

The MD300K3 Handheld Pulse Oximeter is handheld pulse oximeter which designed with measurement, storage, review and display of the SpO<sub>2</sub>% and pulse rate value, time, ID number, pulse bar and battery power status, alarm limits and the connection of probe, audible and visible alarms, information indication function, data transmission by USB cable or Bluetooth and printing function.

The pulse oximeters consist of SpO<sub>2</sub> module, CPU, data display module, memory module, clock power module, sound module, charging circuit, power supply module, bluetooth® module, and print module.

The power source is four \*AA alkaline batteries/ Ni-MH batteries/power adapter.

The oximeter is made up of SpO<sub>2</sub> sensor and LCD, SpO<sub>2</sub> module, data display module, memory module, bluetooth module, print module and power supply.

The Pulse oximetry works by applying a sensor to a pulsating arteriolar vascular bed. The sensor contains two LEDs and a photodetector. The one wavelength of LEDs is 660nm, which is red light; the other is 940nm, which is infrared light. Skin, bone, tissue, and venous vessels normally absorb a constant amount of light over time. The arteriolar bed normally pulsates and absorbs variable amounts of light during systole and diastole, as blood volume increases and decreases. The ratio of light absorbed at systole and diastole is translated into an oxygen saturation measurement. This measurement is referred to as SpO<sub>2</sub>.

The oximeter has two softwares, MD300K3 handheld pulse oximeter software and MedView-NP software. MD300K3 handheld pulse oximeter software is installed in the oximeter, and helps to realize the measure, display, data storage and upload, alarm function for SpO<sub>2</sub> and PR. The MedView-NP software is installed in the PC by user, and can display data, trend view, table view, has data storage and delete, date revision function, etc..

## **Intended use**

The MD300K3 series handheld pulse oximeter is a portable, non-invasive device intended for continuous monitoring, spot checking of functional arterial oxygen saturation(SpO<sub>2</sub>) and pulse rate of adult and pediatric patients in hospital and home care. The application site are fingers.

MCU sends the data needing uploading to Bluetooth at the transmission speed of 115200BPS. Bluetooth module packs data according to bluetooth protocol, and sends the data packet by Bluetooth RF circuit. Bluetooth adaptor receives the data packet and process it, then uploads to the PC. It can replay and scan the data by Medview software.