

## KPO-1720 Digital Fingertip Pulse Oximeter Blood Oxygen Saturation Monitor Sports and Aviation use USER MANUAL

### Instructions for the Safe Operation and Use of the Pulse Oximeter

- Do not attempt to service the pulse oximeter. Only qualified service personnel should attempt any needed internal servicing.
- Do not use the oximeter in situations where alarms are required.
- Prolonged use or the user's condition may require changing the sensor site periodically. Change sensor site and check skin integrity, circulatory status and correct alignment every hour.
- SpO<sub>2</sub> measurements may be adversely affected in the presence of high ambient light. Shield the sensor area (with a towel, for example) if necessary.
- The following reasons will cause interference.
- High-frequency electrosurgical waves.
- The user has hypotension severe vasoconstriction severe anemia or hypothermia.
- The user is in cardiac arrest or is in shock.
- Fingernail polish or false fingernails may cause inaccurate SpO<sub>2</sub> readings.

### Warnings

**WARNING: EXPLOSION HAZARD** - Do not use the oximeter in a flammable atmosphere where concentrations of flammable materials may occur.

**WARNING:** Do not throw batteries in fire as this may causes them to explode.

**WARNING:** Do not use the pulse oximeter in an MRI or CT environment.

**CAUTION:** Keep the operating environment free of dust, vibrations, corrosive, or Flammable materials, and extremes of temperature and humidity.

**CAUTION:** Do not operate the unit if it is damp or wet because of condensation or spills. Avoid using the equipment immediately after moving it from a cold environment to a warm, humid location.

**WARNING:** Do not attempt to recharge normal dry-cell batteries, they may leak, and may cause a fire or even explode.

**CAUTION:** Never use sharp or pointed objects to operate the front-panel switches.

**CAUTION:** The battery must be taken out from the battery compartment if the device will not be used for a long time.

**CAUTION:** The device shall only be used if the battery cover is closed.

**CAUTION:** The battery must be proper disposed according to local regulation after their use.

### Definitions and Symbols

Symbol	Description	Symbol	Description
	Type BF Equipment		Information of manufacture, including name and address
	Refer to the instruction manual /booklet	—	When the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling
<b>SN</b>	Serial Number	<b>SpO<sub>2</sub></b>	No SpO <sub>2</sub> Alarm
<b>Warning</b>	The information you should know to protect users from possible injury	<b>Caution</b>	The information you should know to protect the equipment from possible damage
Note	Important information you should know		

### Brief Device Description

The KPO-1720 Pulse Oximeter, based on all digital technology, is intended for sports enthusiasts and aviation use only. It allows for noninvasive spot-check measurement of functional oxygen saturation of arterial hemoglobin (SpO<sub>2</sub>). Advanced DSP algorithm can diminish the influence of motion in the artifact and improve measurement accuracy of low perfusion.

The Oximeter can be used to measure human Hemoglobin Saturation and heart rate through finger.

### Intended Use

"oximeter, infrared, sporting, aviation Solely for use with sporting and aviation activities. Intended to monitor heart rate during exercise."

### Contraindication

It is not for intensive care and/or medical use

Not for use on injured fingers

### Product Features

- Lightweight for carrying and Easy-To-Use.
- Manually adjust the direction of the interface .
- LED display, simultaneous display for testing value and plethysmogram.
- Real-time spot-checks.
- Low Battery voltage indicator.
- Automatically standby or sleep

### Installation, Setup and Operation

#### Description of the Unit (Fig.1)

Item	Name	Description
1	LED Panel	Display the SPO <sub>2</sub> PR data & Bargraph
2	Button	Power On Start Measuring
3	Battery Compartment	2 AAA 1.5V Alkaline batteries



#### Description of the Display (Fig 2)

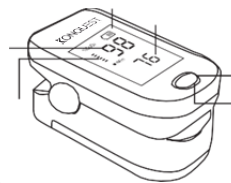


Fig 2. LED DISPLAY

#### Unit Operation

- Install Batteries - Insert two AAA batteries into battery compartment in the correct position and place battery cover (FIG.3)

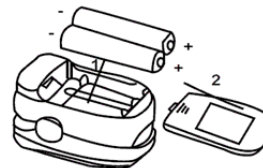


Fig 3

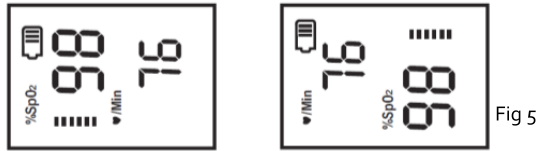



Fig 4

- Turn the Pulse Oximeter on
- Put one of the fingers into rubber hole of the oximeter (it is best to insert the fingers thoroughly) with nail surface upwards (Fig.4), then release the clamp.
- Press the button, the oximeter will start functioning.
- The oximeter will automatic standby or turn off after 16 seconds without fingers inserted.
- Read correspondent data from the LED display screen.

### Rotating LED display direction

The display interface of "LED" can rotate 180 degrees after pressing the button for less than 0.5 seconds. It is shown as below (Fig 4)



Note: when battery power is at lowest level, the battery capacity indicates symbol of  in LED, remind users of replacement of battery.

### Install Lanyard

Let the thin end of the rope go through the hole, next let the big point of rope go through the thin rope hole, then tighten the rope.

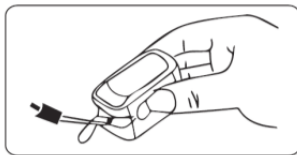


Fig 6  
Lanyard Installation

### Maintenance

#### Cleaning

Switch off the power and take out the batteries before cleaning  
Clean the exterior surface (screen included) of the unit with a dry and soft cloth. Use 75% density of medical alcohol to clean the surface and use dry fabric with little alcohol to avoid alcohol permeates into the device.

#### Disinfection

Disinfecting the machine after each use. Use 75% density of medical alcohol to clean the surface that has contact with the user.

**CAUTION:** Don't use strong solvent. For example, acetone.

**CAUTION:** Never use an abrasive such as steel wool or metal polish.

**CAUTION:** Do not allow any liquid into the product, and do not immerse any parts of the device into any liquids.

**CAUTION:** Avoid pouring liquids on the device while cleaning.

**CAUTION:** Don't remain any cleaning solution on the surface of the device.

### Warranty

The product design life is 2 years, and 1 year warranty. Under normal circumstances, malfunction of the product during the warranty period (from the date of purchase) the unit should be sent back to the company for maintenance, and our company is responsible for all maintenance costs (users should cover the freight themselves).

Outside the warranty period, our company shall charge a maintenance fee (users should cover the freight themselves) The battery is beyond the scope of the warranty. If you have the purchase and sale contract, the costs of the maintenance shall be in accordance with the purchase and sale contract execution. Besides, it is recommended that users should use them no more than five years. And over the using life, the using risks may increase due to the equipments age.

### General Maintenance

- Replace the batteries timely when battery indication is low. Clean surface of the Pulse Oximeter before it is used in diagnosis for users .
- Remove the batteries inside the battery cassette if the Oximeter will not be operated for a long time.
- It is better to preserve the product in a place where ambient temperature is -20 - 55°C and humidity is 10%-95%.
- Regular inspection to make sure that no obvious damage existed to affect the safety and performance of device.
- No flammable substance, overlap or lower temperature and humidity existed in operation conditions.

### Disposal

To avoid contaminating or infecting personnel, the environment or other equipment, make sure you disinfect or decontaminate the device appropriately before disposing of it in accordance with your country's law for equipment containing electrical and electronic parts.

### Troubleshooting

Problem	Possible Cause	Solution
Oxyhemoglobin or heart rate cannot be shown normally	Finger is not plugged in correctly.	Retry by plugging the finger
	User's perfusion is too low to be measured.	Try more times. If there is no issue with the unit and the problem persists, call your doctor immediately
Oxyhemoglobin or heart rate is shown unstably	Finger might not be inserted deep enough.	Retry by plugging the finger
	Finger is trembling or user's body is in movement.	Try not to move. Let the user keep calm.
The oximeter can't go into the working state	Power of batteries might be worn out or missing.	Please install new batteries.
	Batteries might be installed incorrectly.	Please reinstall the batteries
	The Oximeter might be damaged.	Please contact with local customer service center
The screen turned off	The product is automatically standby or sleep when no signal is detected longer than 16seconds.	Normal.
	Power quantity of the batteries is exhausted.	Replace the batteries.

### Specifications

#### Physical Characteristics

Machine Dimensions: 57mm (L) • 31mm (W) • 30.5mm (D)

Machine Weight -approx: 54 g (including 2 • AAA battery)

#### Classification

Anti-electric Shock Type: Internally powered equipment Anti-electric Shock

Degree: Type BF equipment

EMC: Group 1 Class B

Mode of operation: Continuous Operation

Enclosure Degree of ingress protection: IP22

- IP22 means shell of this product can withstand the water dropping to the surface when the shell deviates 15 degree from horizontal surface.

#### Power

Internal	2 AAA 1.5v alkaline battery
Power Consumption	30mA (Normal)

#### Environmental

Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 55°C
Relative Humidity:	15% to 85% non-condensing

#### Electronic Parameters

Parameter		Value
Hemoglobin saturation Display		35-100%
Pulse rate Display		25-250 BPM
Resolution	Hemoglobin Saturation	1%
	Pulse rate	1 BPM
Measurement Accuracy	Hemoglobin Saturation	2% (80% - 100%) 3% (70% - 80%) Unspecified (<70%)
	Pulse rate	2 BPM