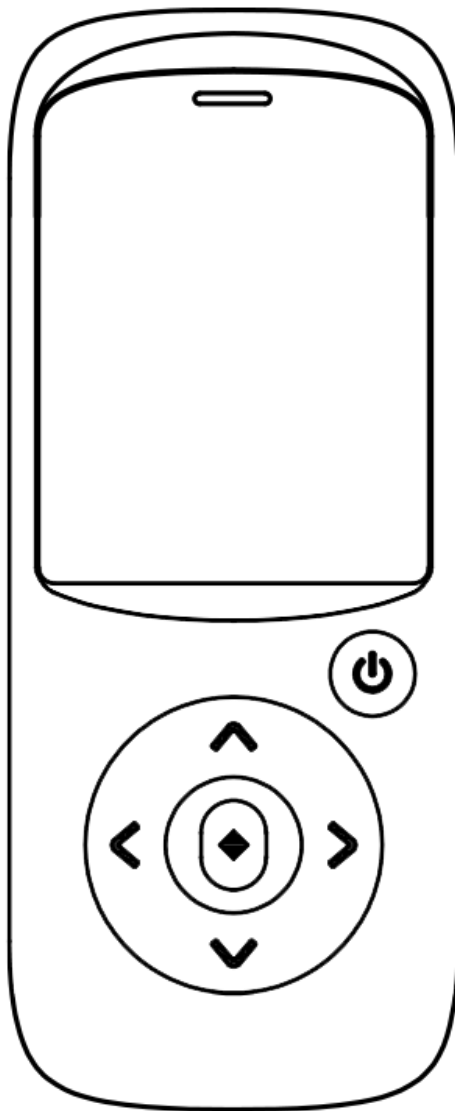


Pulse oximeter

MR-P1/MR-P2W

User's manual



Dear customer, we sincerely thank you for choosing the MR-P1/MR-P2W Pulse Oximeter (hereinafter referred to as the oximeter) produced by our company. The oximeter is a precision measuring instrument and must be handled with care and used correctly. Before you start using this oximeter, please read the user manual carefully and follow the instructions provided in the manual.

This manual is written by our company, copyright is reserved, no reproduction or modification without permission, and no tracking update is made for the version upgrade of the user manual.

The pictures provided in this specification are for reference only and may not be identical to the actual display of the product.

Version number of the specification: v1.1

Revision date: May 10,2025



Warning: Avoid messages that may cause harm to the user



Note: A message to avoid damage to the pulse oximeter

Note: Important tips for operation and use

FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

warning:

- ⚠ Do not use during MRI (magnetic resonance imaging).
- ⚠ Continued use can cause discomfort or tenderness, especially in patients with microcirculatory disorders.
- ⚠ Before each use, please check whether the pulse oximeter is normal. Do not use the damaged pulse oximeter!
- ⚠ Check the wearing area every 1 to 2 hours to ensure good skin texture and correct light alignment. If the skin texture changes, move the pulse oximeter to another area. Change the wearing area at least every 3 hours.
- ⚠ Do not place an oximeter on a limb with an artery or intravenous infusion tube. This will result in incorrect measurements.
- ⚠ Do not look directly at the light source of the blood oxygen probe (infrared light is invisible), otherwise it may be harmful to the eyes.
- ⚠ Although all parts expected to come into contact with the human body have been evaluated biologically and are biologically safe, a very few people may have allergic reactions and should stop using them for patients with allergic reactions.
- ⚠ The probe of the pulse oximeter is a special accessory. The user needs to verify the compatibility between the pulse oximeter and the probe before use to ensure that it can be used safely and work normally after matching. Incompatible accessories will lead to the performance decline of the pulse oximeter.

-
- ✳️ The accuracy of the oximeter measurement may be affected when the clinician operates the oximeter with peak wavelength equipment (such as photodynamic therapy equipment).
 - ✳️ Various accessories of this instrument cannot be replaced at will. If replacement is necessary, the manufacturer-recommended accessories or those from the same model, manufacturer, and standard as the one that came with this pulse oximeter should be used; otherwise, it may lead to adverse consequences regarding safety, performance, electromagnetic compatibility, and biocompatibility. For manufacturer-recommended accessories, please refer to the "List of Recommended Accessories Specifications."
 - ✳️ For the purpose of preventing environmental pollution, the disposal of this product and accessories and packaging waste shall comply with local laws and regulations.
 - ✳️ The blood oxygen meter contains precision devices, and the user should not open the instrument shell without authorization.
 - ✳️ The functional tester cannot be used to evaluate the accuracy of pulse oximeter or pulse oximeter.
 - ✳️ Keep the equipment and all accessories out of reach of pets, insects and children to avoid injury or damage to the equipment.
 - ✳️ The application part of this device includes the silicone sleeve and probe shell in the blood oxygen probe.
 - ✳️ The pulse oximeter has no alarm system and is not suitable for "alarm state delay and alarm signal generation delay in any optional operating mode (which affects these properties)".

-
- ✳️ This product should be used in a quiet, comfortable indoor environment for more accurate measurement.
 - ✳️ Do not use this product immediately when it is transferred from a cold environment to a warm and humid environment.
 - ✳️ Data averaging and signal processing delay the display and transmission of SpO₂ data values. The measurement data update cycle is less than 10 seconds, and when signal attenuation, weak perfusion, or other interference occurs, the time to take a dynamic mean increases, depending on the pulse rate.
 - ✳️ The service life of the product host is five years. Please refer to the attachment label for the service life of the attachment and the production date on the label.
 - ✳️ The maximum temperature of the contact surface of this product with the human body does not exceed 41°C, which is measured by the temperature measuring instrument.
 - ✳️ If unknown errors occur in the use of this product, you can disassemble the battery to terminate the operation of the product.
 - ✳️ When some abnormal conditions appear on the screen during the measurement, the probe is re-bundled for measurement.
 - ✳️ Do not twist or pull the wiring connecting this product.
 - ✳️ When the signal is incomplete (the signal noise is too large or the signal becomes poor or disappears), the accuracy of the measured value may decrease, and the display shows "- -".
 - ✳️ The measurement site is too cold, which may affect the measurement value.

-
- ☛ The light between the photoelectric receiver and the light-emitting tube of this product must pass through the small artery of the person under test; there should be no light obstacles such as tape in the place where the optical path passes, otherwise the measurement value may be inaccurate.
 - ☛ Excessive ambient light can affect measurements, such as surgical lights (especially xenon sources), bilirubin lamps, fluorescent lights, infrared heating lamps, and direct sunlight. To prevent interference from ambient light, ensure the pulse oximeter probe is properly placed and shielded with opaque material. To avoid excessive ambient light affecting the measurement, use it in a room with dimmer lighting.)
 - ☛ Excessive movement (active or passive) or vigorous activity of the subject can affect the accuracy of measurement.
 - ☛ Do not place the pulse oximeter on a limb with a blood pressure cuff, arterial catheter, or intracardiac tubing for measurement.
 - ☛ This product does not have defibrillation function, and the measurement value may be inaccurate during and shortly after defibrillation.
 - ☛ The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Contraindications: For certain special patients, the measurement site should be examined more carefully, and this product should not be placed on edema or fragile tissue.

catalogue

1. Overview.....	10
1.1 Product name and model.....	10
1.2 Product structure and composition.....	10
1.3 Product features	10
1.4 Appearance introduction	11
1.5 Product function list.....	14
1.6 Scope of application of products.....	15
1.7 Working environment.....	15
1.8 Transportation and storage environmental conditions	15
1.9 Transportation and storage environmental conditions between two uses	15
1.10 Symbol identification.....	16
2. Power supply.....	17
3. Clinical restrictions	17
4. Measurement principle.....	18
5. Preparation before use.....	18
5.1 Environmental requirements	18
5.2 Start up	19
5.3 Shutdown	19
6. Measurement.....	20
6.1 Blood oxygen measurement.....	20
6.2 Precautions.....	22
7. Interface introduction and operation	25
8. Technical parameters	27
8.1 Display: Highlight the digital tube.....	27
8.2 Description of blood oxygen saturation parameters.....	27
8.3 Pulse rate parameter description	27
8.4 Infusion (PI) index shown.....	28
8.5 Resistance to environmental light interference	28
8.6 Accuracy under weak perfusion.....	28
8.7 Hint function	28
8.8 Pulse modulation sound function (see product function list).....	29
8.9 Automatic shutdown function	29
8.10 Data storage function	29
8.11 Host size: 135mm*55mm*24mm	29
8.12 Classification.....	29
8.13 Factors affecting the inaccuracy of SpO2 measurement	30
9. Exceeding limit prompt.....	31
9.1. Prompt type.....	31
9.2. Prompting mode.....	31
9.3. Pause the out-of-limit prompt sound.....	32
10. Packing list.....	33
11. Batteries	33

11.1 Overview	33
11.2 Dry battery Install the battery.....	34
11.3 Battery recycling	34
12. Maintenance and maintenance	35
12.1 Maintenance	35
12.2 Cleaning and disinfection.....	35
13. Fault analysis and troubleshooting.....	36
14. APP download and installation guide	36

1. Overview

1.1 Product name and model

Name: Pulse oximeter

Model: MR-P1/MR-P2W

1.2 Product structure and composition

It is mainly composed of a pulse oximeter host and an oximeter probe, and has a data transmission interface (see product function list).

1.3 Product features

- The design is light, simple to operate and easy to carry.
- Highlight the digital tube display.
- It can measure the pulse oxygen saturation (SpO₂) and pulse rate (PR) of the human body at the same time; it can display the blood flow perfusion index (PI).
- Large capacity storage function, can store 100 sets of detection data.
- Blood oxygen and pulse rate data can be replayed simultaneously.
- It has low voltage indication function.
- It has automatic shutdown function.
- It has sound and light prompt function.
- It has power saving mode.

-
- Supports external dedicated adapter (users need to select and purchase) power supply.

1.4 Appearance introduction

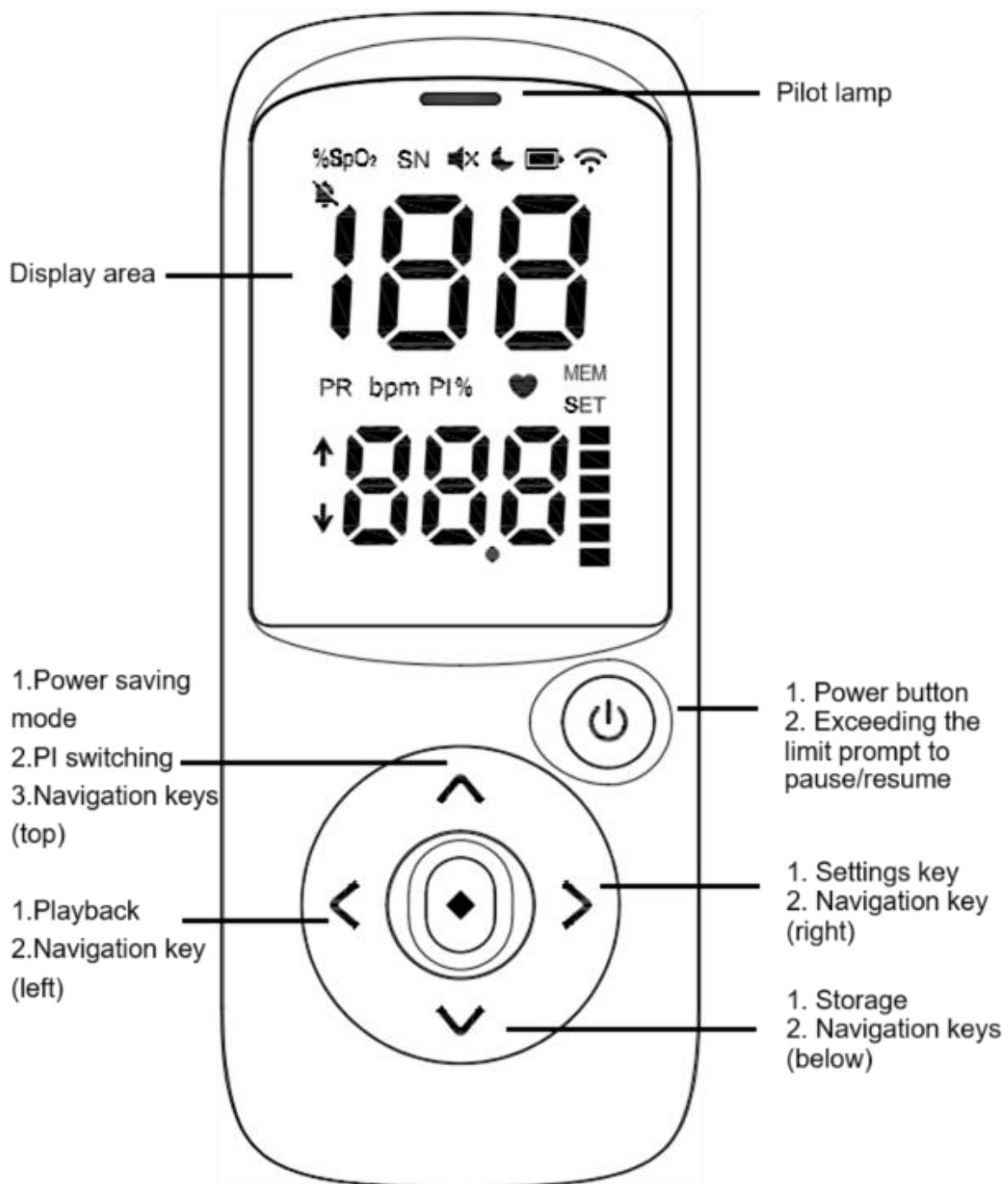


Figure 1.1 Front

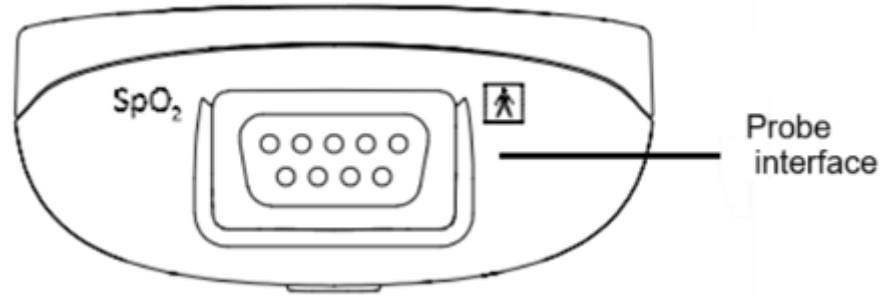


Figure 1.2 Top of the machine

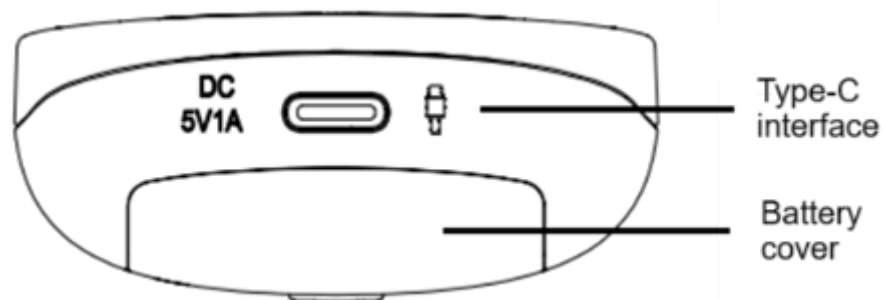


Figure 1.3 Bottom of the machine

Indicator light: flashing prompt when the parameter is out of limit or the probe falls off.

Display area: display the monitoring parameters and set screen.



The power button/limit warning sound is paused or resumed

Short press: The timeout prompt sound will be paused after the timeout (90s)

Long press: Turn on or off



Return key

Short press: In other interfaces, short press to return to the monitoring interface



Power saving mode /PI switch/Navigation key (top)

	Monitoring interface	Menu interface	The playback interface
Short press	Enter power saving mode	Set menu items	Previous record
Long press	Switch pulse rate and PI display	×	×

✓ Storage/Navigation keys (down)

	Monitoring interface	Menu interface	The playback interface
Short press	×	Set menu items	Next record
Long press	Store current monitoring data	×	×

◀ Playback/Navigation button (left)

	Monitoring interface	Menu interface	The playback interface
Short press	×	Select menu items	×
Long press	Enter/exit the playback interface	×	×

➤ Set key/Navigation key (right)

	Monitoring interface	Menu interface	The playback interface
Short press	×	Select menu items	×
Long press	Enter/exit the Settings screen	×	×

1.5 Product function list

function \ model	MR-P1	MR-P2W
Display screen	Nixie light	Nixie light
Auto shut off	√	√
Low voltage warning	√	√
SpO2,PR,PI	√	√
Pulse intensity bar chart	√	√
Exceeding limit prompt	√	√
Auditory tone cues	√	√
Menu Settings	√	√
Storage duration	100 sets	100 sets
Pulse modulation sound function	×	√
Wireless transmission	×	√
Power supply mode	2 AA batteries	1000mAh lithium cell

1.6 Scope of application of products

It can be used by hospitals or families to monitor the pulse oxygen saturation and pulse rate of users.

Note: The users of this product may also be the users of the product operation

1.7 Working environment

A) Ambient temperature range: $5^{\circ}\text{C}\sim 40^{\circ}\text{C}$

B) Relative humidity range: 15%~90%, non-condensation

C) Atmospheric pressure range: 70kPa~106kPa

1.8 Transportation and storage environmental conditions

A) Ambient temperature range: $-20^{\circ}\text{C}\sim +55^{\circ}\text{C}$

B) Relative humidity range: less than or equal to 95%

C) Atmospheric pressure range: 50kPa~106kPa

1.9 Transportation and storage environmental conditions between two uses

— $-25^{\circ}\text{C}\sim +5^{\circ}\text{C}$, and

— $+5^{\circ}\text{C}\sim +35^{\circ}\text{C}$, relative humidity can reach 90%, no condensation;

— $>35^{\circ}\text{C}\sim +70^{\circ}\text{C}$, water vapor pressure can reach 50hPa

1.10 Symbol identification

symbol	meaning	symbol	meaning
%SpO ₂	Degree of blood oxygen saturation (%)		No alarm system
PR bpm	Heart rate (bpm, beats/min)		Pulse strength bar chart
PI%	Perfusion index (%)		Low voltage indication
	Live time	SN	Serial number
	Wireless identification		This indicates that the application component is of type BF
	The out-of-limit prompt is turned off		Pulsating logo
	Loudspeaker mute		Power saving mode
SpO ₂	Probe socket		Type-C
	Indicate that it cannot be discarded at will		Read the instructions for use
SN	Production serial number		Upward
	Fragile		Afraid of rain
	Avoid collisions		Temperature limit (indicates the ambient temperature range: -20°C ~+55°C)
	Humidity limit		Limit of atmospheric pressure
IP22	Protection level of the enclosure		Warning
	Follow the instructions (use the instructions)		
	Indicate the mandatory (must be observed) things, and specify the content of the mandatory in words or pictures nearby. The left diagram shows "general mandatory".		
	Indicate the prohibition (the things that are not allowed), and indicate the specific prohibition with words or pictures nearby. The left diagram indicates "general prohibition".		

2. Power supply

- Internal power: two AA batteries or lithium batteries (1000mAh)
- Power supply with a dedicated adapter to ensure that the power supply meets the following specifications:

Input: AC 100-240V ~50/60Hz

output: DC5V/1A

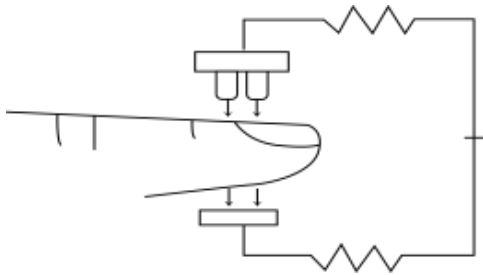
3. Clinical restrictions

(1) The measurement is based on the pulse of small arteries, and the subject must have the minimum pulsatile blood flow. Due to shock, cold or low body temperature, massive blood loss, arterial obstruction or the use of vasoconstrictive drugs, the pulse perfusion is weaker, the volume mapping waveform is smaller, and the measurement is more sensitive to interference.

(2) Intra-vascular stains (such as indigo, cyanogen or methylene blue), skin pigmentation, and topical dyes (such as nail polish, dye or colored skin care products) can affect the measurement.

(3) If the person being tested is anemic or has considerable functional impairment of hemoglobin (such as carboxyhemoglobin, methemoglobin and sulfhemoglobin), the measured value may appear normal, but the person being tested may be hypoxic. It is recommended to further evaluate the clinical manifestations and symptoms.

4. Measurement principle



This product is based on the absorption spectra of reduced hemoglobin (Hb) and oxygenated hemoglobin (HbO₂) in the red and near-infrared light regions. It establishes empirical data processing formulas using Lambert Beer's law. This product employs photoplethysmographic blood oxygen detection technology combined with volumetric pulse contouring. Two beams of light of different wavelengths are shone onto the measuring part of the human body, and the measurement signals are obtained by photodetectors. The acquired information is processed by electronic circuits and microprocessors before being displayed on the screen.

After pressing the button and turning on the device, attach the pulse oximeter to start measuring.

5. Preparation before use

5.1 Environmental requirements

The operating environment of this equipment must meet the environmental specifications specified in this manual. When the equipment is transferred from one environment to another, condensation may occur

due to differences in temperature or humidity. In this case, the equipment must be used after the condensation has disappeared.



Warning:

☛ Ensure that the equipment is operating under the specified environmental requirements, otherwise it will not meet the technical specifications claimed in this specification and may cause unexpected consequences such as equipment damage.

5.2 Start up

1. Before starting up, check whether the blood oxygen meter has mechanical damage;
2. Ensure that the battery has enough power;
3. Insert the pulse oximeter probe into the pulse oximeter probe interface
4. Press the power switch and hold it for 3 seconds, and the blood oxygen meter will be turned on and enter the main interface.



Warning:

☛ If the pulse oximeter is damaged or unable to work properly, it should not be used for patient monitoring. Please contact the maintenance personnel or our company immediately.

5.3 Shutdown

Refer to the following steps to turn off the oximeter:

-
1. Confirm that the patient is to be removed from care;
 2. Press the power switch and keep it for 2 seconds to turn off the oximeter;
 3. Disconnect the oxygen meter from the blood oxygen probe.

6. Measurement

6.1 Blood oxygen measurement

1. Connect the plug of the blood oxygen probe to the corresponding blood oxygen probe socket on the panel of the supporting host.
2. Fix the blood oxygen probe.

! Note: The following blood oxygen probe appearance is for reference only. Please refer to the actual probe for details.

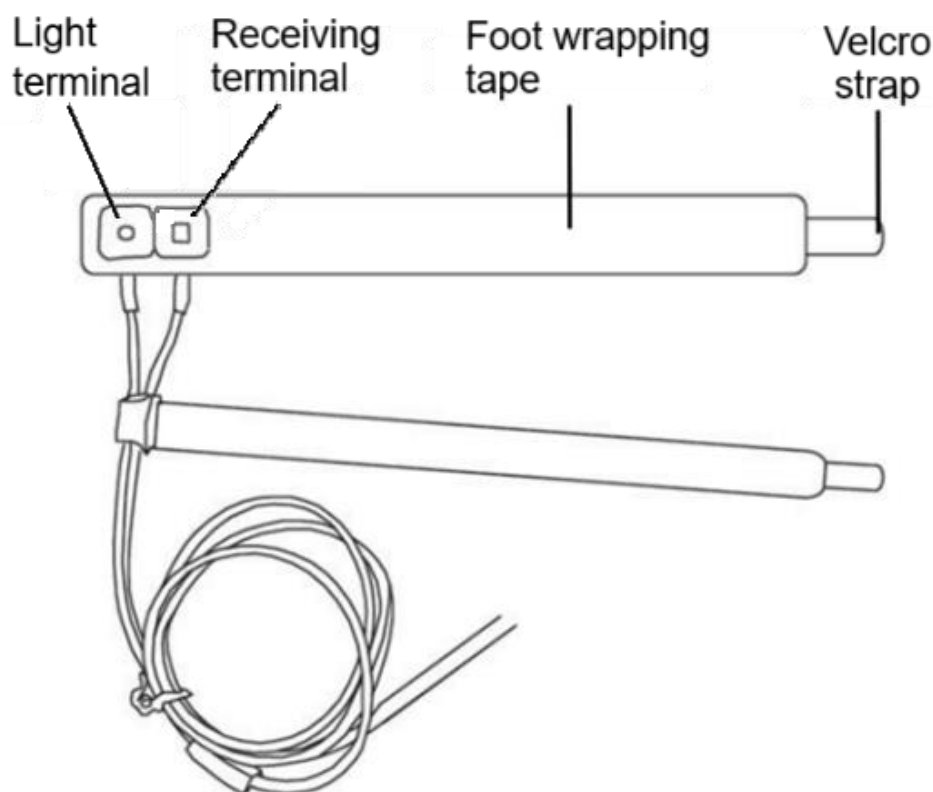


Figure 6.1a Blood oxygen probe

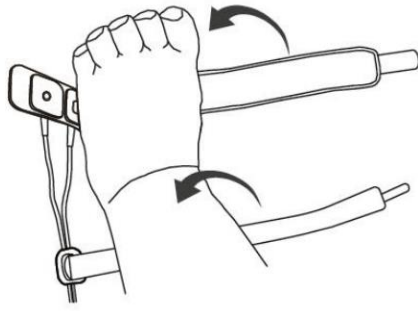


Figure 6.1b Left foot

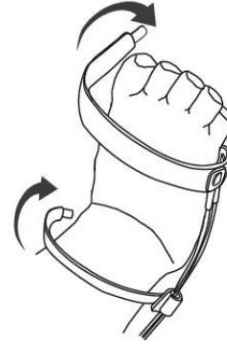


Figure 6.1c Right foot

Place the light-emitting end and receiving end on the edge of the top of the foot next to the little toe, and form a certain Angle as shown in Figure 6.1b (left foot) or 6.1c (right foot), then wrap the probe around the top of the foot with a wrapping band, pay attention to the appropriate tightness, and finally stick it tightly with Velcro.

After wrapping, make sure that the light-emitting end and the receiving end are close to the skin, as shown in Figure 6.1d



Figure 6.1d

In addition, it is recommended to fix the probe cable with self-adhesive gauze near the measured part to minimize the relative motion between the probe and the measured part, so as to improve the signal quality.

Kindly reminder:

a) The distance between the two sides of the blood oxygen probe should be

shortened as far as possible.

b) Ensure that there are arterial capillaries (which produce pulsating signals) and bone (which scatter light) in the tissue between the two sides of the blood oxygen probe to effectively measure arterial oxygen saturation.

c) The strength of the wrapping band should be appropriate. Too tight will cause discomfort or affect blood circulation (skin color will become white), and too loose will easily cause relative movement between the blood oxygen probe and tissues, resulting in motion pseudodifference and reducing the quality of the measurement signal.

d) Wait for the value and read the relevant data on the supporting host.

e) If the initial reading of the instrument is obviously unreliable due to motion interference, you can turn off and restart the machine or unplug the probe and reconnect it to allow the machine to quickly track the true blood oxygen value.

f) After the measurement, remove the blood oxygen probe and store it properly.

6.2 Precautions

Identify conditions or practices that may cause damage to equipment or other property.

 Before use, please check the blood oxygen probe. If you find that the cable is damaged or the temperature is abnormal, stop using it

immediately.

- 🔔 When the ambient temperature exceeds 35°C, it is best to change the wearing area every two hours. When the ambient temperature exceeds 37°C, do not use the blood oxygen probe, because long-term use will cause serious burns.
- 🔔 In general, check the wearing area every 1 to 2 hours to ensure good skin texture and correct light alignment. If the skin texture changes, move the pulse oximeter to another area.
- 🔔 Continuous use of the pulse oximeter can cause discomfort or tenderness, especially in patients with microcirculation disorders. It is best to keep the probe in the same area for no more than two hours.
- 🔔 Do not place a blood oxygen probe on a limb with an artery or intravenous infusion tube. This can lead to incorrect measurements.
- 🔔 Do not tie the pulse oximeter too tight, as this will impede blood circulation and make the measurement incorrect.
- 🔔 The use of blood oxygen probes during MAGNETIC resonance imaging can cause serious burns. To minimize this risk, cables should be properly routed so that they do not form induction coils.
- 🔔 The cable of the blood oxygen probe should avoid the patient's neck to prevent choking caused by entanglement of the patient's neck. The cable should not be folded or twisted.
- 🔔 The blood pressure cuff should not be used on the same limb as the

oximeter, as this can cause a false alarm.

- 🔔 When unplugging, hold the front part of the plug with your hand to perform the unplugging action.
- 🔔 Do not immerse the pulse oximeter probe in water, solution, or detergent because the sensor and its connector on the probe are not waterproof.
- 🔔 The light between the blood oxygen saturation sensor and the photodetector must pass through the subject's small arterial bed.
- 🔔 The blood oxygen probe can be reused. Before reuse, the probe should be cleaned and disinfected. For details, refer to the description of blood oxygen probe cleaning and disinfection.
- 🔔 Improper use of tape to fix the blood oxygen sensor may result in inaccurate SpO₂ measurement.
- 🔔 Do not have light obstacles such as tape in the path of the probe.
- 🔔 High ambient light can also affect measurements, including fluorescent lights, double ruby lamps, infrared heaters, direct sunlight, etc.
- 🔔 The measured person's intense activity and extreme electrical surgery interference will affect the measurement accuracy.
- 🔔 The application part of this device includes the silicone sleeve and probe shell in the blood oxygen probe.

7. Interface introduction and operation

7.1. Insert the blood oxygen probe used with it correctly into the pulse oximeter.

7.2. Long press the power button "🔌" (about 3 seconds) to start the machine. The startup screen (as shown in Figure a) lasts for 2 seconds, and then the device automatically enters the monitoring screen. Wear the blood oxygen probe correctly, and the measured value is displayed in real time in the monitoring interface (as shown in Figure b).

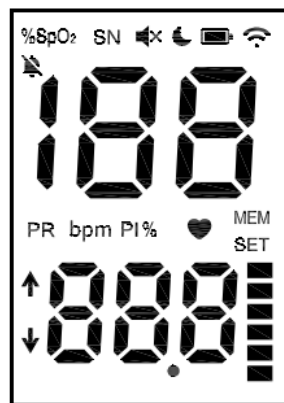


Figure a

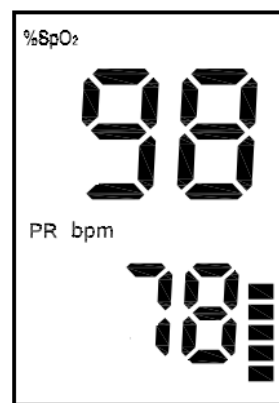


Figure b

7.3. On the monitoring interface, short-pressing "⤴" will activate power-saving mode, with a power-saving symbol appearing on the screen (as shown in Figure c). If there is no over-limit, probe detachment, or low battery level within 30 seconds, power-saving mode will be entered, and the screen and sound will be turned off; short-pressing "⤴" will exit power-saving mode. Long-pressing "⤴" will switch to the PI display interface (as shown in Figure d).

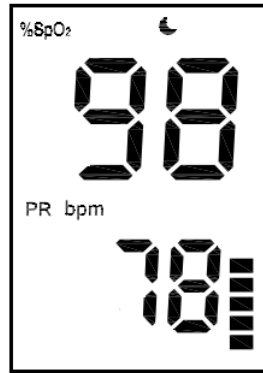


Figure c

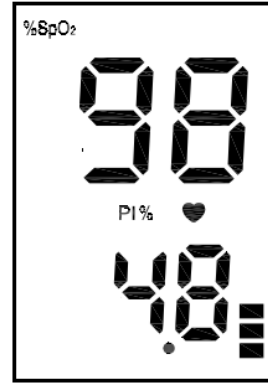


Figure d

7.4. System Settings: In the monitoring interface, long press ">" to switch to the Settings interface, and the blood oxygen saturation limit (Figure e), pulse rate limit (Figure f), and volume size (Figure g) can be adjusted.

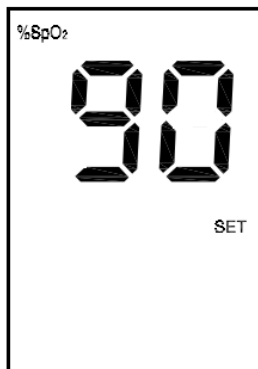


Figure e

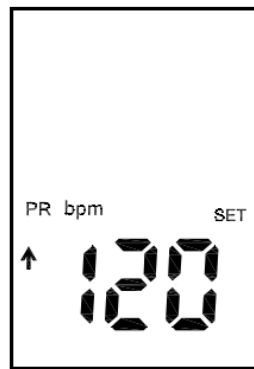


Figure f

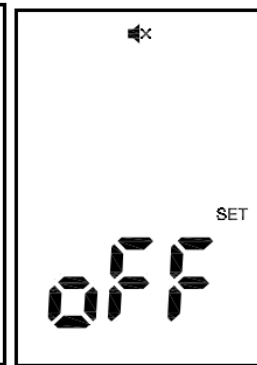


Figure g

7.5. Playback: In the monitoring interface, long press "<" to enter/exit the playback interface (as shown in Figure h and Figure i), short press "^" or "v" to replay the historical stored data.

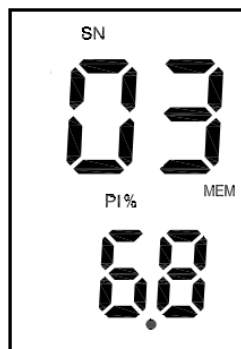


Figure h

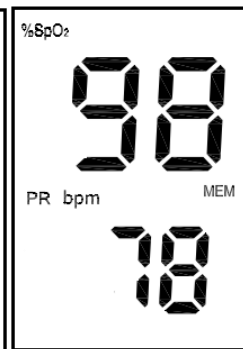


Figure i

7.6. When the limit is exceeded, short press "⏻" to pause the limit sound prompt (90s).

7.7. Long press the power button "⏻" on any interface (about 2 seconds) to shut down the device.

If there is no measurement and no operation for more than 3 minutes, the device will automatically shut down.

8. Technical parameters

8.1 Display: Highlight the digital tube

8.2 Description of blood oxygen saturation parameters

Measurement range: 35%~100%

Display range: 35%~100%

Measurement error: when the range of blood oxygen saturation is 70%~100%, it is $\pm 2\%$; when the range is 50%~69%, it is $\pm 3\%$; when it is less than 50%, it is undefined.

Resolution: 1%

8.3 Pulse rate parameter description

Measurement range: 30bpm~250bpm

Display range: 30bpm~250bpm

Measurement accuracy: $\pm 2\%$ or $\pm 2\text{bpm}$ takes the larger value

Resolution: 1bpm

8.4 Infusion (PI) index shown

Measurement range: 0%-20%

Resolution: 0.1%

8.5 Resistance to environmental light interference

In the natural light environment, the pulse oximetry saturation and pulse rate measurements meet the above criteria.

8.6 Accuracy under weak perfusion

When the blood oxygen value is in the range of 70%~100%, the pulse modulation amplitude (PI) can still reach the above index when it is as low as 0.4%.

8.7 Hint function

There should be two kinds of light and sound prompts; there should be a function to set the upper/lower limit of the limit; there should be a function to pause and restore the limit sound. There should be a function to prompt the probe falling off. There should be a function to prompt the low battery voltage.

8.8 Pulse modulation sound function (see product function list)

It should have the function of pulse sound changing with different blood oxygen values.

8.9 Automatic shutdown function

No measurement and no operation for 3 minutes, the device will automatically shut down.

8.10 Data storage function

It can store 100 sets of measurement data.

8.11 Host size: 135mm*55mm*24mm

8.12 Classification

Classified by medical device management category into class II equipment.

It is divided into two types according to the type of electric shock prevention: class II, internal power equipment, and ordinary mobile equipment without defibrillation protection.

According to the degree of protection against electric shock, it is divided into BF type equipment.

The degree of protection against harmful incoming liquid is divided into: IP22.

Class I B equipment is classified according to electromagnetic compatibility.

It is divided into equipment with disinfection and sterilization methods recommended by the manufacturer: equipment with disinfection and sterilization methods recommended by the manufacturer.

The safety level used in the case of a mixture of flammable anesthetic gas with air or oxygen or nitrous oxide is classified as: not suitable for use in places where flammable anesthetic gas is used.

According to the working system, it is divided into continuous operation equipment.

8.13 Factors affecting the inaccuracy of SpO₂ measurement

- a) intravenous injection of dye (such as methylene blue and indigo green)
- b) Indoor strong light interference
- c) Vascular stain or external coloring products, such as nail polish or colored skin care products
- d) Intense activity at the detection site
- e) The sensor is not placed properly, resulting in the semi-shadow effect
- f) High pressure oxygen state
- g) Measure blood pressure on the same side

h) Peripheral vasospasm, or vasoconstriction caused by a decrease in temperature

9. Exceeding limit prompt

The alarm refers to the user's blood oxygen or pulse rate exceeding the preset limit, and the blood oxygen meter will give an alarm by means of sound and light.

Pause the silent duration beyond the limit: 90S;

9.1. Prompt type

According to the nature of the prompt, the prompt can be divided into physiological parameter limit prompt and device information prompt.

9.1.1. Physiological parameter limit warning

The physiological parameters are usually out of limit due to the user's blood oxygen or pulse rate exceeding the set upper and lower limits.

9.1.2. Equipment information prompt

The pulse oximeter will display some information related to the system status, such as low battery warning and probe detachment warning.

9.2. Prompting mode

When the time limit is exceeded, the blood oxygen meter will use the following auditory or visual limit mode to prompt the user

-
- ◆ Light prompts
 - ◆ auditory tone cues

9.2.1. Light prompt

The indicator lights use different colors to distinguish the physiological parameters beyond the limit:

- ◆ Blood oxygen limit: red flashing
- ◆ Pulse rate limit: yellow flashing

9.2.2. Sound prompt

The more the physiological parameters exceed the limit, the different sounds are.

- ◆ Blood oxygen limit: Di Di Di Di ----- Di Di Di Di
- ◆ Pulse limit: Di Di ----- Di Di

9.3. Pause the out-of-limit prompt sound

If the parameter exceeds the limit during measurement, pressing the mute button for a short time can pause the sound exceeding the limit for 90S. The sound is only temporarily turned off, and the light prompt is still displayed. After 90S, the sound exceeding the limit prompt is restored. After the sound exceeding the limit is muted, the corresponding icon will be displayed on the screen.

10. Packing list

order number	name of material	quantity	configure
1	pulse oximeter	1	standard configuration
2	bundled blood oxygen probe	1	standard configuration
3	operating instruction	1	standard configuration
4	power supply unit (see product function list)	1	standard configuration
5	power line	1	standard configuration

11. Batteries

11.1 Overview

MR-P1 is powered by 2 AA batteries or a special adapter. MR-P2W are powered by lithium battery or special adapter. When the pulse oximeter “” is charged, the charging indicator icon in the upper right corner of the screen will flash when it is turned off or on.



Warning :

- The factory configuration battery is only for testing. Please buy AA (No.5) alkaline battery as soon as possible to replace it.
- It is recommended to use the original factory dedicated power adapter (which needs to be selected and purchased by users).

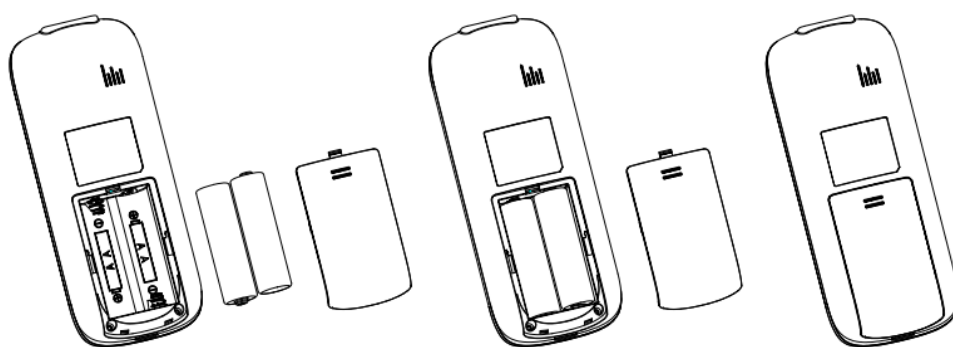
11.2 Dry battery Install the battery

11.2.1 Open the battery cover: push the battery cover down hard to remove the battery door cover.

11.2.2 Installation

(a) Insert the battery into the battery case according to the positive and negative terminals marked.

(b) Place the battery cover door on top of the battery and push it up to install the battery cover.



! Note: Do not use different types of dry batteries with different amounts of electricity at the same time.

11.3 Battery recycling

The disposal of waste batteries should follow the relevant regulations.



Warning :

⚡ Do not put the battery in fire or short circuit it. Battery combustion, explosion or short circuit may cause injury.

12. Maintenance and maintenance

12.1 Maintenance

The design service life of this blood oxygen meter is 5 years. To ensure the service life of the machine, please pay attention to maintenance.

- a) Regular inspection is recommended to check the host and blood oxygen probe at least once a week to ensure that there is no damage that affects the safety or performance of the instrument.
- b) Do not disinfect the product by high temperature, high pressure, gas fumigation or liquid immersion in the operating environment. Do not remove the internal battery before cleaning and disinfection, and avoid excessive temperature and humidity.
- c) If the pulse oximeter is splashed or water condenses, stop the operation.
- d) Do not use sharp objects to operate this product.
- e) When the low voltage indicator is indicated, please replace the battery in time for AA battery powered models (see product function list); when the AA battery powered oximeter is not used for a long time, please remove the battery to avoid battery leakage and damage to the machine.

12.2 Cleaning and disinfection

- A) The battery must be removed before cleaning the product. Do not immerse the product in liquid.

B) When dust or dirt appears on the surface of the instrument or probe, the user can wipe it with 75% medical alcohol. When wiping, please use a dry cloth dipped in a small amount of alcohol and do not let the alcohol drop into the instrument.

13. Fault analysis and troubleshooting

fault phenomenon	analysis of causes	Method of elimination
The value cannot be displayed properly or the display is unstable	The package strap is not properly tied; The measurement part is shaking or the human body is in motion; Not used in the required working environmental conditions; The product is not working properly. Oxygen probe damage (core wire short circuit or open circuit)	Please correctly bundle the package and retry; Please try not to move; Please use under normal working conditions; Please contact after-sales.
There was no sound	The sound is not on; Product work is abnormal;	Please refer to the manual: 7.4 System Settings; Please contact after-sales.
The machine cannot be turned on	The battery is low or out of power; The battery is not properly installed; The product is working abnormally.	Please replace the battery; Please reinstall the battery; Please contact after-sales.
The display suddenly disappeared	The product enters the hibernation state; The battery may be low; The product is not working properly.	normal; Please replace the battery; Please contact after-sales.
The interface displays "off"	No blood oxygen probe connected; The measuring and testing parts are not inserted; Oxygen probe damage (core wire short circuit or open circuit)	Correctly connect the probe; Correctly bind the package; Contact the dealer to replace the pulse oximeter.

14. APP download and installation guide



Note: Only MR-P2W supports

Use your smartphone camera to scan the QR code below to quickly

access our official app.



A) iOS users: After scanning the code, the system will automatically jump to the application page in Apple App Store. Please click the "Get" button to download and install the application. After installation, you can find the application icon on the desktop of your mobile phone and open it to use.

b) Android users: After scanning the QR code, your mobile browser will automatically start downloading the APK installation package of this app. Once the download is complete, click on the notification in the notification bar to confirm the download. When installing an app from an unofficial store for the first time, the system may display a security warning stating "The installation of apps from this source has been blocked." To proceed, click on "Settings" or "More," find and enable the permissions for "Apps from this source" or "Install unknown apps," and follow the on-screen instructions to complete the installation. Once installed, you can find the app icon on your phone's home screen and open it to use.

FCC Warning Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement.