

## ESPOO YM201

# ESPOO Pulse Oximeter Fingertip YM201 Serious User Manual

MODEL: YM201

Brand: ESPOO

## 1. INTRODUCTION AND OVERVIEW

The ESPOO YM201 Fingertip Pulse Oximeter is a compact, portable device designed for non-medical use by healthy individuals to monitor their oxygen saturation (SpO<sub>2</sub>) and pulse rate (PRbpm). It features a clear 1.14-inch TFT display, 20-reading memory, and adjustable brightness for optimal visibility in various conditions. This manual provides essential information for the proper setup, operation, and maintenance of your device.

**Disclaimer: This pulse oximeter is not a medical device and is not intended to diagnose or treat any medical condition or disease. It is intended for non-medical use by healthy people to monitor their pulse rate and blood oxygen levels. For individuals with medical conditions, please consult your physician.**

## 2. WHAT'S IN THE BOX

Upon opening your ESPOO YM201 Pulse Oximeter package, you should find the following items:

- 1 x ESPOO YM201 Fingertip Pulse Oximeter (White&Gray)
- 2 x AAA Batteries
- 1 x User Manual
- 1 x Lanyard



Image: The package contents including the ESPOO YM201 Pulse Oximeter, two AAA batteries, the user manual, and a lanyard.

### 3. SETUP

#### 3.1 Battery Installation

The ESPOO YM201 Pulse Oximeter requires two AAA batteries for operation. Follow these steps to install them:

1. Open the battery compartment cover located on the back of the device.
2. Insert the two AAA batteries according to the polarity indicators (+/-) inside the compartment. Ensure they are correctly oriented.
3. Close the battery compartment cover securely.

**Caution:**

- Do not mix old and new batteries.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- Remove batteries if the device will not be used for an extended period to prevent leakage.

7	Voltage fluctuations / flicker emissions IEC 61000-3-3	Not applicable			
<b>Guidance and manufacturer's declaration - electromagnetic immunity</b> The model YM201 is intended for use in the electromagnetic environment specified below. The customer or the user of the model YM201 should assure that it is used in such an environment.					
	Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance	
	electrostatic discharge (ESD)	±8 kV contact	±8 kV contact	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.	
	IEC 61000-4-2	±2 kV, +4 kV, ±8 kV, ±15 kV air	±2 kV, +4 kV, ±8 kV, ±15 kV air		
14					
	Electrostatic transient /burst IEC 61000-4-4			±2 kV for power supply lines 100 kHz repetition frequency ±1 kV for input/output lines	N/A N/A
	Surge IEC 61000-4-5			+0.5 kV, ±1 kV differential mode line-line	N/A N/A
	Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11			0% UT (100% dip in UT) for 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% UT (100% dip in UT) for 1 cycle at 0° 70% UT (30% dip in UT) for 25/30 cycle at 0° 0% UT (100% dip in UT) for 250/300 cycle at 0°	N/A N/A
15					
	Power frequency (50/60Hz) magnetic field IEC 61000-4-8			30 A/m, 50/60Hz	30 A/m, 50/60Hz
NOTE: UT is the a. c. mains voltage prior to application of the test level.					
<b>Guidance and manufacturer's declaration - electromagnetic immunity</b> The model YM201 is intended for use in the electromagnetic environment specified below. The customer or the user of the model YM201 should assure that it is used in such an environment.					
	Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance	
	Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz 6 Vrms 150 kHz to 80 MHz outside ISM bands	N/A	Portable and mobile RF communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to	
16					

	Power frequency magnetic fields should be at levels characteristic of atypical location in atypical commercial or hospital environment.				
<b>Guidance and manufacturer's declaration - electromagnetic immunity</b> The model YM201 is intended for use in the electromagnetic environment specified below. The customer or the user of the model YM201 should assure that it is used in such an environment.					
	Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance	
	Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz	10V/m	$d = \left[ \frac{3.5}{E_1} \right] \sqrt{P}$ $d = \left[ \frac{3.5}{E_2} \right] \sqrt{P}$ 80 MHz to 800 MHz $d = \left[ \frac{2}{E_3} \right] \sqrt{P}$ 80 MHz to 2.7 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 b	
17					
	Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz	10V/m	$d = \left[ \frac{3.5}{E_1} \right] \sqrt{P}$ $d = \left[ \frac{3.5}{E_2} \right] \sqrt{P}$ 80 MHz to 800 MHz $d = \left[ \frac{2}{E_3} \right] \sqrt{P}$ 80 MHz to 2.7 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 b	
18					

	b) The compliance levels in the ISM frequency bands between 150 kHz and 80 MHz and in the frequency range 80 MHz to 2,7 GHz are intended to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into patient areas. For this reason, an additional factor of 10/3 has been incorporated into the formulae used in calculating the recommended separation distance for transmitters in these frequency ranges. c) 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 model is used exceeds the applicable RF compliance level above, the model should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the YM201. d) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.	<b>MANUFACTURER:</b> Shenzhen Yimi Life Technology Co., Ltd 302, Building C, Youliting Technology Industrial Plant, No. 56 Qingsong Road, Laokeng Community, Longtian Street, Pingshan District, 518118 Shenzhen, China. Tel: +86 755 89369909 E-mail: hnpds@myspo2.com Web: www.yimilife.com
19		20

Image: Step-by-step guide showing battery insertion and proper finger placement for measurement.

## 4. OPERATING INSTRUCTIONS

### 4.1 Taking a Measurement

1. Ensure batteries are installed correctly.
2. Open the clamp of the oximeter.
3. Insert one of your fingers (preferably the index finger) into the rubber opening of the oximeter, ensuring it is fully inserted and resting on the sensor.
4. Press the power button once to turn on the device.
5. Keep your hand still during the measurement. The readings for SpO2 and PRbpm will appear on the display within a few seconds.
6. The device will automatically power off after approximately 8 seconds of inactivity.



Image: The ESPOO YM201 Pulse Oximeter, ready for use.

## 4.2 Understanding the Display

The 1.14-inch TFT display shows the following information:

- **%SpO2:** Oxygen Saturation level. Normal range is typically 95%-99%.
- **PRbpm:** Pulse Rate in beats per minute.
- **PI%:** Perfusion Index, indicating the strength of the pulse signal.
- Pulse waveform graph.
- Battery indicator.

# Product Applications



Mountaineering enthusiasts



Older people



Pregnant



Cycling enthusiasts

Image: A close-up of the oximeter's display, highlighting the SpO2, PR, and PI readings, along with the graphical pulse display.

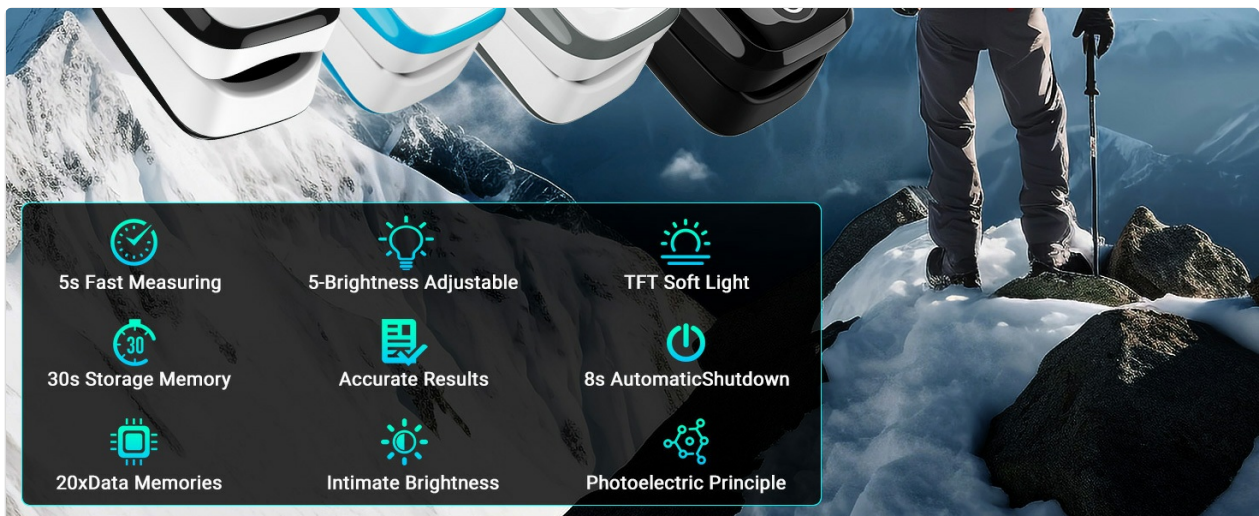



Image: Visual representation of the large 1.14-inch TFT display, showing clear readings and pulse waveforms.

## 4.3 Adjusting Settings and Brightness

The device features a 5-level adjustable TFT screen with 4 colors for enhanced visibility. You can manually control the brightness.

1. After turning on the oximeter, press and hold the power button for 2 seconds to enter the setting menu.
2. Short press the power button to move the cursor (indicated by an asterisk '\*') to the desired option.
3. Hold the power button to confirm your selection and enter the sub-menu or confirm a setting change.
4. Navigate to the 'Brightness' option to adjust the display intensity.



Model: YM201  
Version: 3.0  
Date: 2024-10-16

### 1 Product Introduction and Operation Guide

#### 1.1 Front View




Figure 1 Front View of YM201

#### 1.2 Operation Method

- Open the battery cover, and put the two AAA batteries into the battery compartment in correct polarities, then replace the cover;
- Press the bottom of the equipment and open the probe, then insert one finger into the probe;
- Press the button to turn the equipment on, and the measure interface will appear;
- After about 8 seconds, the measurement result can be read directly from the display screen;
- Before reading the parameters, make sure that stable numbers of the pulse Oximeter interface has sustained more than 4 second;
- The equipment will turned off automatically within 8 seconds when the finger left the probe.

#### 1.3 Battery Installation

- Put the two AAA batteries into battery compartment in correct polarities (Figure2).
- Push the battery cover horizontally along the arrow shown as right.

**WARNINGS:**

- Battery polarities should be correctly installed, otherwise, damage may be caused to the equipment.
- Please remove the batteries if the equipment will not use for a long time.




Figure 2 Battery Installation

#### 1.4 Lanyard installation

- Pass the thinner end of the lanyard through the hanging hole;
- Pass the thicker end of the lanyard through the thinner end and tighten the lanyard (Figure3).




Figure 3 Lanyard Installation

### 1.5 Attention for Operation

- Before use check and confirm that the people or finger size were applicable;
- Before use check and confirm that the environment should be non-combustible material, as well as to avoid high or low temperature and humidity, but also need to pay attention to the following:
  - To avoid glare and direct sunlight exposure;
  - To avoid radiation infrared or ultraviolet radiation;
  - Avoid contact with the organic solvent, mist, dust, corrosive gases;
- The equipment should not be used at a location or limb tied with arterial canal or blood pressure cuff or receiving intravenous injection;
- The equipment may not work normally on microcirculation barrier patients, Warm or rub the finger, or re-position the equipment could improve the measurement.
- The ray between photo detector and light emitting diode should across patient's arteriole.
- The patient should not use enamel or other makeup;
- Avoid to insert a wet finger into the probe.

**Notes:**

- The user should fully insert the finger into the probe.
- It is recommended to let the LED light shine directly on the nail (Figure 4);
- Don't shake the finger and try to keep the patient still during the measurement.

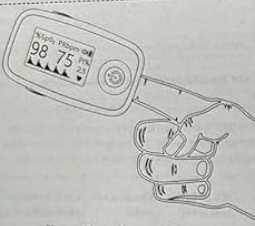


Figure 4 Finger Placement Diagram

### 1.6 Functions and Menu Operation

#### Storage interface

- Press the power button, the Oximeter will enter the storage interface, short press the button to select the page to view the previous historical test data, without pressing the button, this page will remain for 3 seconds.

Storage group: DATA REVIEW(14)

M1	M2	M3	M4	M5
SpO2%	97	97	99	97
Pulse rate	PR: 75	75	81	85

Storage Interface

#### Menu

- After turning on the Oximeter, press and hold the power button for about 2 seconds. The Oximeter will display the settings menu. Short press to move "\*" to a corresponding option, and hold the button to confirm your selection.

#### General setup

- Short press to move "\*" to the corresponding setting, and hold the button to set alm or Beep to ON or OFF.
- When the alarm is set to ON and the measured SpO2 or PR Values go beyond the upper or lower limits, the Oximeter will sound an alert.
- When alarm is set to OFF and the measured values go beyond the limit, the Oximeter will not sound an alert.
- When beep is set to ON, the Oximeter plays a sound indicating the pulse rate during the measurement.

When beep is set to OFF, no pulse rate sound is played.

Press the button to select a brightness level ranging from 1 to 5.

The greater the value, the greater the brightness of the screen.

While the "\*" is on the default option, hold the button to restore factory settings.

MENU	GENERAL SETUP	ALARM SETUP
* GENERAL SETUP ENTER	* ALARM ON	* SPO2 ALM HI 100
ALARM SETUP ENTER	BEEP OFF	SPO2 ALM LO 94
DATA REVIEW ENTER	DEMO PLAY	PR ALM HI 120
EXIT	BRIGHTNESS 3	PR ALM LO 50
	DEFAULT RESTORE	EXIT
	EXIT	

#### Alarm setup

- Press the button to switch between options. On this screen, you can set the upper limit and lower limit of the SpO2 and PR alarms.
- Select the corresponding option and hold the button to change the upper or lower limit.
- Move "\*" to the Exit option and hold the button to return to Measurement Mode.

### 2 Specifications

#### 2.1 Classification

Type of protection against electric shock: Internally powered equipment

Degree of protection against electric shock: Type BF-Applied part

Operating mode: Spot checking

Degree of protection against hazards of explosion: IP22

#### 2.2 Power Requirements

Specification of batteries: Two AAA

Operating current: 25-50mA

#### 2.3 Physical Specifications

Width\*Height\*Depth: 63×37×36 mm

Weight: 34g (Bare machine)

#### 2.4 Measurement Specifications

SpO2 Declared accuracy	70%-100%: ±2digits	30%-99%: unspecified
SpO2 Display range:	0%-69%: unspecified	
SpO2 Resolution:	1%.	
PR Declared accuracy:	25-250 bpm: ±3digits	1 bpm
PR Resolution:	1 bpm	

#### 2.5 Environmental Specifications

**Temperature**

Operating: +50~+104°F/+10~+40°C

Storage/Transportation: -4~+140°F/-20~+60°C

**Humidity**

Operating: 15~95%, noncondensing

Storage/Transportation: 10~95%, noncondensing

**Atmosphere Pressure**

Operating: 70~106kpa

Storage/Transportation: 50~107.4kpa

#### 2.6 Display

Display type: OLED/TFT Display;

Display content: SpO2%, Pulse Rate, PI%, Bar Graph, Battery Indicator, Pulse Wave

**Notes:**

This pulse oximeter is not a medical device and is not intended to diagnose and/or treat any medical condition or disease.

It is intended for non-medical use by healthy people to monitor their pulse rate and blood oxygen levels.

It is for sports and/or aviation use.

People who need SpO2, and pulse rate measurements because of a medical condition should consult with their physician.

### 3 Maintenance

#### 3.1 Maintenance

The equipment should be kept in a dry environment and follow the instructions in chapter 3.2; F. cassette if the time;

B. Replace the battery to indicate lamp

C. It is recommended to use the equipment in a dry environment; environmental damage the equipment.

D. It is best to avoid high temperature and humidity.

E. The package should be kept away from toxic, flammable, and corrosive substances.

**WARNING!**  
No modification is allowed.

Image: Demonstrates the five levels of brightness adjustment available on the oximeter's display.



Image: Illustrates how to access and navigate the device's settings menu, including general setup and alarm settings.

#### 4.4 Memory Function

The ESPOO YM201 Pulse Oximeter is equipped with 20-set memory storage, allowing it to record your pulse oximetry trends over 48 hours. This feature enables smart data recall for comparing oxygen saturation and pulse rate patterns, useful during workouts or sleep monitoring.

1. From the main menu, navigate to the 'Data Review' option.
2. Press the power button to view stored readings.
3. Short press to scroll through the 20 memory sets.



Image: Shows the device's capability to store 20 sets of data, allowing users to review past measurements.

## 5. FEATURES

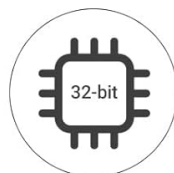
- **Clear 1.14" TFT Display:** Enjoy a vibrant, high-definition 1.14-inch TFT display that ensures data visibility,

even in low-light conditions.

- **20-Reading Memory & Trend Tracking:** Equipped with 20-set memory storage, this finger pulse oximeter records your pulse ox trends over 48 hours. Features smart data recall for comparing oxygen saturation/pulse rate patterns during workouts, sleep.
- **Enhanced Contrast Display & Manual Brightness Control:** Featuring 5-level adjustable TFT screen with 4 colors, this fingertip pulse oximeter achieves significantly improved visibility compared to conventional displays. Manual brightness settings ensure clear oxygen monitor readings in both low-light environments and outdoor conditions.
- **High-Performance Chip:** Utilizes an imported 32-bit MCU chip for fast and accurate measurements, providing values in approximately 8 seconds.
- **Lightweight & Portable Design:** Compact and portable, the ESPOO oximeter is easy to carry, fitting seamlessly into daily life for everyday use.

## High-performance chip

Using imported 32-bits MCU chip, Value in 8 seconds more accurate measurement data



import chip



Value in 8S



Lots of experiments

Image: Depicts the high-performance 32-bit MCU chip, ensuring accurate and fast measurements.

### 5.1 Product Applications

The ESPOO YM201 Pulse Oximeter is suitable for a variety of users who wish to monitor their oxygen levels and pulse rate in non-medical settings:

- Mountaineering enthusiasts
- Older people
- Pregnant individuals
- Cycling enthusiasts

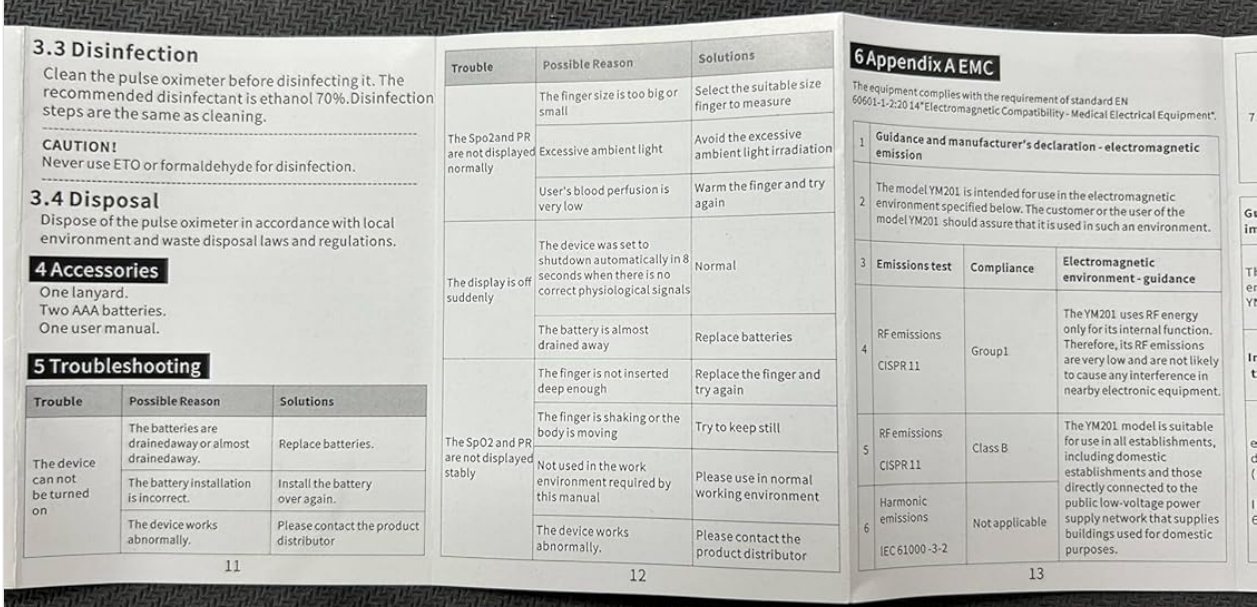
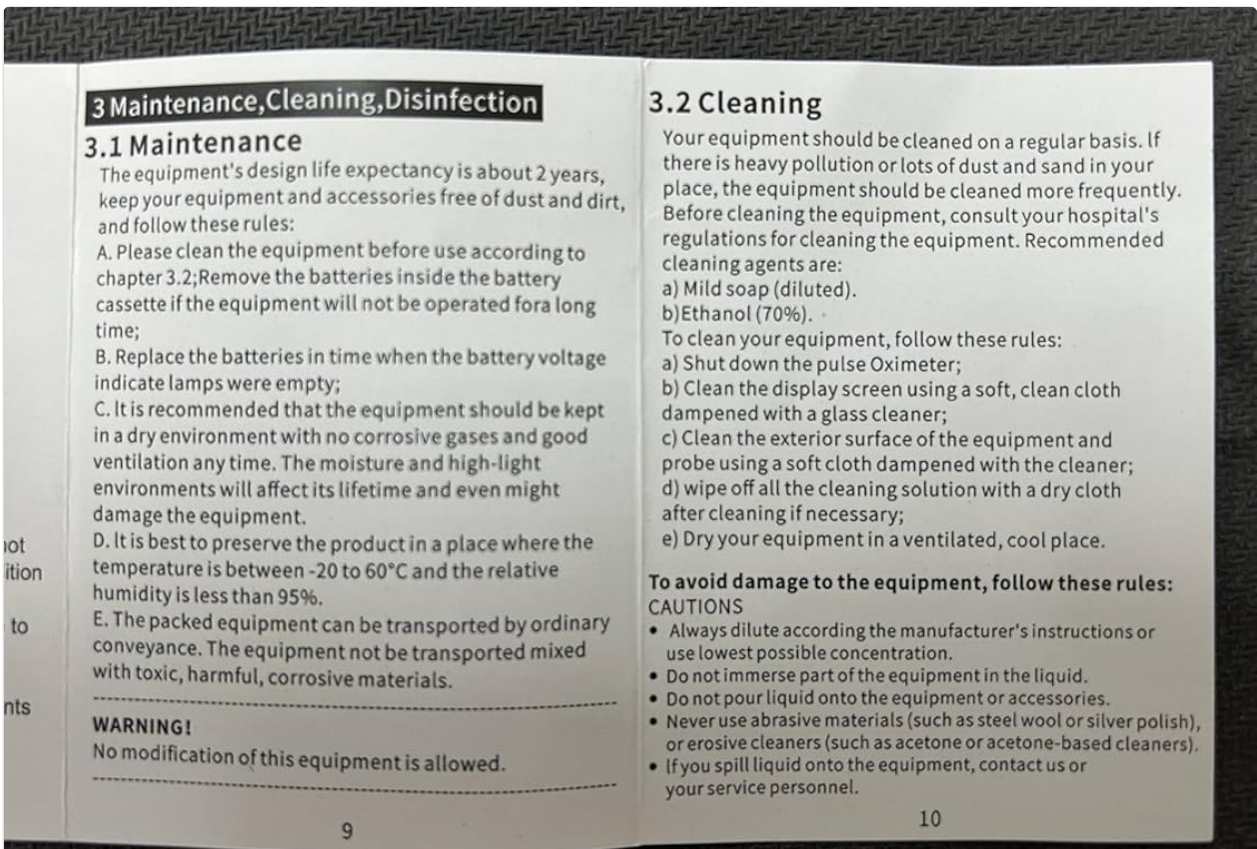


Image: Examples of various user groups who can benefit from using the ESPOO Pulse Oximeter.

## 6. MAINTENANCE, CLEANING, AND DISINFECTION

---

### 6.1 Maintenance

The equipment's design life expectancy is about 2 years. To ensure longevity and proper function, keep the equipment free of dust and dirt. Follow these guidelines:

- Clean the equipment before use according to Section 6.2.
- Remove the batteries inside the battery cassette if the equipment will not be operated for a long time.
- Replace the batteries in time when the battery voltage indicator lamps are empty.
- It is recommended that the equipment should be kept in a dry environment with no corrosive gases and good ventilation. High temperatures and humidity can damage the equipment.
- It is best to preserve the product in a place where the temperature is between -20 to 60°C and the relative humidity is less than 95%.
- The packed equipment can be transported by ordinary conveyance. The equipment should not be transported mixed with toxic, harmful, corrosive materials.

**Warning: No modification of this equipment is allowed.**

### 6.2 Cleaning

Your equipment should be cleaned on a regular basis. 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 the equipment. Recommended cleaning agents: Ethanol (70%).

To clean your equipment, follow these rules:

1. Shut down the pulse oximeter.
2. Clean the display screen using a soft, clean cloth dampened with a glass cleaner.
3. Clean the exterior surface of the equipment and probe using a soft cloth dampened with the cleaner; wipe off all the cleaning solution with a dry cloth after cleaning if necessary.
4. Dry your equipment in a ventilated, cool place.

**To avoid damage to the equipment, follow these rules:**

- Always dilute according to the manufacturer's instructions or use lowest possible concentration.
- Do not immerse part of the equipment in the liquid.
- Do not pour liquid onto the equipment or accessories.
- Never use abrasive materials (such as steel wool or silver polish), or corrosive cleaners (such as acetone or acetone-based cleaners).
- Please send it to our company, contact us or your service personnel.

### 6.3 Disinfection

Clean the pulse oximeter before disinfecting it. The recommended disinfectant is ethanol 70%. Disinfection steps are similar to cleaning.

**Caution: Never use ETO or formaldehyde for disinfection.**

# Product Details



- The normal range of oxygen saturation is SpO2 95%- 99%
- Insufficient oxygen supply. SpO2 90%-95%
- Mild hypoxia: SpO2<90%
- Severe hypoxia: SpO2<85%

Image: Side profile of the ESPOO YM201 Pulse Oximeter, showing its compact design.

## 7. TROUBLESHOOTING

If you encounter any issues with your ESPOO YM201 Pulse Oximeter, refer to the table below for common problems and their solutions.

Trouble	Possible Reason	Solutions
The device cannot be turned on	Batteries are almost drained away.	Replace batteries.
The device cannot be turned on	The battery installation is not correct.	Install the battery correctly.
The device works abnormally.	The device works abnormally.	Please contact the product distributor.

Trouble	Possible Reason	Solutions
The SpO2 or PR display is unstable.	Finger is not inserted deeply enough.	Re-insert finger, ensuring it is fully placed.
The SpO2 or PR display is unstable.	Finger is shaking or the patient is moving.	Keep still during measurement.
The SpO2 or PR display is unstable.	Ambient light is too strong.	Avoid direct sunlight or strong artificial light.
The SpO2 or PR display is unstable.	Nail polish or artificial nails are present.	Remove nail polish or artificial nails.
The SpO2 or PR display is unstable.	The finger size is too big or too small.	Select the suitable size finger to measure.
The SpO2 or PR display is unstable.	User's blood perfusion is very low.	Warm the finger and try again.
The device was set to automatically shut down in 8 seconds when there is no signal.	Normal.	Normal operation.
The display is dim.	The battery is almost drained away.	Replace batteries.
The display is dim.	The finger is not inserted deeply enough.	Place the finger in the right position.

## 8. SPECIFICATIONS

Specification	Detail
Product Dimensions	2.48 x 1.42 x 1.42 inches; 2.82 ounces
Item Model Number	YM201
Batteries	2 AAA batteries required (included)
Date First Available	October 24, 2024
Manufacturer	shenzhen yimi life Technology Co., Ltd
Brand	ESPOO
Color	White&Gray
Measuring Range (SpO2)	70% - 100%
SpO2 Declared Accuracy	70%-100%: ±2 digits
Pulse Rate Range	25-250 bpm

Specification	Detail
PR Declared Accuracy	30-250 bpm: $\pm 3$ digits
Display Type	1.14-inch TFT Display

## 9. WARRANTY AND SUPPORT

---

For warranty information and customer support, please refer to the documentation included with your product or contact the manufacturer directly. Typically, warranty details are provided on a separate warranty card or within the full user manual.

Manufacturer: shenzhen yimi life Technology Co., Ltd

Address: 5F, Building 1, No. 10, Xinyuan Industrial Plant, No. 20 Longxing Road, Longgang Community, Longcheng Street, Longgang District, Shenzhen, China

Tel: +86 755 8938 0000

Email: [info@yimi-life.com](mailto:info@yimi-life.com)

Web: [www.yimi-life.com](http://www.yimi-life.com)