RESTECH
RESPIRATORY TECHNOLOGY

Tips&Tricks

February 2024 – rev0

RESMON First
THE FIRST MINI OSCILLOMETER

MEASURING SpO2 with the FIRST

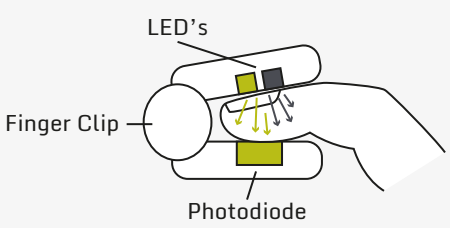
To measure oxygen saturation (SpO2%) and heart rate (HR), First utilizes an integrated pulse oximetry and heart rate monitor module specially designed and widely used for medical and fitness devices. Unlike traditional finger pulse oximeter sensors, this module employs a **LED reflective technology**, enabling small size and low energy consumption without compromising measurement accuracy.

Due to its reliance on the amount of light reflected by the finger, it is crucial to follow these "tricks" for finger positioning to ensure reliable and stable results:

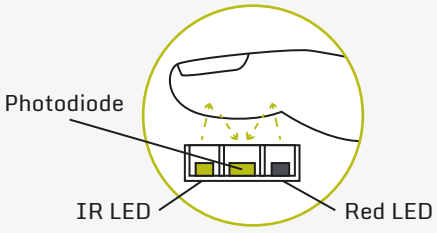
- Apply very delicate pressure with the thumb on the sensor, barely touching it, as if "caressing" it, avoiding any form of pushing.
- Place the thumb centrally, resting on the sensor, positioned on the softer and fleshier part of the finger.
- The sensor may take approximately 10 seconds to provide initial results.
- Once the both results of SpO2% and HR appear, wait a few seconds until the SpO2% readings stabilizes (it may take addional 5-10 secs). Then, remove the finger. These stable results will be stored and included in the final report. Pulse oximetry measurement is a "spot check".

ABOUT the sensor working principle:

There are two primary types of pulse oximeters: transmittance devices and reflectance devices. **Transmittance pulse oximeters**, which are the more common type, function by transmitting light through tissue, typically a fingertip or ear. As the light traverses the body part, the level of oxygen in the blood influences the extent to which light is absorbed by the tissue. A light sensor positioned on the opposite side of the probe detects the light that is not absorbed, and a microprocessor then computes the oxygen saturation in the blood based on this information. **Reflectance pulse oximeters**, on the other hand, are placed on the surface of the skin and gauge the light reflected off the tissues rather than passing it through.



Transmittance pulse oximeter



Reflectance pulse oximeter

Encourage adoption for better respiratory diagnosis

MAKE OSCILLOMETRY ROUTINE