



# SunTech<sup>®</sup> CT50<sup>™</sup>

VITAL SIGNS MONITOR



**Vital Signs Monitor**  
with BP, Temperature and SpO<sub>2</sub>

## SunTech CT50

The CT50 vital signs monitor easily provides reliable blood pressure (BP), SpO<sub>2</sub>, and temperature measurements for neonatal, pediatric, and adult patients. Intervals can be set to automatically take BP readings, and clinical alarms can be programmed for each parameter. The CT50 uses SunTech's trusted Advantage™ BP technology, and offers industry-leading Masimo SET® pulse oximetry, as well as Covidien Filac 3000 temperature. Innovative features such as BP averaging and HL7 messaging are included. The intuitive, touch-screen interface provides users all of the necessary features for reviewing, analyzing, and transferring vital signs data.

**Reliable:** Uses SunTech Advantage™ BP, the market-leading clinical-grade automated BP technology, optional Covidien FILAC 3000 Digital Thermometry, and optional Masimo SET Pulse Oximetry.

**Accurate:** Averaging Mode allows clinicians to automate the process of taking and averaging multiple office BP measurements. This process has been shown to improve the quality and accuracy of office BP measurements while reducing or eliminating white coat response.<sup>1-3</sup>

**Connected:** Connects to a network via ethernet or optional WiFi. Uses industry standard HL7 IHE profiles to facilitate communication of patient information and measurement data with the EMR. Built-in memory can store over 1000 patients and 5000 measurement events.

**Flexible:** Portable design with a rechargeable lithium-ion battery capable of over 8 hours of continuous operation<sup>4</sup>.

**Easy to Use:** Intuitive user interface with simple icons and clear LCD touch-screen display.

### Accessories

- Deluxe Mobile Stand: High quality, hospital-grade mobile stand with basket and lockable, anti-static casters.
- Barcode Scanner: For easily scanning patient information into the CT50.
- USB WiFi Dongle: For wireless networking and mobility.

<sup>1</sup>Beckett L, Godwin M. The BpTRU automatic blood pressure monitor compared to 24-h ambulatory blood pressure in patients with hypertension. BMC Cardiovasc Disord. 2005;5:18.

<sup>2</sup>Myers MG. Automated blood pressure measurement in routine clinical practice. Blood Press Monit. 2006;11:59–62.

<sup>3</sup>Myers MG, Valdivieso M, Kiss A. Use of automated office blood pressure measurement to reduce the white coat response. J Hypertens. 2009;27:280–286.

<sup>4</sup>New, fully-charged battery at 25°C ambient temperature, using continuous SpO<sub>2</sub> NIBP on AUTO mode for 15 minute intervals, and taking digital temperature measurement every 15 minutes.



# Technical Specifications

## Environmental Specifications

Operating temperature	+5°C to +40°C
Operating humidity	15% to 85% (non condensing)
Transportation and storage temperature	-20°C to +55°C
Transportation and storage humidity	10% to 93% (non condensing)

## Physical Specifications

Size (WxHxD)	314mm × 132mm × 239mm
Weight (Includes lithium battery, with no accessories)	<4kg

## Power Specifications

Input voltage	100V-240V AC
Frequency	50Hz/60Hz
Input current	0.7A-1.5A

## Hardware Specifications

### Display

Type	Color TFT LCD Touch Screen
Size (diagonal)	8 inches
Resolution	800 × 600 pixels

### Printer

Type	Thermal dot array
Horizontal resolution	16 dots/mm (at 25 mm/s paper speed)
Vertical resolution	8 dots/mm
Paper width	48 mm
Recording speed	12.5 mm/s, 25 mm/s, 50 mm/s
Recording modes	Real-time recording, periodic recording, alarm recording

### Battery

Type	Rechargeable lithium ion
Size	200mm×57mm×24mm
Weight	< 360 g
Rated voltage	10.8 VDC
Capacity	6600 mAh
Operating time*	> 8 hours
Charge time	6h to 100%(while powered off)

\*One new and fully charged battery at 25° ambient temperature, with NIBP in AUTO mode set for 15 minute interval, continuous BP, and taking manual Temp every 15 minutes.



## Connectors

Power	1 x AC power inlet
Wired network	1 x RJ45 interface (10-100 BASE-TX, IEEE 802.3)
USB	4 x USB
Equipotential ground	1
Nurse call	1 x RJ11 interface
DC output	1 x 15V/1.2A

## Data Storage

Number of Patients	>1,000
Measurement Events	>5,000
Alarm Events	>100,000
Log Events	>10,000

## Limited Warranty

SunTech Medical, Inc. provides to the original purchaser the following limited warranty from date of invoice:

Main unit, SpO <sub>2</sub> modules, temp modules:	2 years
OPD Blood Pressure Cuffs:	2 years
Accessories (SpO <sub>2</sub> sensors, temp probes, BP hose, etc):	90 days

# Measurement Specifications

## SunTech Advantage NIBP

Measurement Range	
Adult	SYS 40~260 mmHg DIA 20~200 mmHg
Child	SYS 40~160 mmHg DIA 20~160 mmHg
Neonate	SYS 40~130 mmHg DIA 20~100 mmHg
Pressure Accuracy	±3 mmHg over full range in operating conditions
Unit of Measure	mmHg, kPa
Recovery Time	
After Defibrillation	<5s
Pulse Rate Range	30 ~ 220 bpm
Pulse Rate Accuracy	± 2% or ± 3 bpm, whichever is greater
Intervals for AUTO	
Measurement	5min to 240min
Measurement Modes	
Adult	Manual, AUTO, STAT, Average
Child	Manual, AUTO, STAT, Average
Neonatal	Manual, AUTO

## Pulse Oximetry (SpO<sub>2</sub>) - Masimo SET

### SpO<sub>2</sub>

Measurement Range	0% to 100%
Resolution	1%
Accuracy	70% to 100%: ±2% (adult/pediatric, non-motion conditions) 70% to 100%: ±3% (neonate, non-motion conditions) 70% to 100%: ±3% (motion conditions) 0% to 69%: unspecified

Note : The Masimo SPO<sub>2</sub> sensor for adult/pediatric/ neonate has been validated for motion accuracy in human blood studies on healthy adult volunteers in induced hypoxia studies while performing rubbing and tapping motions at 2 to 4 Hz at an amplitude of 1 to 2 cm and a non-repetitive motion between 1 to 5 Hz at an amplitude of 2 to 3 cm in induced hypoxia studies in the range of 70-100% SPO<sub>2</sub> against a laboratory co-oximeter and ECG monitor. 1% has been added to the results to account for the effect of fetal hemoglobin. This variation equals plus or minus one standard deviation. Plus or minus one standard deviation encompasses 68% of the population.

Average Time	2-4s, 4-6s, 8s, 10s, 12s, 14s, 16s
Update Period	<30s
Recovery Time After Defibrillation	<5s

### Pulse Rate

Measurement Range	25 bpm to 240 bpm
Accuracy	±3 bpm (non-motion conditions) ±5 bpm (motion conditions)
Resolution	1 bpm

### Perfusion Index

Measurement range	0.05% to 20%
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## Pulse Oximetry (SpO<sub>2</sub>) - Generic

### SpO<sub>2</sub>

Measurement Range	0% to 100%
Resolution	1%
Accuracy	70% to 100%: ±2% 40~69% : ± 3% 0% to 39%: unspecified
Alarm Range	0% to 100%, high/low limit can be adjusted continuously
Average Time	Normal: 8s, Slow: 16s, Fast: 4s
Update Period	<30s
Recovery Time	
After Defibrillation	<5s

### Pulse Rate

Measurement Range	20bpm to 250 bpm
Resolution	1 bpm
Accuracy	±1% or ±1 bpm, whichever is greater

## Covidien Filac 3000 Thermometer

Measurement Range	30.0°C - 43.0°C
Measurement Site	Oral, Axillary, Rectal
Measurement Modes	Direct Mode (all sites, direct measurement), Standard Mode (Axillary/Rectal, calculated), Quick Mode (Oral, calculated)
Unit of Measure	°C, °F
Resolution	0.1°C/ °F
Accuracy	Quick Mode (Oral): ± 0.3°C
Standard Mode	(Axillary/Rectal): ± 0.1°C
Direct Mode	± 0.1°C
Measurement Time	Quick Mode (Oral): 6s - 10s
Standard Mode	(Axillary) 10s - 14s, (Rectal) 14s - 18s
Direct Mode (All Sites)	60s - 120s



With more than 30 years dedicated to developing our world-class blood pressure technology, we are confident that we don't miss a beat - so you won't either. It's our legacy. It's SunTech Medical. **It's The Difference In Clinical Grade.**



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## SunTech CT50 Part Numbers

### CT50 Monitor Configurations\*

99-0130-02	SunTech CT50, BP, Masimo SpO <sub>2</sub> (includes Masimo M-LNCS DCI Adult SpO <sub>2</sub> Reusable Sensor 2501, and SpO <sub>2</sub> Adapter Cable)
99-0130-03	SunTech CT50, BP, Masimo SpO <sub>2</sub> , Printer (includes Masimo M-LNCS DCI Adult SpO <sub>2</sub> Reusable Sensor 2501, SpO <sub>2</sub> Adapter Cable, 1 roll thermal paper)
99-0130-06	SunTech CT50, BP, Nellcor Comp. SpO <sub>2</sub> (includes Nellcor compatible Adult SpO <sub>2</sub> Reusable Sensor, and SpO <sub>2</sub> Adapter Cable)
99-0130-07	SunTech CT50, BP, Nellcor Comp. SpO <sub>2</sub> , Printer (includes Nellcor compatible Adult SpO <sub>2</sub> Reusable Sensor, and SpO <sub>2</sub> Adapter Cable, 1 roll thermal paper)
99-0130-10	SunTech CT50, BP, Masimo SpO <sub>2</sub> , Temp (includes Masimo M-LNCS DCI Adult SpO <sub>2</sub> Reusable Sensor 2501, SpO <sub>2</sub> Adapter Cable, Reusable Oral Temp Probe, Box 20 probe covers)
99-0130-11	SunTech CT50, BP, Masimo SpO <sub>2</sub> , Temp (includes Masimo M-LNCS DCI Adult SpO <sub>2</sub> Reusable Sensor 2501, SpO <sub>2</sub> Adapter Cable, Reusable Oral Temp Probe, Box 20 probe covers, 1 roll thermal paper)
99-0130-14	SunTech CT50, BP, Nellcor SpO <sub>2</sub> , Temp (includes Nellcor-compatible Adult SpO <sub>2</sub> Reusable Sensor, SpO <sub>2</sub> Adapter Cable, Reusable Oral Temp Probe, Box 20 probe covers)
99-0130-15	SunTech CT50, BP, Nellcor Comp. SpO <sub>2</sub> , Temp, Printer (includes Nellcor-compatible Adult SpO <sub>2</sub> Reusable Sensor, SpO <sub>2</sub> Adapter Cable, Reusable Oral Temp Probe, Box 20 probe covers), 1 roll thermal paper)

\*All systems include 10'/3m BP Patient Hose, Battery, Quick Start Guide, Adult Plus OPD Cuff, Large Adult Plus OPD Cuff

### Masimo SET SpO<sub>2</sub> Accessories

Masimo M-LNC-10 SpO <sub>2</sub> Patient Cable 10'/3.0m, 2525	Contact Masimo for price and availability
Masimo M-LNCS DCI Adult SpO <sub>2</sub> Reusable Sensor, 2501	Contact Masimo for price and availability

### Nellcor™-Compatible SpO<sub>2</sub> Accessories

52-0014-00	CT50 Reusable SpO <sub>2</sub> Pediatric Finger Sensor
52-0014-01	CT50 Reusable SpO <sub>2</sub> Neonatal Finger Sensor
52-0014-02	CT50 SpO <sub>2</sub> Extension Cable
52-0014-03	CT50 Reusable Adult SpO <sub>2</sub> Finger Sensor

## **Covidien Filac 3000 Temperature Accessories**

- 52-0009-00 F3000 Oral/Axillary Temp Probe, 9'
- 52-0009-01 F3000 Rectal Temp Probe, 9'
- 98-0131-01 F3000 Disposable Temp Probe Covers (Qty 500)
- 98-0130-01 F3000 Disposable Temp Probe Covers (Qty 5000)

## **Blood Pressure Cuffs (Each)**

- 98-0599-41 OPD Child (12-19cm) BP Cuff, Bayonet
- 98-0599-43 OPD Small Adult (17-25cm) BP Cuff, Bayonet
- 98-0599-45 OPD Adult (23-33cm) BP Cuff, Bayonet
- 98-0599-4A OPD Adult Plus (28-40cm) BP Cuff, Bayonet
- 98-0599-47 OPD Large Adult (31-40cm) BP Cuff, Bayonet
- 98-0599-4C OPD Large Adult Plus (40-55cm) BP Cuff, Bayonet

## **Blood Pressure Cuffs (Box of 5)**

- 98-0600-41 OPD Child (12-19cm) BP Cuff, Bayonet
- 98-0600-43 OPD Small Adult (17-25cm) BP Cuff, Bayonet
- 98-0600-45 OPD Adult (23-33cm) BP Cuff, Bayonet
- 98-0600-4A OPD Adult Plus (28-40cm) BP Cuff, Bayonet
- 98-0600-47 OPD Large Adult (31-40cm) BP Cuff, Bayonet
- 98-0600-4C OPD Large Adult Plus (40-55cm) BP Cuff, Bayonet

## **CT50 Accessories**

- 46-0040-00 Deluxe Mobile Stand
- 45-0005-00 CT40/50 WiFi Dual Band USB Dongle
- 91-0028-16 10'/3.0m Patient BP Hose, Bayonet to Bayonet
- 91-0003-00 AC Power Cord, Americas
- 91-0003-05 AC Power Cord, Europe
- 91-0003-06 AC Power Cord, UK
- 98-0900-02 CT50 Rechargeable Lithium Ion Battery
- 99-0184-00 CT50 Barcode Scanner
- 52-0029-00 Printer Paper