

EASYPix.

PULSE OXIMETER



USER MANUAL

FR : Un manuel dans votre langue est disponible sur Internet:

IT: Il manuale nella sua lingua può essere trovato su Internet:

ES: Puede encontrar un manual en su idioma en Internet:

PT: Um manual em seu idioma pode ser encontrado na Internet:

PL: Instrukcję w swoim języku możesz znaleźć na stronie:

SWE: En handbok på ditt språk finns på Internet:

NL: Een handleiding in uw taal vindt u op internet:

www.easypix.info/download-manuals/download/pulseoximeter/

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Failure to observe this information can result in injury or equipment damage.

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Retaining instructions

Read this manual and its safety instructions before using this product. Follow all the instructions. This will avoid fire, explosions, electric shocks or other hazards that may result in damage to property and/or severe or fatal injuries.

The product shall only be used by persons who have fully read and understand the contents of this user manual.

Ensure that each person who uses the product has read these warnings and

instructions and follows them.

Keep all safety information and instructions for future reference and pass them on to subsequent users of the product.

The manufacturer is not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with the safety instructions.

Explanation of safety warnings

⚠ WARNING

Warning indicates a hazard with a medium level of risk which, if not avoided, could result in serious injury.

NOTICE

Indicates information considered important, but not hazard-related.

Product introduction

A Pulse Oximeter is a common device used to check oxygen saturation (SpO²) and pulse rate.

It is a compact, reliable and durable physiological monitoring device featuring an OLED display and powered by batteries (not included).

Intended use

The Pulse Oximeter is reusable device and is intended for spot checking the pulse oxygen saturation and pulse rate of adults.

It should not be used for continuous monitoring – this should only be done under the guidance of your doctor.

Restrictions

⚠ WARNING

Use of the device is for adults only.

Please do not use the device for children, infants and neonatal.

⚠ WARNING

The product is not suitable for children under 3 years because of choking hazard.

Safety instructions

⚠ WARNING

The person using the Pulse Oximeter must have read the instructions for use carefully.

- This product should only be used to give an indicative or reference reading. It should not be used to determine a diagnosis without consultation with your doctor. Longer term or ongoing use should only be under the guidance of your doctor.
- If you experience any discomfort in use, please stop immediately and seek medical help.
- When using the Pulse Oximeter the user should pay attention to, and guarantee safety of the patient being measured.
- The Pulse Oximeter does not feature an alarm function. It should not be used for continuous monitoring for an extended period.
- Damaged skin tissue can not be measured.

⚠ WARNING

Do not use the device if it has been damaged in any way.

Do not use the device in any way other than that described in this manual.

⚠ WARNING

Do not to use the Pulse Oximeter during MRI (magnetic resonance imaging) scanning or CT (Computed Tomography) environment as the induced current could potentially cause burns.

⚠ WARNING

The device should not be modified, repaired or serviced in any way by the end user.

⚠ WARNING

EXPLOSION HAZARD!

Do not use the Pulse Oximeter in the presence of flammable anesthetics, explosive substances, vapors or liquids.

- Ensure the device is always clean and free from dirt before use.
- Before cleaning the device, ensure it is turned off.
- Do not use high pressure or high temperature to disinfect or clean the device. Never use cleaning agents/disinfectants other than those recommended.
- The device is a factory sealed unit. Keep its surface dry and clean, and prevent contact with liquids.
- The Pulse Oximeter is precision device. Avoid pressure, knocks, strong vibration or other mechanical damage. Please store safely when not in use.
- For disposal of Pulse Oximeter and accessories, follow local regulations regarding disposal of such a device and accessories. Do not dispose of randomly.

⚠ WARNING

Use AAA alkaline batteries. Do not use carbon or poor quality batteries. Remove the batteries if the product will not be used for an extended period of time.

⚠ WARNING

Avoid exposure to static electricity before using the Pulse Oximeter.

- When in use, keep the device away from radio receivers.
- To avoid enhanced electromagnetic radiation or reduce anti-electromagnetic interference performance, only use the device as configured.
- Portable and mobile radio frequency communication equipment can affect the normal use of the pulse oximeter.

Storage environment

- The Pulse Oximeter should not be close to or stored with other equipment.
- Always store the device and small parts such as batteries out of the reach of children.
- Always ensure suitable supervision of patients or others where the device is used on a lanyard.

Product elements

- Pulse Oximeter
- Lanyard
- User manual EN/DE

Technical data

- OLED display
- **SpO²:**
Measurement range: 35-100%
Accuracy: $\pm 2\%$ (80%-100%); $\pm 3\%$ (70%-79%)
- **Pulse rate:**
Measurement range: 25-250bpm
Accuracy: ± 2 bpm
Pulse rate accuracy has passed proving and comparison with SpO² simulator.
- Working voltage: DC2.2V-DC3.4V
- Battery type: 2x 1.5V AAA alkaline batteries are required (not included)
- Power consumption: < 50mA
- Size: 58 x 34 x 30 mm
- Weight: 50g (with two AAA batteries)

Description of the product

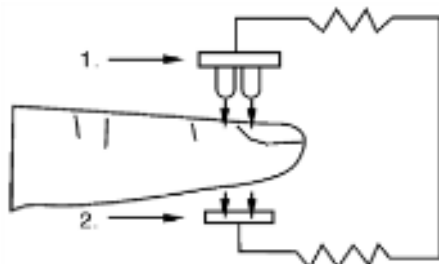


1. SpO² indicator
2. Power/function button
3. SpO² value
4. Plethysmogram wave
5. Buzzer indicator
6. Battery status
7. PI indicating (Perfusion index)
8. Pulse rate indicator
9. Pulse rate value

Function description

The Pulse Oximeters is used to measure arterial oxygen saturation (SpO_2) and the pulse rate. Oxygen saturation indicates the percentage of haemoglobin in the arterial blood that is loaded with oxygen.

The Pulse Oximeter uses two light beams of different wavelengths for measurement. These light beams strike the inserted finger inside the housing and are put in relation to each other during measurement. The arterial oxygen saturation is then calculated and displayed on the Pulse Oximeter.



1. Infrared Light Emitting 2. Infrared Light receiver

Measuring steps

1. Remove the battery compartment cover and insert the batteries as shown in **Figures 1 & 2**. Securely re-fit the battery compartment cover.
2. Squeeze one end of the device to open it and place an index finger inside. Allow the device to gently close on the finger as shown in **Figure 3**. (Index, middle or ring fingers can be used for a reading)

3. Press the power / function button on the front panel to switch on the device. Keep the finger and device still with as little movement as possible and allow the device to take a measurement.
4. The readings will be displayed on the OLED screen a moment later as shown in **Figure 4**.

NOTICE

Ensure the finger is inserted far enough into the sensor so that the fingernail is just opposite to the light emitted from the sensor.



Figure 1



Figure 2



Figure 3



Figure 4

NOTICE

Do not perform SpO² monitoring and NIBP (Non-invasive blood pressure) measurements on the same arm simultaneously.

Obstruction of blood flow during NIBP measurements may adversely affect the reading of the SpO² value.

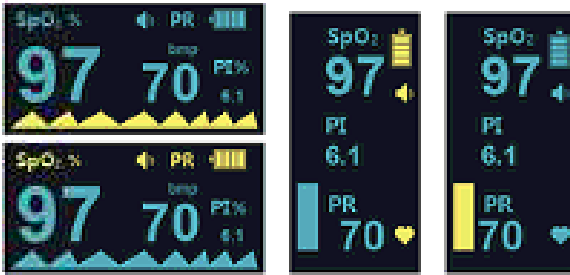
- Do not use the Pulse Oximeter to measure patients whose pulse rate is lower than 30bpm, as this may cause incorrect results.
- Ensure there is no contamination and/or scar on the tested finger as the result indicated may be incorrect due to the signal received by the sensor being affected.
- When used on various patients, the product is prone to cross contamination, which should be prevented and controlled by the user. Disinfection is recommended before using the product on other patients.
- The highest temperature threshold of the sensor contacts with a patient's skin is 41°C.
- Repeat use may require the use of different fingers to obtain a measurement.

Factors affecting measurement accuracy

- Incorrect placement of the finger may affect the accuracy of the measurement.
- The measurements also depend on absorption of a special wavelength ray by oxidized hemoglobin and deoxyhemoglobin. Concentration of nonfunctional hemoglobin may affect the accuracy of the measurement. Always consult a doctor if in doubt.
- Shock, anemia, hypothermia and the application of vasoconstriction drug may decrease arterial blood flow to an unmeasurable level.
- Pigment, or deep color (for example: nail polish, artificial nails, dye or pigmented cream) may cause inaccurate measurements.

Rotate the display

To rotate the display for convenient reading, when the result has been displayed on the screen, short press the “POWER/FUNCTION” button once.



Turn off the buzzer

Short press the “Power/function” button four times, the display direction will be restored to the previous state. The buzzer will be turned off.



Signal display

When the signal received by the device is too weak, small lines will be displayed on the screen.



Auto switch off

The product will switch off automatically after 10 seconds of no signal being detected.



Lanyard placement

1. Thread the thinner end of the lanyard through the hole as shown in the picture. Note: There is also the option to use either side.
2. Thread the thicker end of the lace through the threaded end before pulling it tightly.



Lanyard holes

Troubleshooting

Trouble	Possible reason	Solution
The SpO ² and PR can't be displayed normally and the value disappeared.	<ol style="list-style-type: none"> 1. The finger is not properly positioned. 2. The patient's SpO² is too low to be detected. 	<ol style="list-style-type: none"> 1. Reposition the finger properly and try again. 2. Attend a doctor for a diagnosis if you are sure the device works properly.
The SpO ² and PR display is not stable.	<ol style="list-style-type: none"> 1. The finger is not placed far enough inside the device. 2. The finger or device is moving and not stable. 	<ol style="list-style-type: none"> 1. Place the finger properly and try again. 2. Ensure patients finger is stable and not moving.
The device can not be switched on.	<ol style="list-style-type: none"> 1. The batteries are drained or almost drained. 2. Batteries are installed incorrectly 3. General device malfunction 	<ol style="list-style-type: none"> 1. Change batteries. 2. Reinstall batteries. 3. Contact the supplier.
No display on the screen.	<ol style="list-style-type: none"> 1. The product is automatically powered off when no signal is detected after 10 seconds. 2. Batteries no longer usable 	<ol style="list-style-type: none"> 1. Normal. 2. Replace the batteries.

Expected service life: 3 years

Cleaning and disinfection

Cleaning

Clean the product with cotton or damp soft cloth.

After cleaning, wipe dry and allow to full air dry.

Disinfection

The recommended disinfectants include: ethanol 70%, isopropanol 70%, glutaraldehyde (2%) solution disinfectants.

1. Clean the product as instructed above.
2. Disinfect the product with cotton or soft cloth moistened with one of the recommended disinfectants.
3. After disinfection, be sure to wipe off the disinfectant left on the product with a soft cloth moistened with water.
4. Allow the product to air dry.

! WARNING

Never immerse the device in liquid.

- We recommend cleaning and disinfecting the product when necessary or when used with different patients.
- Never use cleaning agents/disinfectants other than those recommended.
- Never permit high-pressure and high-temperature disinfection of the device.
- Always switch off the device and remove the batteries before cleaning or disinfecting.

Disposal



Dispose of packaging












For disposal, separate packaging into different types. Cardboard and board must be disposed of as paper and foil must be recycled.



Disposal of Waste Electrical and Electronic Equipment and/or Battery by users in private households in the European Union.

This symbol on the product or on the packaging indicates that this cannot be disposed of as a household waste. You must dispose of your waste equipment and/or battery by handing it over to the applicable take-back scheme for the recycling of electrical and electronic equipment and/or battery. For more information about recycling of this equipment and/or battery, please contact your city office, the shop where you purchased the equipment or your household waste disposal service. The recycling of materials will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and environment.

Symbol meaning

Symbol	Meaning
	“CAUTION”! Please refer to the operation manual.
	Type BF Equipment.
	The product does not contain an alarm function.
	When the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling.
	European Union certification of approval.
	Manufacturer information.
	Date of manufacture.
	Serial Number.
	Batch Code.
	Type Number.
	European Union authorized.
IP22	The product is protected against harmful effects of dripping water per IEC 60529.



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Declaration of conformity

For the product **Pulse Oximeter** we hereby confirm that it meets the basic requirements laid down in Council Directive.

This declaration is based on the full compliance of that product with the following European standards:

MDD 93/42/EEC
CE0123 (TÜV)

This explanation is given for the manufacturer / importer
easypix GmbH
Em Parkveedel 11
50733 Köln, Germany



The EC Declaration of Conformity can be downloaded here:
<http://www.easypix.info/download/pdf/pulseoximeter.pdf>

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