



# Oxitest Plus 7

Pulse Oximeter Tester



Oxitest Plus 7 features the exclusive Nellcor-Puritan Bennett sensor port, developed in cooperation with Nellcor®. This exclusive feature allows correct selection of the instrument's simulation output to the specific R-Cal value of the attached Nellcor® probe.

The front panel keyboard design makes adjustment of the five preset oxygen saturation levels, six preset heart rates and four preset amplitudes a breeze. In addition, features such as Signal Artifact simulations, preset patient parameters, Alarm Testing and Report printing make Oxitest Plus 7 truly unique.

*A great combination for all your SpO<sub>2</sub> testing!*

Sensitest provides tests for all types of SpO<sub>2</sub> probes in the biomedical or clinical environment.



MODE 1 Tests:  
Continuity checks for the red LED, the infrared LED, and the photodiode circuits.



MODE 2 Tests:  
Measures and displays the photodiode's response to red and infrared LED's.



# Sensitest

SpO<sub>2</sub> Sensor Tester

# Oxitest Plus 7

**Saturation (SpO<sub>2</sub>):** Five clinically important presets: 97%, 93%, 90%, 80%, and 70% for all supported oximeters, plus 55% SpO<sub>2</sub> preset available when testing Masimo, Nellcor and Nellcor OEM oximeters (e.g. Critikon Dinamap, Protocol PROPAQ).

**SpO<sub>2</sub> Accuracy:** All supported oximeters except Datex and Invivo oximeters:

±1% @ 97, 93, 90, 80, 70% SpO<sub>2</sub>

Datex, Invivo oximeters: ±1% @ 97, 93% SpO<sub>2</sub>

±2% @ 90, 80, 70% SpO<sub>2</sub>

Masimo, Nellcor and Nellcor OEMs only: ±1% @ 55% SpO<sub>2</sub>

**Nellcor accuracy specified with either DS100A sensor, or with SpO<sub>2</sub> calibration selected via Nellcor Port.**

**Heart Rate:** Variable from 20 to 250 BPM in 1 BPM steps

Presets: 30, 60, 90, 120, 180, 240 BPM, Accuracy: ± 1 BPM

**Pulse Amplitude:** Variable from zero (no blood flow) to 100% (normal adult pulse) in 1% steps.

Presets: 100%, 30%, 10%, and 5%, Accuracy: ± 1%

**Signal Artifact:** Four preset simulations:

Movement

Tapping (Spike artifact)

Shivering (Tremor artifact)

Shake Table (2.5Hz Sinewave)

**Auto Presets:** Nine preset patient simulations. Default Auto Presets:

Normal Adult      Hypoxia      Movement Artifact

Tachycardia      Bradycardia      Neonatal

Low Perfusion      No Perfusion      Tremor (Shivering Artifact)

Auto Preset parameters may be user-programmed via the RS-232 port.

**Alarm Tests:** Five automated test sequences for determining oximeter alarm response time to Low SpO<sub>2</sub>; Low Heart Rate; High Heart Rate; Low Perfusion; and Motion Artifact conditions.

Also determines time required for oximeter alarm to self-clear after test conditions are returned to normal.

Alarm Test parameters may be user-programmed via the RS-232 port.

**Approvals:** CSA / UL, CE (EN55022:1994 Class B; EN61000-4-3 Level A; IEC 801-2 Level B; IEC801-4 Level B; EN61010-1; IEC 1010-1)



8000-080 120V, North America  
8000-081 230V, United Kingdom  
8000-082 230V, EU  
8000-083 230V, Germany

**Memory:** Auto Preset and Alarm Test results saved in battery-backed, non-volatile Memory, along with up to 20 PASS/FAIL records from manually-conducted tests. Test results in Memory may be printed as a Test Report via optional external Printer, or may be downloaded via RS-232 port to personal computer or automated tester.

**User Interface:** Display: LCD - 20 character x 2 line

Keypad - 15 keys: PULSE OX, SPO<sub>2</sub> (%), HEART RATE (preset),

HRP, HRQ, PULSE AMP (preset), PULP, PULQ, PASS, FAIL, AUTO (preset), ALARM TEST, START/STOP (alarm test), ERASE (memory), PRINT

**Nellcor Port:** Allows temporary connection of Nellcor pulse oximeter sensors for selection of sensor-specific SpO<sub>2</sub> calibration curve. Intended for high-accuracy testing of all Nellcor disposable and re-usable sensors.

**Serial / Printer:** Mechanical: 5 Pin MiniDIN / Electrical: Bi-directional RS-232. 9600 baud, 8-N-1

**Power Supply:** Battery: 7.2V NiCad rechargeable. Capacity: 1.4 Ah, Battery life: 40 hours continuous

**Standard Accessories:** Power Adapter (Region-specific)

**Optional Accessories:** Printer/PC interface cable (RS-232) to:

DB25 Connector (PN: 7100-196)

DB9 Connector (PN: 7100-248)

Citizen iDP-3110 Serial Dot Matrix Printer - 40 character (PN: 7050-055)

**Dimensions:** 5.12 in x 7.75 in x 1.5 in (13 cm x 19.68 cm x 3.8 cm)

**Weight:** 1.93 lbs (875g)

**Environment:** 15°C to 40°C, 10% to 90% RH, Indoor Use Only, Category II

## Sensitest



8000-060 SENSITEST  
8000-062 SENSITEST Expansion Box

### Fault Conditions Displayed:

OPEN RED LED, INFRARED LED or PHOTODIODE LED or PHOTODIODE SHORT to ground or shield LED SHORT to PHOTODIODE

Nellcor and Ohmeda connectors Standard

**Options:** Up to 3 sensor connectors can be added to the enclosure (total 5) from:  
- Datex, Hewlett Packard, Novamatrix, Spacelabs, Invivo, Datascope, Criticare, Critikon, Sensormedics, PhysioControl, Simed and Nihon Koden

Easily upgraded infield optional expansion box for up to six additional connectors

Power: Less than 5 mA current consumption

9V battery life exceeds 100 hours

Fast and easy for anyone to use to check cable sensors before or after repair, Sensitest avoids use of adapter cables in most applications.

**Dimensions:** 7 in x 5 in x 2 in (18 cm x 13 cm x 5 cm)

**Weight:** 0.88 lbs (0.4 kg)



# SUPPORTED PULSEOXIMETERS

Oxitest Plus 7 supports most major makes and models of Pulse Oximeters. The following table lists the current supported Oximeters and Sensors. We will occasionally add to this list as new oximeters are introduced.

As oximeters are added to the **Oxitest Plus 7** menu by firmware upgrade, the reference number may change. Be sure to check the number of any oximeter following a new software release, and update any software programs, as necessary. The numbers given below are for example only, and may not be representative of the current software version.

<b>Ref. No.:</b>	<b>Oximeter:</b>	<b>Sensor:</b>
1	Alaris/IVAC	Criticare 511,934
2	BCI 3300, 3301, 3304	BCI
3	BCI 3300, 3301, 3304	Non-OEM
4	BCI 3302	BCI
5	BCI 3302	Non-OEM
6	BCI 9100	BCI
7	BCI 9100	Non-OEM
8	Criticare 503	Criticare 511,934
9	Criticare 504 US	Criticare 511,934
10	Criticare 506 DXN	Criticare 511,934
11	Criticare 507 O	Criticare 511,934
12	Criticare Scholar II	Criticare 511,934
13	Datascope Passport XG	Datascope
14	Datex AS/3 M-ESTPR	Datex SAS-F4
15	Datex Cardiocap II	Datex SAS-F4
16	Datex OSCAR II/'OXY'	Datex SAS-F4
17	Datex Satlite Trans	Datex SAS-F4
18	Datex Capnomac Ultima	Datex SAS-F4
19	Datex-Ohmeda 3900	Datex-Ohm OxyTip+
20	Datex-Ohmeda TrueSat	Datex-Ohm OxyTip+
21	Datex-Ohmeda TuffSat	Datex-Ohm OxyTip+
22	Dinamap Plus 9710	Nellcor
23	Dinamap PRO 300, 400	Nellcor
24	Dinamap PRO 300 V2	Nellcor
25	EnviteC OEM Module	EnviteC
26	GE Med Dash 4000-V1	Nellcor
27	GE Med Dash 4000-V2	Nellcor
28	hp M1350B Fetal Monitor	hp M1190A
29	hp M1350B Fetal Monitor	hp M1191A, 93A
30	hp M1350B Fetal Monitor	Nellcor DS-100A
31	hp 78352/354, 78834C	hp M1190A
32	hp 78352/354, 78834C	Nellcor DS-100A
33	hp Merlin M1020A (T)	hp M1190A
34	hp Merlin M1020A (T)	hp M1191A, M1193A
35	hp Merlin M1020A (T)	Nellcor DS-100A
36	hp CodeMaster XL+	hp M1190A
37	hp CodeMaster XL+	Nellcor DS-100A

38	hp Viridia M3000	hp M1191A, M1193A
39	hp Viridia M3000	Nellcor DS-100A
40	Invivo Research 4500	Invivo OxiClip
41	Invivo Research 4500	Invivo OxiWrap
42	Invivo Research 4500	Nellcor DS-100A
43	Invivo Res. 4500 MRI	Fibre Optic
44	Kontron 7278 module	Nellcor
45	Marquette Eagle 3100	Nellcor
46	Marquette TRAM-200A	Ohmeda
47	Masimo OEM Module	Masimo
48	MDE Escort E100	Nellcor
49	Mennen Horizon,Mercury	Nellcor
50	Minolta PULSOX-3	Minolta
51	Minolta PULSOX-7	Minolta SP-7
52	Nellcor N-20, N-20P	Nellcor
53	Nellcor NPB-40	Nellcor
54	Nellcor N-180	Nellcor
55	Nellcor N-200, N-100C	Nellcor
56	Nellcor NPB-295 Ver. A	Nellcor
57	Nellcor NPB-295 Ver. B	Nellcor
58	Nellcor N-395	Nellcor
59	Nellcor N-595	Nellcor
60	Nellcor N-1000,N-2500	Nellcor
61	Nellcor N-3000	Nellcor
62	Nellcor OEM module	Nellcor
63	Nihon Kohden AL-800PA	N.K. TL-101S
64	Nihon Kohden BSM-2101	N.K. TL-101S
65	Nihon Kohden Oxypal	N.K. TL-201T
66	Nonin IPOD,XPOD,OEM	Nonin
67	Nonin XPOD, OEM Module	Non-OEM
68	Nonin 8500,8600,ONYX	Nonin
69	Nonin 8500, 8600	Non-OEM
70	Nonin 8800 Cardioresp	Nonin
71	Nonin 8800 Cardioresp	Non-OEM
72	Novametrix 510, 520A	Super Bright
73	Ohmeda 3700 Rev. 'M'	Ohmeda
74	Ohmeda 3700 Rev. 'P'+	Ohmeda
75	Ohmeda 3740	Ohmeda
76	Ohmeda 3800	Ohmeda
77	Ohmeda OEM module	Ohmeda
78	Palco Labs 340	Palco 020-100
79	Philips M3001A Module	hp M1191A, M1193A
80	Philips M3001A Module	Nellcor DS-100A
81	Physio Control 1600	Physio
82	Protocol Syst PROPAQ	Nellcor
83	Siemens MicrO2	Nellcor
84	SiMED S-100e	SiMED 600333
85	SpaceLabs 90343 XMTR	Nellcor DS-100A

86	SpaceLabs 90351	Super Bright
87	SpaceLabs 90351	Nellcor DS-100A
88	SpaceLabs 90419-01	Super Bright
89	SpaceLabs 90465/6/7	Super Bright
90	SpaceLabs 90465/6/7	Nellcor DS-100A
91	SpaceLabs 90496	SuperBright
92	SpaceLabs 90496	Nellcor DS-100A
93	WAVE Japan Pulse One	PMP-100A
94	Welch Allyn 52000	Nellcor