SleepHQ Ring
User Manual

Email - support@sleephq.com

IOS App - SleepHQ
Android App - ViHealth
Web App - SleepHQ.com

1. Introduction

1.1 Intended use

Measuring, displaying and storing pulse oxygen saturation (SpO2) and pulse rate data for adults. The SleepHQ Ring is not a medical device and is not intended to diagnose, treat, cure, monitor or prevent medical conditions or illness. For general wellness only. Always seek a doctor's advice before using our products and services.

1.2 Warnings and Cautions

- Do not squeeze the sensor part or apply excessive force.
- Do not use this device during MRI examination.
- Do not store this device in the following locations: direct sunlight, high temperatures, high humidity and strong magnetic fields.
- Never submerge the device in water or other liquids.
- Do not clean the device with acetone or other volatile solutions.
- Do not drop the device or subject it to a strong impact.
- The device is provided non-sterile.
- Do not place this device in pressure vessels or gas sterilisation devices.
- Do not dismantle the device. It could cause damage.
- Use only the cables provided.
- Prolonged, continuous monitoring may increase the risk of skin irritation.

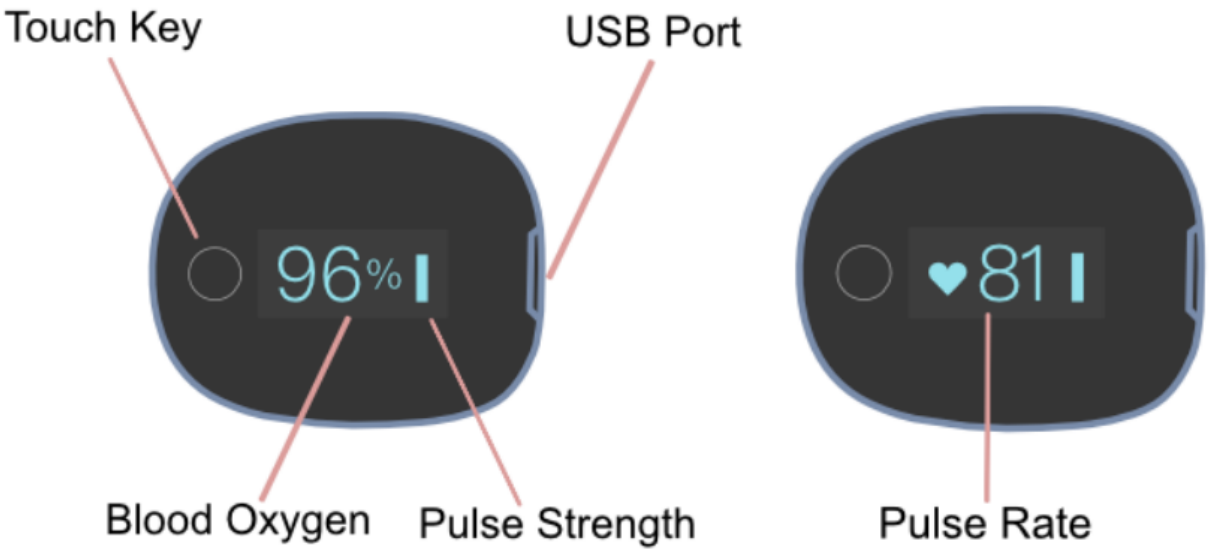
1.3 Guide To Symbols

Symbol	Description
	Type BF-Applied Part
	Manufacturer
	Date of manufacture
	Follow Instructions for Use.
	MRI unsafe. Presents hazards in all MR environments as device contains strongly ferromagnetic materials.
IP24	Against ingress of solid foreign objects ≥ 12.5mm diameter, splashing.
SN	Serial number
	Temperature limitation
	Humidity limitation
	Atmospheric pressure limitation
	Indicate separate collection for electrical and electronic equipment (WEEE).

1.4 Unpacking

- Device
- User Manual
- Data/Charging Cable

2. Overview



3. Device Use

3.1 Charging

Charge the battery before use with the supplied USB cable.
Once fully charged, the device will power off automatically.

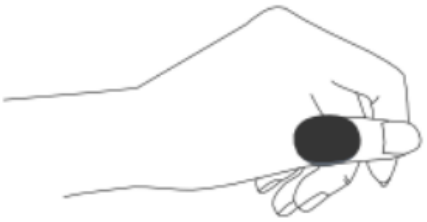
3.2 Power On / Off

Power On: The device will turn on automatically when placed on the finger.
Power Off: The device will turn off automatically shortly after finger removal.

3.3 Steps

1. Start - Charge the battery & wear the device to power on
2. Stop - Take off the device; the session is complete after countdown
3. Data Sync - After the countdown, open the App to sync data

3.4 Operation



1. For best results, use the ring on the thumb or index finger. Try moving the device along the forefinger to find the best fit. Loose fitting may cause inaccurate results.
2. The device will turn on automatically.

Important

- For best results, DO NOT wear it on the middle finger.
- Sessions less than 2 minutes will not be recorded.
- Avoid excessive motion.
- Avoid strong ambient light.

3.5 Stop Session & Sync Data

Remove the device & wait for countdown completion.

Important: If reapplied during the countdown, the original session will continue.

Sync Data

- When the countdown has finished, open the App to sync data.
- OR during the next session, open the App to sync data.

3.6 Screen Wake Up

The screen will automatically turn off to save power in standard mode. Turn it on by touching the key on the top of the device.

3.7 Battery

Touch the key to switch between display readings and battery level.

3.8 Unavailable Symbol

Displayed when the readings are unavailable.

- Excessive movement
- Poor signal

3.9 Download App

IOS - SleepHQ
Android - ViHealth
Desktop - www.sleephq.com

3.10 Bluetooth Connection

Device Bluetooth is enabled automatically when in use. To establish a connection

1. Wear the device.
2. Turn on the phone Bluetooth.
3. Run the app.

Important: Pair the ring IN THE APP and NOT in the phone settings.

5. Maintenance

5.1 Time & Date

Time & Date will sync via phone

5.2 Cleaning

Use a soft cloth or alcohol wipe to clean the device gently.

6. Troubleshooting

Problem	Possible Cause	Possible Solution
Device does not turn on / any power	● Low battery ● Device damage ● Software problem	● Charge the battery and try again ● Whilst charging, touch and hold the key for 8 seconds
App can not find the device	● Bluetooth settings off ● For Android, Bluetooth requires location permission.	● Turn on Bluetooth ● Allow location access.
Only one light emitter on the ring.	● This is normal	

7. Specifications

Environmental	Operating	Storage
Temperature	5 to 40°C	-25 to 70°C
Relative humidity (noncondensing)	10% to 95%	10% to 95%
Barometric	700 to 1060hPa	700 to 1060hPa
Protection against electric shock	Internally powered equipment	
Degree protection against electrical shock	Type BF	
Electro-magnetic compatibility	Group I, Class B	
Degree of dust & water resistance	IP24	
Weight	15 g	
Size	38×30×38 mm	
Battery	3.7Vdc, Rechargeable Lithium-polymer	
Charge time	2-3 hours	
Battery life	12-16 hours for typical use	
Wireless	Bluetooth 4.0 BLE	
Oxygen level range	70% to 99%	
SpO2 Accuracy (Arms)	80-99%: ±2%, 70-79%: ±3%	
Pulse Rate range	30 to 250 bpm	
Pulse Rate accuracy	±2 bpm or ±2%, whichever is greater	
Vibration source	low oxygen level. high/low pulse rate	
Recorded parameters	Oxygen level, Pulse Rate, motion	
Data storage	4 sessions, up to 10 hours for each	
Mobile App for iOS	iOS 9.0 or above, iPhone 4s/ iPad 3 or above	
Mobile App for android	Android 5.0 or above, with *Bluetooth* 4.0 BLE	

- **Electromagnetic Compatibility**

The device meets the requirements of IEC 60601-1-2.

- **Warnings and Cautions**
  - Using accessories other than those specified in this manual may result in increased electromagnetic emission or decreased electromagnetic immunity of the equipment.
  - The device or its components should not be used adjacent to or stacked with other equipment.
  - The device needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided below.
  - Other devices may interfere with this device even though they meet the requirements of CISPR.
  - When the inputted signal is below the minimum amplitude provided in technical specifications, erroneous measurements could result.
  - Portable and mobile communication equipment may affect the performance of this device.
  - Other devices that have RF transmitter or source may affect this device (e.g. cell phones, PDAs, and PCs with wireless function).
  - Electromagnetic fields avoid using the product near strong radio frequency (RF) signals or portable and/or mobile RF devices and/or specific RF emitters that are known sources of electromagnetic disturbance such as diathermy, electrocautery, RFID, security systems (e.g., electromagnetic anti-theft systems, and metal detectors). Interference from hidden RF emitters like RFID might cause packet loss and this will be visible as a “Poor Bluetooth Signal” message on the mobile application. Move away from the hidden RF emitter if this happens.

Guidance and manufacturer's declaration– electromagnetic emissions		
The Pulse Oximeter is intended for use in the electromagnetic environment specified below. The customer or the user of the Pulse Oximeter should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	The device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	N/A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	N/A	

Guidance and manufacturer's declaration – electromagnetic immunity			
The Pulse Oximeter is intended for use in the electromagnetic environment specified below. The customer or the user of the Pulse Oximeter should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%. If ESD interfere with the operation of equipment, counter measurements such as wrist strap, grounding shall be considered.
Electrical fast transient/ burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/ output lines	± 2 kV for power supply lines ± 1 kV for input/ output lines	The quality of the power supply should meet the requirements of a typical commercial (initial power supply) or medical environment.
Surge IEC 61000-4-5	± 1 kV line to line	± 1 kV line to line ±2 kV line to earth	The quality of the power supply should meet the requirements

	±2 kV line to earth		of a typical commercial or medical environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% U_T (100% dip in U_T) for 0.5 cycle 0% U_T (100% dip in U_T) for 1 cycle 70% U_T (30% dip in U_T) for 25/30 cycles 0% U_T (100% dip in U_T) for 250/300 cycles	0% UT (100% dip in UT) for 0.5 cycle 0% UT (100% dip in UT) for 1 cycle 70% UT (30% dip in UT) for 25/30 cycles 0% UT (100% dip in UT) for 250/300 cycles	The quality of the power supply should meet the requirements of a typical commercial or medical environment.If the user of this product needs to continue poerating during power interruption,it is recommended to use uninterruptible power supply or battery power.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE : U_T is the AC mains voltage prior to application of the test level.			

Essential Performance		
Essential Performance		The description of what the operator of the device can expect if the Esssential Performance is lost or degraded due to electromagnetic disturbances
Oxygen level range	0% to 100%	Please stop using the device immediately and contact the device manufacturer or distributor for service an soon as possible
SpO_2 Accuracy	70%-100%: ±2% (Arms:1.77%)	
	70%-80%: ±3%	
	80%-90%: ±2%	
	90%-100%: ±2%	
	0%-69%: not defined	
Pulse Rate range	30 to 250 bpm	
Pulse Rate accuracy	±2 bpm or ±2%, whichever is greater	

Manufacturer: Shenzhen Viatom Technology Co., Ltd

Address: 4E, Building 3, Tingwei Industrial Park, No.6 Liufang Road, Block 67, Xin'an Street, Baoan District, Shenzhen, 518101, Guangdong, P.R.China.

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CE 0197

Model: PO2、 Version: A