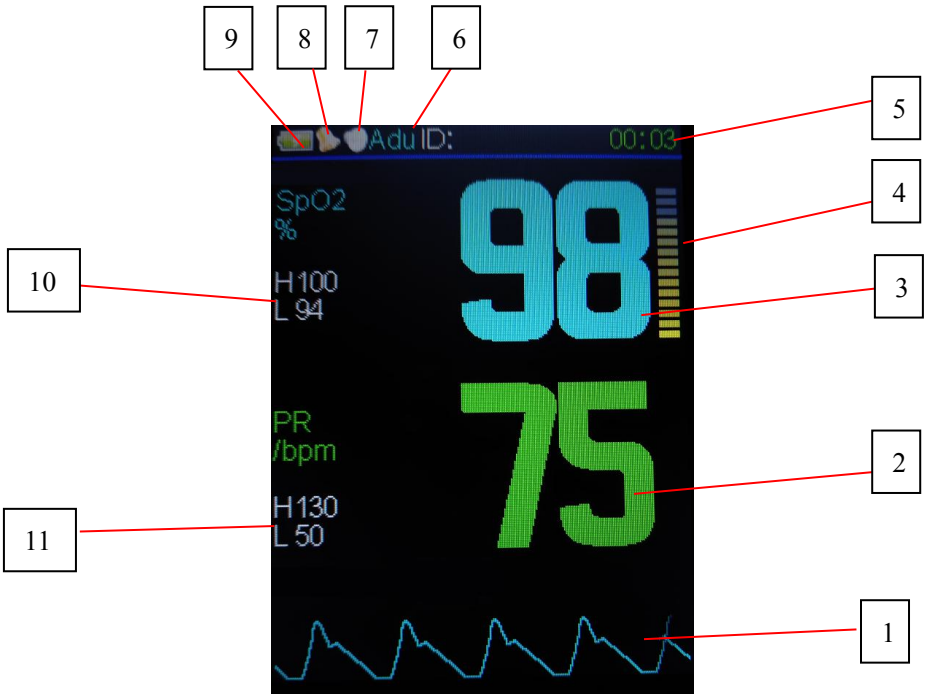

Figure 5-1 Parameter monitoring interface

5.2.2 Description of Displayed Information

Table 5-1 Description of displayed information on the monitoring screen

No.	Description	Remarks
1	Plethysmogram	It displays plethysmogram of pulse rate
2	Pulse rate	It displays PR value and is refreshed every second
3	SpO2	It displays SpO2 value and is refreshed every second
3	Pulse rate	It displays PR value and is refreshed every second
4	Bargraph	If with SpO2 Sensor, it can indicate real-time pulse strength. It shows the pulse rate of patient is weak when the bargraph is lower.。
5	Time	It displays the present time.
6	Patient Type	It displays the patient type (Adu/Neo/Ped)
7	Sound indicator	It displays the situation of sound.
8	prompt indicator	It displays the situation of Alarm
9	Battery indicator	It displays the battery capacity.
10	SPO2 Alarm limits	Alarm limit value of SPO2, It will sound prompt if the test result beyond these values.
11	PR Alarm limits	Alarm limit value of PR, It will sound prompt if the test result beyond these values.

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5.3 Prompt Function

When a parameter's measurement exceeds its alarm limit, the oximeter can give audio and visual alarms simultaneously. The speaker sounds the alarm and the parameter's measurement flashes on the screen. If the speaker sound is turned off, the parameter's alarm sound will be silenced, but the parameter's measurement still flashes to prompt the alarm.

The alarm sound has top priority when the speaker is not mute. When there is an alarm, the speaker sound the alarm sound but not the pulse sound. Only when there is measurement exceeding its alarm limit, the speaker sounds the pulse sound.

5.4 Parameter setting:

5.4.1 Press the button during the testing situation and it will enter into main menu. The user can use up button & down button to change the setting item. And press the button to enter into the selected submenu.

Figure 5.4.1 main menu

5.4.2 The user can use direction & button to change the setting item in this sound setup submenu, Press the button for parameter setting. Use & button to increase or decrease the value of parameter. Then press button to confirm the parameter setting and return to the submenu. And return the main menu with pressing the exit button.

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Figure 5.4.2 Sound setup menu

5.4.3 .The user can use & button to change the setting item in this alarm setup submenu, Press the button for parameter setting. Use & button to increase or decrease the value of parameter. Then press button to confirm the parameter setting and return to the submenu. Finally return the main menu with pressing the button.

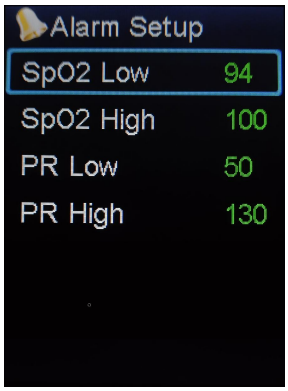

Figure 5.4.3 Alarm setup menu

Note: When you select the different patient type, The alarm limit value will change according to patient type.

5.4.4 The user can use & button to change the setting item in this time setup submenu, Press the button for parameter setting. Use & button to increase or decrease the value of parameter. Then press button to confirm the parameter setting and change to another parameter. Pressing the button to return the submenu. Finally return the main menu with

pressing the button when finishing time setting.

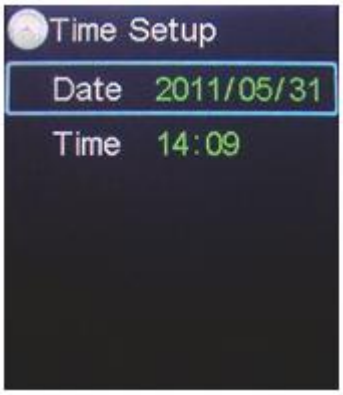

Figure 5.4.4 Time setup menu

5.4.5 The user can use & button to change the setting item in this record setup submenu, Press the button for parameter setting. Use & button to increase or decrease the value of parameter. Then Press button to confirm the parameter setting and return to the submenu. Finally return the main menu with pressing the button.

Figure 5.4.5.1 Record setup menu

If the user selects the new item at the ID submenu, you can see the interface as figure 5.4.5.2. Use & button to move the cursor crosswise, also use button to move the cursor lengthwise. Then press button to confirm the choice of letter. The signal and stand for delete and confirm function. Finally return the main menu with pressing the button.

Figure 5.4.5.2 Record ID input menu

5.4.6 The user can use & button to change the setting item in this system setup submenu, Press the button for parameter setting. Use & button to increase or decrease the value of parameter. Then Press button to confirm the parameter setting and return to the submenu. Finally return the main menu with pressing the button..

Figure 5.4.6 System setup menu

5.4.7 The user can use & button to change the setting item in this file system setup submenu, Press the button for parameter setting. Use & button to increase or decrease the value of parameter. Then Press button to confirm the parameter setting.

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Figure 5.4.7.1 File system setup menu

If the user selects the view item at file submenu, you can see the interface as figure5.4.7.2. Press the button change items among List /Serial No/Page icon. Use & button to select the optional parameter, Then Press button to confirm the parameter setting. Finally return the main menu with pressing the button.

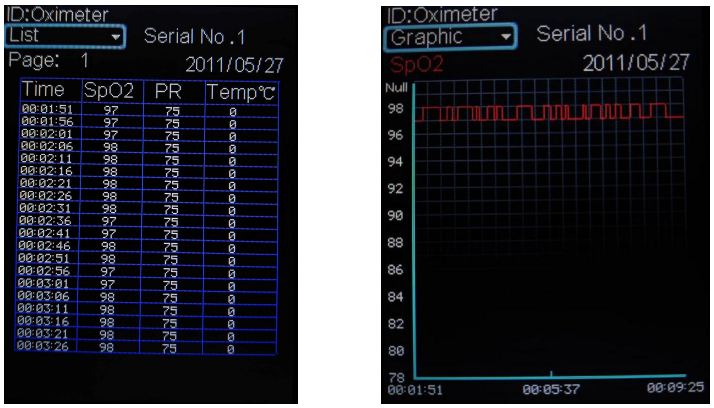

Figure 5.4.7.2 File system View interface

Note:

1. When the record is setting to on situation, the oximeter begins to record the testing result (SpO2&PR), the maximum record will up to 360 hours.
2. The user also can upload the storage data through USB port to the computer, and it also can review the data with software in PC.

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Chapter 6. SpO2 Monitoring

6.1 Measurement principle

SpO2 plethysmogram measurement is employed to determine the oxygen saturation of hemoglobin in the arterial blood. The SpO2 parameter can also provide a pulse rate signal and pulse strength.

How the SpO2 parameter works

- SpO2 is a non-invasive measurement of the functional oxygen saturation.
- Arterial oxygen saturation is measured by a method called pulse oximetery. It is a continuous, non-invasive method based on the different spectra absorption of hemoglobin and oxyhemoglobin (called spectrophotometer principle). It measures how much light, sent from light sources on one side of the sensor, is transmitted through patient tissue (such as a finger or a toe), to a receiver on the other side.
- The sensor measurement wavelengths are nominally 660nm for the red LED and 940nm for infrared LED. Maximum optical power output for LED is 4mw.
- The amount of light transmitted depends on many factors, most of which are constant. However, one of these factors, the blood flow in the arteries, varies with time, because it is pulsating. By measuring the light absorption during a pulsation, it is possible to derive the oxygen saturation of the arterial blood. Detecting the pulsation gives a PLETH waveform, pulse rate signal and pulse strength.
- The SpO2 value, PR value, pulse strength and the PLETH waveform can be displayed on the main screen.

6.2 Measurement Steps

Sensor selection for SpO2 measurement depends on the patient's age. For an adult patient, you can choose an adult finger sensor; for a child patient, you can choose a child hand or toe sensor. The finger SpO2 sensor is a finger clip consisting of two parts. The LEDs are placed in one part and the photodetector is placed in another part.

Please follow the steps and figure 6-1 below to use the adult finger SpO2 sensor:

- Insert the sensor's connector to the Oximeter's SpO2 socket.
- Turn on the monition. The LCD screen will display the parameter monitoring screen.
- Attach the sensor to an appropriate site of the patient's finger.
- The readings will be displayed on the LED screen a moment later.

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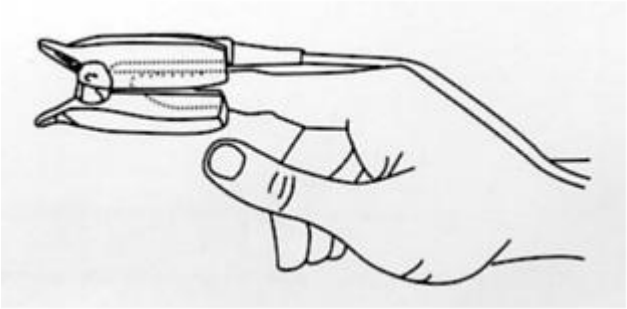

Figure 6-1 Placing the Adult SpO2 Sensor

NOTE

- Make sure to place the SpO2 sensor oh the finger in a correct direction. The LED part of the sensor should be at the backside of the patient hand and the photodetector part at the inside. Make sure to insert the finger to a suitable depth into the sensor so that the fingernail is just opposite to the light emitted from the sensor.
- To acquire accurate results, please read data until the sensor is steadily placed.
- Readings may not be accurate when either the sensor or the patient is moving.

6.3 Measurement Limitations

If the accuracy of any measurement does not seem reasonable, first check the patient's vital signs by an alternate method. Then check the instrument for proper function.

Inaccurate measurements may be caused by:

- Incorrect sensor application or use;
- High-frequency electrical noise, such as noise from electrosurgical apparatus connected to the system;
- Significant levels of dysfunctional hemoglobins (e.g.,carboxyhemoglobin or methemoglobin);
- Significant concentrations of dysfunctional hemoglobin, such as carboxyhemoglobin and methemoglobin;
- Intravascular dyes such as indocyanine green or methylene blue;
- Exposure to excessive illumination, such as surgical lamps (especially ones with a xenon light source), bilirubin lamps, fluorescent lights, infrared heating lamps, or direct sunlight (exposure to excessive illumination can be corrected by covering the sensor with a dark material);
- Excessive patient motion;
- Venous pulsations;
- SpO2 is too low;
- Improper sensor installation or incorrect contact position of the patient;
- Placement of a sensor on the same extremity with a blood pressure cuff, arterial catheter, or intravascular line.
- Polluted fingernail or fingernail polish or artificial fingernail.

Loss of pulse signal can occur in the following situation:

- The sensor is too tight;
- There is excessive illumination from light sources such as a surgical lamp, a bilirubin lamp, or sunlight;

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- A blood pressure cuff is inflated on the same extremity as the one with a SpO2 sensor attached;
- The patient has hypotension, severe vasoconstriction, severe anemia, or hypothermia;
- There is arterial occlusion proximal to the sensor;
- The patient is in cardiac arrest or in shock.

6.4 Precautions

NOTE

- Do not perform SpO2 monitoring and NIBP measurements on the same arm simultaneously. Obstruction of blood flow during NIBP measurements may adversely affect the reading of the SpO2 value.

WARNING

- Check if the sensor cable is in normal condition before monitoring. Do not use the SpO2 sensor once the package or the sensor is found damaged.
- Remove the SpO2 sensor from the patient after measurement.
- As with any medical equipment, carefully route patient cabling to reduce the possibility of patient entanglement or strangulation. Cables of electrical surgical equipment should not be winded around that of the SpO2 sensor.
- Do not put the sensor on extremities with arterial catheter or venous syringe.
- If no pulse is found or the reading is unreasonable, first check the patient's condition, and then check the sensor installation and connection with the oximeter, finally ask the qualified engineer to check the device and the SpO2 sensor for proper functions.
- Don't use the oximeter to measure patients whose pulse rate is lower than 30 bpm, which may cause incorrect results.
- Prolonged and continuous monitoring may increase jeopardy of unexpected change of dermal condition such as abnormal sensitivity, rubescence, vesicle, repressive putrescence, and so on. It is especially important to check more frequently the sensor placement of child and patient of poor perfusion or immature dermographia by light collimation and proper attaching strictly according to changes of the skin. Check per 2-3 hours the sensor placement and move it when the skin deteriorates.
- Make sure no contamination or scar exists in the site where the sensor is placed. Otherwise, the measured result may be incorrect because the signal received by the sensor is affected.
- Please use the SpO2 sensor supplied by the Oximeter.
- When used on different patients, the Oximeter is prone to crossed contamination, which should be prevented and controlled by the user. Disinfection is recommended before using the SpO2 sensor on other patients.

CAUTION

- SpO2 sensors are precision and fragile. Avoid pressure and knock. Hold the probe and cable carefully and lightly. If not use it, you should coil up the probe and cable into a loose circle. If the wire inside the cable is tensely pulled, it may cause mechanical damage to the probe and cable.

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Chapter 7. Data Transfer Procedure

Connecting the USB line from the machine to the computer after switching off the pulse oximeter. It will enter into transfer mode after switching on the machine again. The signal of USB will show in the LCD display, but not measure the data. It will transfer the data from pulse oximeter to the computer through the USB data line. As shown in figure 7-1.

The computer will indicate the information of finding a new disk driver. Then you can find a file named oxmieter.bin in the removable disk. You can use software oximeter-viewer in the CD to view the measured result at your computer.

Figure 7-1 Data Transfer Interface

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Chapter 8. Maintenance

8.1 System Check

8.1.1 Check before Using

Before using the oximeter, perform the following steps:

- Check if there is any mechanical damage;
- Check if all the outer cables and accessories are in good condition;
- Check if all the monitoring functions of the oximeter can work normally so as to make sure that the oximeter is in proper working condition.

In case of any damage, abnormal function, hidden safety danger or exception, do not use the device on patient, contact the technician in your hospital or the manufacture immediately.

8.1.2 Routine Check

Make sure the qualified service personnel have implemented a complete inspection, including the functional safety check, after the oximeter has been used for 6-12 consecutive months, or after oximeter servicing or system upgrading. This is to ensure the normal operation of the system.

Store the device without battery if unused for a long time. Otherwise the battery may be damaged because of being thoroughly exhausted.

WARNING

- Failure on the part of the responsible hospital or institution employing the use of the monitoring equipment to implement a satisfactory maintenance schedule may cause undue equipment failure and possible health hazard.
- The safety inspection or maintenance, which requires opening the oximeter housing, must be performed by trained and authorized personnel only. Otherwise. Equipment failure and possible health hazard may be caused.

8.2 General Cleaning

Your equipment should be cleaned on a regular basis. When it is polluted by dust, oil, sweat or blood etc, it should be cleaned at once. If there is heavy pollution or lots of dust and sand in your place, the equipment should be cleaned more frequently. Before cleaning the equipment, consult your hospital's regulations for cleaning, disinfecting and sterilizing equipment.

The exterior surfaces of the equipment may be cleaned gently with a clean and soft cloth, sponge or cotton swap, dampened with a non-erosive cleaning solution. Drying off excess cleaning solution before cleaning the equipment is recommended.

WARNING

1. Power off the oximeter and stop charging the battery before cleaning.

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Following are examples of cleaning solutions:

- Diluted soap water
- Diluted formaldehyde (35%-37%)
- Diluted ammonia water
- Hydrogen peroxide(3%)
- Alcohol
- Ethanol(70%)
- Isopropanol (70%)
- Diluted sodium hypochlorite solution(bleaching agent)

NOTE

- Sodium hypochlorite solution with a concentration of 500ppm (1:100diluted bleacher solution used in family) -5000ppm (1:10diluted bleacher solution used in family) is very effective. How much ppm depends on how much organic matter (blood, propagation grume etc.)Existing on the surface.

CAUTION

- NEVER use strong solvent, such as acetone.
- ALWAYS dilute the solutions according to the manufacturer's suggestions.
- NEVER use abrasive, erosive cleaners, or cleaners containing acetone
- NEVER permit fluids run into the casing, switches, connectors, or any ventilation openings in the equipment.
- NEVER submerge the equipment into water or any cleaning solution, or pour or spray water or any cleaning solution on the equipment.
- ALWAYS wipe off all the cleaning solution with a dry cloth after cleaning and dry the Oximeter in the air. Never dry the Oximeter in violent sunshine or toast it under high temperature.
- If the Oximeter is polluted by chemical substance, the users should handle it effectively according to the properties of the chemical substance.

The probes and cables may be cleaned with a clean and soft cloth, sponge or cotton swap, dampened with ethanol.

WARNING

- The cleaning solutions above can only be used for general cleaning. If you use them to control infections, the manufacturer shall assume no responsible for the effectiveness. Please consult your hospital's infection controllers or professionals.

8.3 Disinfection

Disinfection may cause damage to the equipment. We recommend the disinfection is contained in the hospital's servicing schedule only when necessary. The equipment should be cleaned prior to disinfection.

Recommended disinfection material: alcohol based (Ethanol 70%,Isopropanol 70%), and aldehyde based.

The probe cables may be disinfected with hydrogen peroxide (3%) or isopropanol (70%). Active

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reagents are also effective. The connecters cannot be submerged into the above solutions.

NOTE

- ALWAYS dilute the solutions according to the manufacturer's suggestions and adopt lower concentration if possible.
- NEVER submerge the equipment into water or any solution, or pour water or any solution on the equipment.
- ALWAYS wipe off all the excess liquids on the equipment surface and accessory surface with a dry cloth.
- NEVER use ETO and formaldehyde to disinfect.
- NEVER permit high-pressure and high-temperature disinfection of the equipment and accessories.

WARNING

- Disinfection may cause damage to the equipment; therefore, when preparing to disinfect equipment, consult your hospital's infection controllers or professionals.

8.4 Warranty

The host product' design life is 5 years, and 2 years warranty. The sensor's design life is 2 years while the warranty is 6 months. Under normal circumstances, the malfunction of the product during the warranty period (from the date of purchase) should be sent back to the company for maintenance, and our company is responsible for all maintenance costs (users should cover the freight themselves). Outside the warranty period, our company shall charge some maintenance fee (users should cover the freight themselves) if the product has broken down and is sent back for maintenance . The battery is beyond the scope of the warranty. If you have the purchase and sale contract, the costs of the maintenance shall be in accordance with the purchase and sale contract execution. Our company can provide the designated qualified technical personnel with files listed GB9706.1 6.8.3 C. Besides, it is recommended that users should use them no more than five years. And over the using life, the using risks may increase due to the equipment' aging.

8.5 Disposal

To avoid contaminating or infecting personnel, the environment or other equipment, make sure you disinfect or decontaminate the device appropriately before disposing of it in accordance with your country's law for equipment containing electrical and electronic parts.

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Chapter 9. Accessories

Standard Accessory	
Handheld Pulse Oximeter unit	1pcs
Adult Clip SpO2 Sensor	1pcs
USB Cable	1pcs
User Manual	1pcs
Optional accessory	
Adult Soft tip SpO2 sensor	1pcs
Child finger clip SpO2 sensor	1pcs
Child soft tip SpO2 sensor	1pcs
Neonate Wrap SpO2 sensor	1pcs

CAUTION

- Using other accessories may cause damage to the device.

sensor

This Module connect to the oximeter sensor with a analogous PD. and the LED wavelenth is 660nm Red light or 905nm infrared light.
This module can be compatible with Nellcor Spo2 Sensor.

Order

Model No.	Description
S901/S901B	Adult finger clip SpO2 sensor
S902	Adult Soft tip SpO2 sensor
S903	Child finger clip SpO2 sensor
S904	Child soft tip SpO2 sensor
S905	Neonate Wrap SpO2 sensor

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Chapter 10. Appendix a Specifications

General

Monitoring Parameters: SpO2\PR
Signal sockets: SpO2 socket\USB socket.
Display screen
Type: 2.8 inch TFT LCD
Display area: 58mm×43mm
Size
142mm (L) x78mm (w) x28mm (H)
Weight
250g (not include probes and battery)

Electrical specifications

Working voltage: DC4.0V-6.0V or 3.5V-4.2V Li battery.

Internal battery: 4 AAA alkaline battery or 1800MAH rechargeable Li battery

Run time: 15-hour continuous operation with a new, fully charged battery (environment temperature is 25℃)
Power Consumption: Smaller than 80mA(Normal)

Environment

Temperature

Operation: 5℃-40℃; Transportation and storage: -20℃-55℃

Humidity

Operation: 15%-85%(no condensing); Transportation and storage: 10%-95%(no condensing)

Altitude

Operation: 70KPa-106 KPa; Transportation and storage: 50KPa-106 KPa

Parameter Specifications

SpO2

Patient: adult, child

Range: 35%-100%

Resolution:1 %

Accuracy: (70%-100%)

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2% Normal

3% Motion or low perfusion

Below 70% Not specified

PR

Range: 25bpm-250bpm

Resolution: 1bpm

Accuracy: (25～250BPM)

2bpm Normal

3bpm Motion or low perfusion

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Type BF Equipment.

Follow instruction for use.

IP22 Anti-dust& Anti-water class .

Caution, consult accompanying documents

The product is latex free. The material used for manufacturing of the product contain no natural rubber latex protein. Patient contact materials have underdgone extensive biocompatibility testing. Further information is avaliable upon request.

Follow location guidelines for disposal of medical waste.

Date of manufacture.

Refer to the instruction manual /booklet

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