- accuracy of a pulse oximeter monitor.
- Do not self-diagnose or self-medicate on the basis of the measurements without consulting your doctor. In particular, do not start taking any new medication or change the type and/or dosage of any existing medication without prior approval
- Do not look directly inside the housing during the measurement. The red light and the invisible infra-red light in the pulse oximeter are harmful to your eyes.
- -This device is not intended for use by people (including children) with restricted physical, sensory or mental skills or a lack of experience and/ or a lack of knowledge, unless they are supervised by a person who has responsibility for their safety or they receive instructions from this person on how to use the device. Children should be supervised around the device to ensure they do not play with it.
- Neither of the displays for the pulse wave and pulse bar allows the strength of the pulse or circulation to be evaluated at the measurement site. Rather, they are exclusively used to display the current signal variation at the measurement site and do not enable reliable diagnostics for the pulse.

# Cleaning and disinfection

- 1 Please clean the surface of the device before using. Wipe the device with medical alcohol (70% isopropyl alcohol)first, and then let it dry in air or clean it by dry clean fabric. When cleaning the device with water, the water temperature should be lower than 60°C
- 2. Using the medical alcohol to disinfect the product after use, prevent from cross infection for next time use.
- 3. The best storage environment of the device is - 20°C to 70°C ambient temperature and not higher than 95% relative humidity.
- 4. Users are advised to calibrate the device termly (or according to the calibrating program of hospital). It also can be performed at the stateappointed agent or just contact us for calibration.

- A functional tester cannot be used to access the Note: 1. Do not sterilize, autoclave or immerse this device in liquid. Do not pour or spray any liquids onto the device.
  - 2. Do not use caustic or abrasive cleaning agents, or any cleaning agent containing ammonium chloride or isopropyl alcohol.

# **Troubleshooting**

Symptoms	Check points	Corrections	
SpO2 or pulse rate cannot displayed	Applied finger improperly.	Place the finger properly and try again.	
	SpO2 is too low to detect	Try again; go to consult with your physician if you are sure the device works well.	
SpO2 or pulse rate are not	Applied finger improperly.	Place the finger properly and try again.	
displayed stably	Finger is shaking or body is moving.	keep body steady	
No display when	Batteries run down	Replace with new batteries	
button is pressed	Batteries not inserted correctly.	Re-insert bat- teries	
The display disappears suddenly	The device will auto power off when it gets no signal.	Normal	
	Low battery	Replace with new batteries	

Note: If the unit does not work, return it to your dealer. Under no circumstance should you disassemble and repair the unit by yourself.

# **Specification**

SpO2		
Measuring range	35%~99%, (the resolution is 1%).	
Accuracy	70%~99%: ±2%, Below 35~69%: unspecified.	
Optical Sensor	Red light (wavelength is 660nm), Infrared (wavelength is 905/880nm)	
Pulse		
Measuring range	30bpm~250bpm (the resolution is 1 bpm)	
Accuracy	±3bpm	
Power source	AAA × 2 (Alkaline)	
Battery life	Continually for 16 hours with two alkaline batteries	

Operating Condition	Temperature: 5°C~40°C (41°F ~ 104°F), Relative Humidity: 15-95% (non condensing), Atmospheric pressure: 700hPa ~ 1013hkPa,
	Attitude: -1,280 to 12,000 feet (-390m to 3,658m)
Storage Condition	Temperature: -25°C~+70°C(- 13°F ~ 158°F), Relative humidity: 15-90%(non condensing), Atmospheric pressure: 700hPa ~ 1013hkPa, Attitude: -1,280 to 12,000 feet (-390m to 3,658m)
Dimensions	63.5(L) × 34W) × 35(H) mm
Weight	About 37g (without the batteries)
Standards	IEC60601-1-2, Class B, IEC60601-1, Type BF, ISO80601-2-61
ҡ	Type BF applied parts
IP Classification	IP22: Protection against harmful ingress of water and particulate matter

#### EMC guidance and manufacturer's declaration

strolled. The customer or the user of the Finger-tip pulse oximeter can help prevent electromagnetic interference by main ining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Finger-

pulse oximeter as recommended below, according to the maximum output power of the communications equipment.				
Rated maximum output power of transmitter / W	Separation distance according to frequency of transmitter / m			
	150 kHz to 80 MHz , d=[3.5/	80 MHz to 800 MHz , d=[3.5/	800 MHz to 2,5 GHz , d=[3.5/	
	V1]√P	E1]√P	E1]√P	
0.01	0.12	0.12	0.23	
0.1	0.37	0.37	0.74	
1	1.17	1.17	2.33	
10	3.7	3.7	7.37	
100	11.67	11.67	23.33	
Declaration — electromagnetic emissions and immunity — for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING and				
are specified for use only in a shielded location				

The Finger-tip pulse oximeter declaration — electromagnetic immunit neter system is intended for use in the electromagnetic environment spe ser of the Finger-tip pulse oximeter system should assure that it is used in such an environment closer to any part of the EQUIPMENT or SYSTEM including cable than the recommended separation distance calculated from th adiated RE equation applicable to the frequency of the transmitter. Interfere FC 61000-4-3 80 MHz to 2 5 GHz may occur in the vicinity of equipment marked with the follow

or the user of the Finger-tip pulse oximeter system should assure that it is used in such an environment Compliance level discharge (ESD) IEC 61000-4-2 +8 kV air ±8 kV air ile. If floors are covered with synthetic naterial, the relative humidity should be lains power quality should be that +2 kV for nower supply lines +2 kV for nower supply of a typical commercial or hospital Surge IEC 61000-4-5 + 2kV rommon mode 2kV common mode f a typical commercial or hospital 40% UT (60% dip in UT) voltage variations 10% UT(60% dip in UT ent. If the user of the FOLIPMENT or or 5 cycles STEM requires continued operation 70% ÚT(30% dip in UT) for 70% UT(30% din in UT) fo nnut lines IFC ring nower mains interruptions, it is ommended that the EOUIPMENT or 25 cycles <5% UT(>95% dip in :5% UT(>95% dip in STEM be powered from an uninterrup

(50/60 Hz) mag

netic field IEC

on. Therefore, its RF emissions are very low and are not likely to caus ny interference in nearby electronic equipment. he Finger-tip pulse oximeter is suitable for use in all establishmen ncluding domestic establishments and those directly connected to th ublic low-voltage power supply network that supplies buildings use

he at levels characteristic of a typical

ocation in a typical commercial or hospita





# **EN** Fingertip Pulse Oximeter

#### www.rossmax.com

This instrument is covered by a 1 year guarantee from the date of purchase, batteries and accessories are not included. The guarantee is valid only on presentation of the guarantee card completed by the dealer confirming date of purchase or the receipt. Opening or altering the instrument invalidates the guarantee. The guarantee does not cover damage, accidents or non-compliance with the instruction manual. Please contact your local seller/dealer or www.rossmax.com

Custome	r Name:	
	☐Male ☐Female	
Product	Information:	
Date of p	ourchase:	
	ere purchased:	

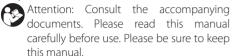
WARNING: The symbol on this product means that it's an electronic product and following the Furnoean directive 2012/10/EL-4and following the European directive 2012/19/EU the electronic products have to be dispose on your local recycling centre for safe treatment.





#### Introduction

Rossmax Fingertip Pulse Oximeter SB100 is used to measure arterial oxygen saturation (% SpO2) of hemoglobin and pulse rate, an important indicator of your respiratory function. It is non-invasive device intended for spot-check of adult and pediatric whose age is over 3 at home, hospital and clinics.



## Name/ Functions of each part



- 1. SpO2 icon
- 2. Pulse strength indication
- 3. Pulse rate icon
- 4. Beats per minute
- 5. Power On Button
- 6. Battery icon
- 7. Battery compartment

## **Installing Batteries**

- 1. Use thumb to slide battery cover out
- 2. Insert or replace 2 "AAA" sized batteries down with the correct electrical polarity.

You need to replace the batteries when

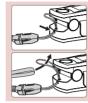
- 1. Battery icon is blinking on display.
- 2. The function button is pressed and nothing appears on display.

Caution: Batteries may leak or explode if used or disposed of improperly. Remove batteries if the device will be stored for long time. Do not use different types or brands of batteries at the same time. Do not mix fully charged and partially charged batteries at the same time.



# **Attaching the lanyard**

- 1. Insert the narrow end of the lanyard through the holder.
- 2. Draw the other end of the lanyard through the loop at the narrow end and tighten.



### How to use

- 1. Open the clip; press the Power On button as 1.
- 2. Information of software version appears; insert one finger, nail side up, into the finger opening of the pulse oximeter.

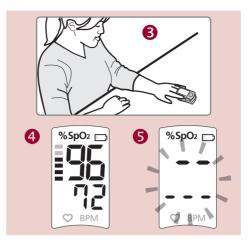
Note: if no finger insert, the device will auto shut off after 8 seconds.

3. The pulse strength indication shows "—", pulse oximeter begins its measurement as ②.

Note: make sure the finger is lying flat, Do not shake and keep body steady during measurement as 3.

- 4. Your SpO2 and pulse rate values will appear on the screen after few seconds as **4**.
- Note: 1. Don't remove your finger until the measurement is completed.
  - 2. If SpO2 and pulse rate cannot be detected,"
    " will appear on the screen as •.
  - 3. While pulse strength is low, the reading will flicker.





#### ⚠ Note:

- 1. The SpO2 sensor and photoelectric receiving tube should be arranged in a way with the subject's arteriole in a position there between.
- 2. Make sure the optical path is free from any optical obstacles like rubberized fabric.
- 3. Excessive ambient light may affect the measuring result. It includes fluorescent lamp, dual ruby light, infrared heater, direct sunlight and etc.
- 4. Strenuous action of the subject or extreme electrosurgical interference may also affect the accuracy.

## **Error code for your reference**

SENSOR ERROR:	Sensor cannot be detected, return the device to your local distributor or service centre.	
MEASURE ERROR:	Signals cannot be detected, turn the device off and measure again.	

## **Cautionary Notes**

-This device is to be operated by trained personnel only.

- This device has no audible and it intended only for spot-checking, but not medical result evaluation.
- -This device is designed to determine the percentage of arterial oxygen saturation of functional hemoglobin. Factors that may degrade pulse oximeter performance or affect the accuracy of the measurement include the following:
- Do not apply the pulse oximeter on the same arm as a blood pressure cuff, arterial catheter or infusion line(s)
- Excessive light, such as sunlight or direct home lighting.
- Not steady at the site of application (e.g. trembling)
- Moisture in the device
- Improperly applied device
- Finger is too large or too small to fit into the device.
- Poor pulse quality
- Venous pulsations
- · Anemia or low hemoglobin concentrations.
- Cardiogreen and other intravascular dyes
- Carboxyhemoglobin
- Methemoglobin
- Dysfunctional hemoglobin
- Artificial nails or fingernail polish
- On fingers with anatomical changes, oedemas, scars or burns.
- Using the device for long periods may cause pain for people with circulatory disorders. Reposition the device at least once every 4 hours to allow the patient's skin to breath and to check patient's condition regularly.
- Do not use the device near flammable or explosive gas mixtures.
- Do not use the device during an MRI or CT scan.
- -The device may not work when circulation is reduced. Warm or rub the finger, or re-position the device.
- This device is a precision electronic instrument and must be repaired by qualified technical professionals. Field repair of the device is not possible. Do no attempt to open the case or repair the electronics. Opening the case may damage the device and void the warranty.
- Do not overextend the device's spring.