

ABSTRACT

Pulse Oxymeter is a tool used to monitor the oxygen saturation state in the patient's blood and to assist the patient's physical assessment without going through a blood gas analysis. Pulse Oxymeter uses the wavelength difference from the red LED and infrared light captured by the photodiode.

The design of this measuring instrument using finger sensor, analog signal conditioning circuit, microcontroller and Graph LCD. Data from the finger sensor goes into the signal conditioning circuit, then sent to the microcontroller to be processed so as to produce a percentage of SpO₂ value which is then displayed on the Graph LCD.

Testing is done by comparing the module with standard gauge which gives the biggest %error 0,4%. From the results obtained, the tool is worthy of use because in the "Health Testing Guidance and Calibration Tool" DEPKES RI in 2001, the maximum limit in SpO₂ fault tolerance is 2%.

Keywords: Pulse Oxymeter, Oxygen Saturation, Finger Sensor