

# INSTRUCTION for USE



# pulse OXIMETER

JPD-500G

FINGER

## Important Safety Instructions

This instruction for use provides important product operation and safety information regarding this device. Please read this document thoroughly before using the device and keep for future reference. This device may only be used for the purposes described in these instructions. The manufacturer cannot be held liable for damage caused by incorrect application.

Never immerse this device in water or other liquids. For cleaning please follow the instructions in the «Cleaning and Disinfecting» section.

Do not use this device if you think it is damaged or notice anything unusual.

Never open this device.

This device comprises sensitive components and must be treated with caution. Observe the operating conditions described in the «Technical Specifications» section.

Protect it from:

- water and moisture
- extreme temperatures
- impact and dropping
- contamination and dust
- direct sunlight
- heat and cold

The function of this device may be compromised when used close to strong electromagnetic fields such as mobile phones or radio installations and we recommend a distance of at least 1 m (according to 60601-1-2). In cases where you suspect this to be unavoidable, please verify if the device is working properly before use.

## Precautions

- Use of this device is not intended as a substitute for a consultation with your doctor.
- Do not attempt to repair PULSE OXIMETER unless you are professional engineers. Only professionals with maintenance qualification are allowed to perform interior maintenance as necessary.
- Change the contact position between the PULSE OXIMETER probe and the finger periodically if you are monitoring your SpO2 levels and pulse rate for more than 2 hours.
- Stop immediately if you have broken skin or the blood circulation of your finger is affected during prolonged use.
- This product is not designed to be used by newborn babies. Seek for medical care if the measured value goes beyond the normal range and you are sure that the instrument is not malfunctioning.
- The pulse oximeter uses infrared light (invisible to your eyes) to measure your SpO2 levels. Hence, please do not stare at the light-emitting components of the PULSE OXIMETER, as that could cause harm and/or potentially blind your eyes.

## The following factors may affect the accuracy of the measurement:

- The patient suffers from significant levels of dysfunctional hemoglobin (such as carboxyhemoglobin or methemoglobin).
- Intravascular dyes such as indocyanine green or methylene blue have been injected into the patient.
- There is excessive patient movement.
- The patient experiences venous pulsations.
- The patient has hypotension, severe vasoconstriction, severe anemia, or hypothermia.
- Ambient light intensity is too bright. Hence, please avoid direct exposure to strong light (such as beams from operating lamps or sunlight) during measurement.

- The patient is in cardiac arrest or is in shock.
- Fingernail polish or false fingernails are applied.

## Warnings

**WARNING:** Do not use the PULSE OXIMETER in an environment with any flammable gases, flammable anesthetic, or other flammable substances.

**WARNING:** Keep unit and lanyard away from children as the included lanyard may present an entanglement or choking hazard to small children. Adult supervision required; never leave children unattended with unit or lanyard.

**WARNING:** Do not throw the batteries into fire, as that could cause an explosion.

**WARNING:** Do not attempt to charge the included batteries, as that could cause leakage, fire disaster, or even explosion. Dispose of the used batteries in accordance to the local laws and regulations.

**WARNING:** Do not use the PULSE OXIMETER in an MRI or CT environment.

**WARNING:** Caution: Do not operate the PULSE OXIMETER if it is wet. Avoid moving the PULSE OXIMETER from a cold to a hot and humid environment.

**WARNING:** Install the batteries properly before powering on the PULSE OXIMETER for normal use. Please remove the batteries if you are not planning to use the PULSE OXIMETER for a long time.

**WARNING:** Close the battery cover when the instrument is in use.

## Symbols

Symbol	Meaning
	Type BF applied part
	Caution: Please see this manual
%SpO2	Symbol of oxygen saturation
bpmPR	Symbol of pulse rate
	No SpO2 alarms
	When end users abandon this product, they must send the product to the collection place for recycling

## General Description

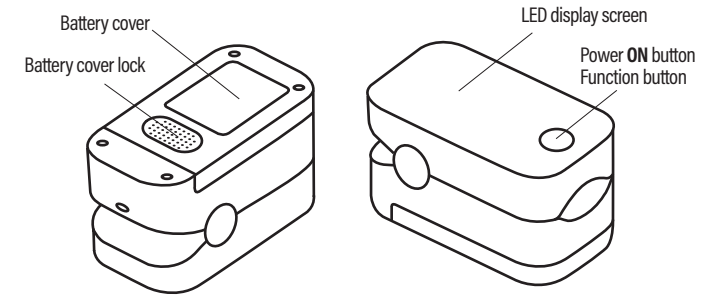
Oxygen saturation indicates the percentage of hemoglobin in arterial blood that is loaded with oxygen. This is a very important parameter for the respiratory circulation system. Many respiratory diseases can result in lower oxygen saturation within human blood. Therefore, it is very important to know the oxygen saturation of a patient so that doctors can detect problems in a timely manner.

The oxygen saturation (SpO2) of arterial blood in a normal human body is 98%. If the measured value of oxygen saturation is lower than 94%, an insufficient supply of oxygen is considered. Please consult your doctor. The pulse rate (bpmPR) is the number of pulse beats per minute. Normally, the pulse rate is consistent with the heart rate. In general, the pulse rate of every person is 60 to 90 beats per minute. The Perfusion Index (PI) usually reflects the limb perfusion status of an examined patient, and shows the detection precision of the instrument as well. The PI of a normal human body is 3% or greater.

## Working Principles and Usage

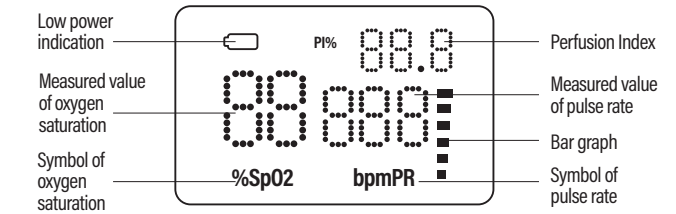
EVOLU Finger PULSE OXIMETER is a portable non-invasive device intended for spot-checking of oxygen saturation of arterial hemoglobin (SpO2) and pulse rate of patients in hospitals, hospital-type facilities, and home environments. This device is not intended for continuous monitoring.

## Device



## Display indications

The following figure shows the information display on the LED screen of the PULSE OXIMETER in normal detection state:



## Power-ON button/Function Button Operations

Press the power-ON/function button to turn on the PULSE OXIMETER. Once it is turned on. Simply press or hold the button to perform corresponding operations.

**Press:** Press the button for less than 0.5 seconds.

**Hold:** Press the button for more than 0.5 seconds

## Brightness Setting

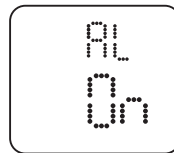
Hold the power-ON button while the PULSE OXIMETER is in powered-on state, then the PULSE OXIMETER shows a brightness setting interface (as "Interface 1" below shows, "br" represents brightness). Hold the button to adjust brightness. There are 3 brightness settings (1, 2, 3). 3 is the brightest.



Interface 1

## Alarm Setting

After setting the brightness, press the power-ON button to enter the alarm setting interface (as "Interface 2" below shows, "AL" represents alarm). Then hold the button to set "AL" to on or off. When "AL" is set to on and the measured values of the blood oxygen saturation and pulse rate go beyond the upper limit or lower limit, the PULSE OXIMETER will beep to alarm.

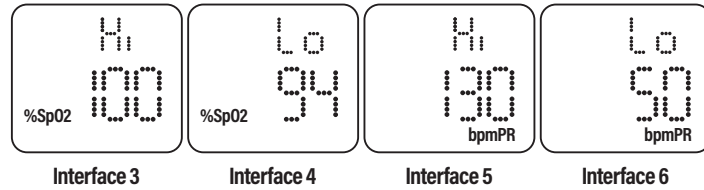


Interface 2

## Alert Range Setting

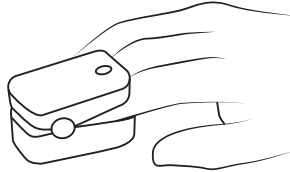
When "AL" is set to on, you can set the upper limit and lower limit of SpO2 Alert and PR Alert. Press it to switch an option (SpO2 upper limit, SpO2 lower limit, PR upper limit and PR lower

limit). Hold the power-on button to adjust the limits. (as "Interface 3, 4, 5, 6" below show, "Hi" represents upper limit, "Lo" represents lower limit).



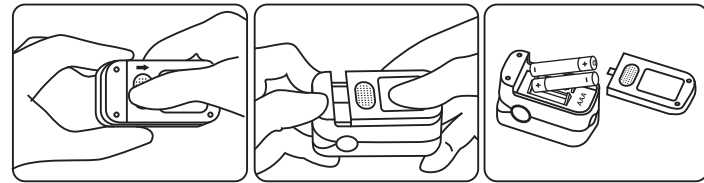
## Operation Guide

Stick one finger completely into the finger chamber of the PULSE OXIMETER. The fingernail should be facing upward. Release the clip and press the power-ON button to power on the PULSE OXIMETER.



**!** If you do not insert your finger completely into the chamber, measurement will be inaccurate.

**!** Keep your finger still during measurement. It is also not advisable to use this instrument during sports activities as movement may lead to inaccuracies. Once the reading stabilizes, read the measured values of oxygen saturation and pulse rate on the screen.



**NOTE:** The PULSE OXIMETER will automatically shut down 10 seconds after you remove your finger.

**!** Replace the batteries when the batteries run out of power and the symbol ( ) flickers on the screen.

Install the two AAA batteries into the battery slot according to polarity indication, and mount the battery cover.

## Cleaning and Disinfecting

Power off the instrument and remove the batteries before cleaning. Ensure that the appearance of the instrument is neat, dust and dirt free. Use an alcohol swab or cotton tissue moistened with alcohol (75% Isopropyl) to clean the outer surface of the instrument (including the LED screen) and silicone that touches the finger inside of the device. Also, clean the finger being tested using alcohol before and after each test. Allow the device to dry thoroughly before use.

**!** Never use abrasive cleaning agents, thinners or benzene for cleaning. Never immerse the device in water or other cleaning liquids.



Do not sterilize this device using autoclaving or ethylene oxide sterilizing. This device is not intended for sterilization. Do not disinfect the instrument by means of high-temperature/high-pressure or gas disinfection.

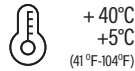
## Maintenance

- Remove the batteries from the battery slot and properly store them if you do not plan to use the PULSE OXIMETER for a long period of time.
- Avoid using the PULSE OXIMETER in an environment with inflammable gases or using it in an environment where the temperature or humidity is excessively high or low.
- Check the accuracy of the oxygen saturation and pulse rate readings by using an appropriate calibration apparatus.

**Product inspection and calibration is carried out by accredited laboratory and is not a warranty service!**

## Technical Specifications

- Dimensions:** 58.0 mm (Width) × 32.0 mm (Depth) × 32.9 mm (Height). **Weight:** 50.4 g (including two AAA batteries)
- Peak wavelength range of the light emitted from the probe:** red light 663 nm ± 3; infrared light 900 nm ± 7.
- Maximum optical output power of the probe:** 60 mW for infrared light (905 nm).
- Normal working condition



+ 40°C  
+5°C  
(41°F-104°F)



15%-80%  
(no condensation)



70.0kPa  
~106.0 kPa

**Working Temperature**

**Relative humidity**

**Atmospheric pressure**

Rated Voltage: DC 3.0 V

### 5. Default values and conditions of alert

Parameter	Value
Oxygen saturation	Upper limit: 99 Lower limit: 94
Pulse rate	Upper limit: 130 Lower limit: 50
Alert condition	When the alert switch is on and the actual measured value goes beyond the preset alert parameter range, the PULSE OXIMETER gives an alert sound.

### 6. Technical parameters

Parameter	Value	
Display range	Oxygen saturation	35% to 99%
	Pulse rate	35 bpm to 250 bpm
Resolution	Oxygen saturation	1%
	Pulse rate	1 bpm
Measurement precision	Oxygen saturation	±2% (70% to 99%) No requirement (≤ 69%)
	Pulse rate	±2 bpm

Parameter	Value	
Alert range	Oxygen saturation	Upper limit: 50% to 100% Lower limit: 50% to 100%
	Pulse rate	Upper limit: 35 bpm to 250 bpm Lower limit: 35 bpm to 250 bpm
Alert error	Oxygen saturation	± 1% of the preset value
	Pulse rate	The greater of ±10% of the preset value and ±5 bpm
PI	Weak PI	Min. 0.3%

## Safety Type

**Anti-electric-shock type:** internal power supply device

**Anti-electric-shock degree:** Type BF applied part

**Running mode:** continuous working

**Waterproof grade:** IP22

## Storage and Transportation



+ 50°C  
-10°C  
(14°F-122°F)



10%-93%  
(no condensation)



50.0kPa  
~106.0 kPa

**Temperature**

**Relative humidity**

**Atmospheric pressure**

**CE 0482**

EVOLU is a trademark of FORANS International AG, Switzerland  
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Technical alterations reserved. REV1/2021.10

## warranty card

**Date of purchase:** \_\_\_\_\_

**Sale company:** \_\_\_\_\_

**Contact number:** \_\_\_\_\_

**Address of sales company:** \_\_\_\_\_

**Attention: please contact our distributor when the device needs maintenance. Please keep the packing of the product so that it could be used when returning the device to maintenance.**

The period of host free for warranty service is 2 years.

During the warranty period, we will decide to repair or replace damaged parts or accessories according to the case.

Opening or altering the device invalidates the guarantee.

The following items are excluded from the guarantee:

- Transport costs and risks of transport.
- Damage caused by incorrect application or noncompliance with the instructions for use.
- Damage caused by leaking batteries.
- Damage caused by accident or misuse.
- Packaging/storage material and instructions for use.
- Regular checks and maintenance (calibration).
- Accessories and wearing parts: Batteries.

Compensation is limited to the value of the product. The guarantee will be granted if the complete product is returned with the original invoice.

Repair or replacement within guarantee does not prolong or renew the guarantee period. The legal claims and rights of consumers are not limited by this guarantee.