

Pulse Oximeter

Introduction

Pulse oximeter is a real time, non-invasive monitor of pulse rate (PR) and arterial oxygen saturation (SaO₂) that enables prompt recognition of hypoxemia in patients. It is standard of care in general anaesthetics and also find use in neonatal care units, operation theatres, post recovery & emergency wards in Hospitals and Health Care Centres. The device provides valuable data regarding blood oxygenation and this information is obtained easily, continuously and noninvasively.

Features

- Non-invasive and real time monitor.
- Alarm indications for probe disconnected, probe finger slip, SaO₂ and PR beyond range, Low battery.
- Beep on each pulse.
- Computer interface with real time trend facility and PC analysis software.

Specification

Measurement Range

- Oxygen Saturation (SaO₂) : 40-100%
- Pulse Rate (BPM) : 30-250 BPM

Accuracy

- Oxygen Saturation (SaO₂) : ± 2 Digits
- Pulse Rate (BPM) : ± 3 Digits

Resolution:

- Oxygen Saturation (SaO₂) : 1%
- Pulse Rate (BPM) : 1BPM

Display:

- Three digits red seven segment LED display for SaO₂ and PR.
- Ten segment bar graph LED display for pulse amplitude.

Sensor Compatibility:

- DS-100A : Nellcor Dura sensor for Adult
- Wavelength : 660nm (RED), 940nm (IR)



Users

- Doctors
- Hospitals and Health Care Centre environment.

Status

- The Pulse Oximeter was designed and developed with collaboration of SCL, Mohali and clinical trials were carried out at Deptt. of Anaesthesia, PGI, Chandigarh.
- Prototype was tested and calibrated by using BIO-TEK SpO₂ simulator in the whole range of SaO₂ and Pulse Rate.
- Clinical trials on patients carried out at Deptt. of Anaesthesia, PGI, Chandigarh. The results of the system were compared with DatexOhmeda System (at PGI) and found satisfactory as per our specifications.
- Technology of the instrument transferred to Rajasthan Electronic Instruments Ltd., Jaipur for commercialization.

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