



# SmartSat Product Description

## Overview

**SmartSat Pulse Oximetry Analyzer** is a state-of-the-art instrument designed to provide accurate and reliable performance. The following list presents some of the more salient features of the **SmartSat**.

- Standardized scientific procedure for electronically testing pulse oximeters.
- The first available Probe Analyzer for probe testing. The Probe Analyzer has two tests: The Probe Continuity Test and The Probe Sensitivity Test.
- Full featured SpO2 Simulator: Oxygen Saturation and Pulse Rate; Ambient Light; Pulse Modulation Simulation and user programmable Auto Sequences to automate common test procedures.
- Internal Battery allows testing in remote sites such as ICU, OR and other patient floors.
- 320 x 240 high resolution graphic display allows visualization of waveforms.



深圳为尔康科技有限公司 联系人：曾祥满 手机：13632925349

QQ：274798107 电话：0755-28896837 地址：深圳市龙岗区沙平北路111号6008

网址：www.medicalQC.com 邮箱：szchina1718@163.com

# Physical Description

The **SmartSat** Pulse Oximetry Analyzer is a microprocessor controlled patient simulator and probe analyzer housed in a compact (8 x 8 x 5 inch) and portable (6 pounds with battery) aluminum case. Performance and technical specifications are listed below.

## SpO2 Simulator

### Oxygen Saturation (SpO2)

- Range: 0-100%
- Resolution: 1%
- Accuracy:  $\pm 0.5\%$  from 70-100%  
 $\pm 1\%$  from 50-69%

### R-Curves

- Preset manufacturer's R-curves: BCI, Criticare, Criticare SPOT, Datascope, Datex, Hewlett-Packard, Masimo, Nellcor, Nihon Kohden, Nonin, Novamatrix, Ohmeda and Sensormedics(contact the factory for availability of others)

### Pulse Rate

- Range: 20-300 bpm
- Resolution: 1 bpm
- Accuracy:  $\pm 1$  from 20-199 bpm  
 $\pm 2$  from 200-300 bpm

### Pulse Modulation

- Range: 0.10-20% of nominal amplitude
- Resolution: 1%
- Accuracy:  $\pm 1\%$

## Probe Analyzer

### Probe Continuity Test

Simultaneous Channels:

- 2 for Nellcor style probes: LED & photodiode circuits
- 3 for Ohmeda style probes: Red LED, IR LED, and photodiode circuits

### Probe Connection

- Integral connectors for Nellcor & Ohmeda probes
- Adapters available for other manufacturer's probes



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## General

### Display

- Type: backlit graphics LCD (Liquid Crystal Display)
- Resolution: 320h X 240w, 0.36mm dot pitch
- Control: contrast adjustment

### Serial Interface

- Type: RS232C, 9 pin D-connector, DCE
- Baud Rate: 1200 bps for Remote Control
- Mode: Remote Control

### Printer Interface

- Type: Centronics type connector, 25 pin

### Battery

- Type: Nickel Metal Hydride (NimH)
- Voltage: 19.2V
- Capacity: 2.1 Amp-Hour (Approximately 5 to 6 Hours operating Time)
- Charge time: 18 Hours

### External Power Supply

- Type: Desk-mount linear
- Input: 120 VAC, 60Hz or 230 VAC, 50Hz or 100 VAC, 60 Hz
- output: 24VDC, 500mA, 6 foot cable
- Safety Agency Approvals: UL, CSA, CE, TUV

### Physical

- Case: Aluminum, non skid feet, carry handle
- Dimensions: 8" wide, 8" deep, 5" high
- Weight: 6 pounds (including battery)



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