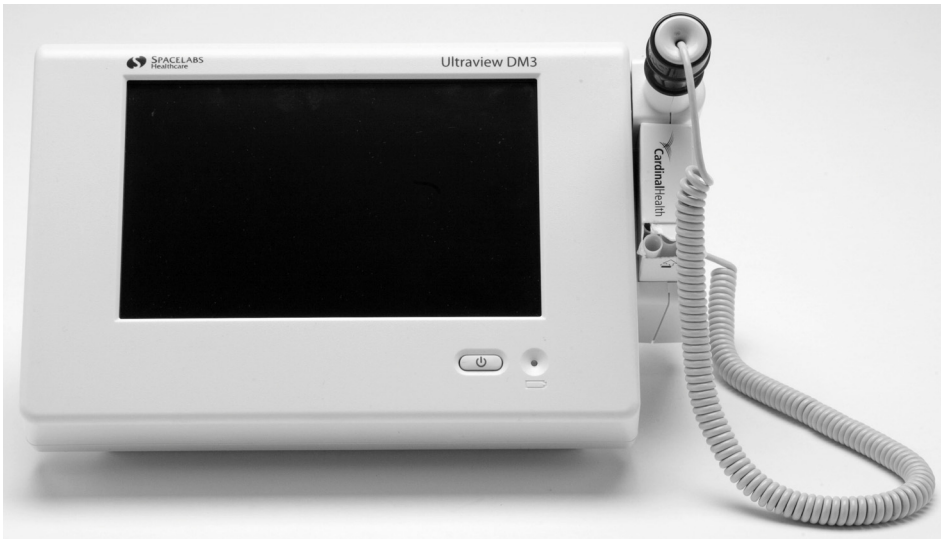

Summary

The 91330 Ultraview® DM3 monitor is a lightweight, compact dual-mode monitor with a 17.78 cm (7-inch) touchscreen display. Designed for bedside and portable usage, it monitors pulse oximetry (SpO_2), pulse rate, noninvasive blood pressure (NIBP), and temperature.

In spot-check mode, the Ultraview DM3 monitor functions as an adjunct to the clinical staff for collection and documentation of vital sign data on multiple patients. In monitoring mode, the Ultraview DM3 monitor provides real-time patient monitoring and alarm notification.

Intended Use

The Ultraview DM3 monitor is intended for monitoring, recording, and alarming basic vital signs on adult and pediatric patients. Monitored parameters include SpO_2, pulse rate, NIBP, and temperature. Manually entered parameters include respiration rate and temperature.

Features

Product Configurations	
91330-S	NIBP and Spacelabs Healthcare SpO_2 technology
91330-ST	NIBP, Spacelabs Healthcare SpO_2 technology, and predictive oral/axillary Temperature
91330-M	NIBP and Masimo SET SpO_2 technology
91330-MT	NIBP, Masimo SET SpO_2 technology and predictive oral/axillary Temperature
91330-N	NIBP and Nellcor OxiMax SpO_2 technology
91330-NT	NIBP, Nellcor OxiMax SpO_2 technology and predictive oral/axillary Temperature
Operating Modes	Spot-check (SPOT) and monitoring (MON)
Respiration Tap Pad (SPOT mode)	Automatic calculation of breaths per minute (BPM) based on user entry of detected respirations over 15 seconds

Patient Modifiers	
(SPOT Mode)	Supports manual entry of supplemental patient data: Caregiver ID Pain Level — 0 to 10 Patient Position — Supine, Sitting, Standing, Not Applicable Site Check — Within Normal Limits; Warm Dry, Intact; Other; Not Applicable
Trends	
SPOT Mode	Stores up to 1,000 patient records
MON Mode	Stores up to 72 hours of tabular trends
User Interface	All controls are on screen touch keys, with the exception of the power (ON/OFF) key
Display	Color thin film transistor (TFT) resistive touchscreen active matrix widescreen liquid crystal display (LCD)
Size	17.78 cm (7.0 inches) diagonal
Resolution	800 × 480 pixels
Connectors	
USB	Supports barcode scanning, transfer of settings through a memory stick (3GB or less), and software updates
Ethernet	Allows patient data transmission (wired or wireless using DM3 Wireless Adapter) for viewing in ICS G2 Clinical Access Trends or in a hospital EMR through the ICS HL7 interface (Requires DM3 version 1.5 or newer and ICS G2 version 4.02.02 or newer).
Recorder	Supports use of the DM3 external 2-channel strip chart recorder.
Network Communication	10/100 Base T modular connector (RJ45) provided. Wireless network communication through the Wireless Adapter Kit. Supports transmission of vitals to an EMR through the ICS HL7 interface (minimum software version requirements: DM3 version 1.5 or newer/ICS G2 version 4.02.02 or newer).
Dimensions	
Width	25.4 cm (10 inches)
Height	15.2 cm (6 inches)
Depth	15 cm (5.9 inches)
Weight	1.81 kg (4 pounds)

Printing

Strip Chart Recorder	50 mm external strip chart recorder (P/N 010-1852-xx)
Printing Method	Thermal array print head
Paper	Heat-sensitive roll of paper, 50 mm wide
Prints	Alarm recordings, SPOT vital signs data, and trends
Record	Spot check parameter snapshot, alarm condition report, trends report

Product Specifications

Refer to the parameter section for the corresponding specifications.

Spacelabs Healthcare SpO_2 (Option S)

Measurement Method	Functional saturation (oxygen saturation of arterial hemoglobin)
Measurement Range	
O_2 Saturation	20% to 100%
Pulse Rate	30 to 250 bpm
Measurement Accuracy	
O_2 Saturation	From 70% to 100%: ±2% Below 70%: unspecified
Pulse Rate	±3 bpm
Numeric Update	Every second
Alarm Limits	
O2 Saturation	High — 51% to 100% Low — 50% to 99%
Pulse Rate	High — 35 to 240 bpm Low — 30 to 235 bpm
SpO2 Limit Alarm Delay	Off, 5, 10, 15 seconds
TruLink® Sensors	Operate at or near 660 nm and 880 nm; total radiated optical power from 500 to 1,000 nm does not exceed 15 mW

Masimo SET SpO_2 (Option M)

Measurement Method	Functional saturation (oxygen saturation of arterial hemoglobin)
Measurement Range	
O_2 Saturation	1% to 100%
Pulse Rate	25 to 240 bpm

Masimo SET SpO_2 Measurement Accuracy (A_{rms})

These sensors have been clinically validated by Masimo against the Masimo MS-2011 oximetry board.

Masimo SET SpO2 Sensor Models	Saturation Accuracy 70 to 100%	
	No Motion	Low Perfusion†
LNCS Reusable Sensors		
LNCS DC-I	±2%	±2%
LNCS DC-IP	±2%	±2%
LNCS TC-I	±3.5%	±3.5%
LNCS TF-I	±2%	±2%
LNCS Adhesive Sensors		
LNCS Adtx	±2%	±2%
LNCS Pdtx	±2%	±2%
LNOP Reusable Sensors		
LNOP DC-I*	±2%	±2%
LNOP DC-IP*	±2%	±2%
LNOP Y-I*	±2%	N/A
LNOP TC-I**	±3.5%	±3.5%
LNOP DC-195*	±2%	±2%
LNOP TF-I**	±2%	±2%
LNOP Adhesive Sensors		
LNOP Adt*	±2%	±2%
LNOP Pdt*	±2%	±2%
LNOP Inf-L*	±2%	±2%
LNOP Adtx	±2%	±2%
LNOP Pdtx	±2%	±2%

* *The accuracy specification under motion conditions is ±3%. Motion is defined as continuous rubbing and tapping motions at 2 to 4 Hz, at an amplitude of 1 to 2 cm, and continuous random frequency motion between 1 to 5 Hz, at an amplitude of 2 to 3 cm.*

** *These sensors were not validated under motion conditions.*

† *Pulse amplitude >0.2%; % transmission >5% (LNOP Y-I sensor was not validated for low perfusion).*

Pulse Rate	
Low Perfusion	±3 bpm
No Motion	±3 bpm
Motion	±5 bpm
Alarm Limits	
O_2 Saturation	High — 51% to 100% Low — 50% to 99%
Pulse Rate	High — 35 to 240 bpm Low — 30 to 235 bpm
Numeric Update	Every second
SpO_2 Limit Alarm Delay	Off, 5, 10, 15 seconds
Masimo Sensors	Operate at or near 660 nm and 905 nm Total radiated power from 500 nm to 1,000 nm does not exceed 0.79 mW
No Implied License	Possession or purchase of this device does not convey any express or implied license to use the device with unauthorized sensors or cables that would alone, or in combination with this device, fall within the scope of the Masimo patent rights.
Patents	This device is covered under one or more of the following U.S.A. patents: 5,758,644, 5,823,950, 6,011,986, 6,157,850, 6,263,222, 6,501,975 and other applicable patents listed at *http://www.masimo.com/patents.htm*

Nellcor OxiMax SpO_2 (Option N)

Measurement Method	Functional saturation (oxygen saturation of arterial hemoglobin)
Measurement Range	
O_2 Saturation	1% to 100%
Pulse Rate	25 to 300 bpm

Nellcor OxiMax SpO_2 Measurement Accuracy (A_{rms})

These sensors have been clinically validated by Nellcor using the Nellcor NELL-1 oximetry board.

Nellcor OxiMax SpO2 Sensor Models	Saturation Accuracy 70 to 100%
OxiMax Sensor Models, Single Patient Use	
MAX-A* MAX-AL*	±2%
MAX-N* † (Adult)	±2%
MAX-P*	±2%
MAX-I*	±2%
MAX-FAST	±2%
MAX-R**	±3.5%
OxiCliq Sensor Models, Single Patient Use	
OxiCliq A	±2.5%
OxiCliq P	±2.5%
OxiCliq N † (Adult)	±2.5%
OxiCliq I	±2.5%
Reusable Sensor Models	
D-YS (Adult)	±3%
D-YS and D-YSE	±3.5%
DS-100A	±3%
OXI-A/N (Adult)	±3%
OXI-P/I	±3%

* *The accuracy specification under motion conditions is ±3%.*

** *The accuracy specification has been determined between saturations of 80% and 100%.*

† *The MAX-N and the OxiCliq N were tested on patients >40 kg.*

Numeric Update

Every second

Alarm Limits

O_2 Saturation

High — 51% to 100%

Low — 50% to 99%

Pulse Rate

High — 35 to 240 bpm

Low — 30 to 235 bpm

Nellcor Sensors

Operate at or near 660 nm and 880 nm; total radiated optical power from 500 to 1,000 nm does not exceed 15 mW

NIBP

Measurement Units	mmHg
Measurement Method	Oscillometry
Measurement Time	30 seconds (typical); 135 seconds (maximum)
Automatic Measurement Modes	
STAT	Series of consecutive measurements for 5 minutes
Interval	5, 10, 15, 30, 60, or 120 minutes
Protocol 1 to 3	User-configurable quantities at 5, 10, 15, 30, 60, and 90 minutes
Measurement Range	
Systolic	30 to 250 mmHg
Mean	20 to 230 mmHg
Diastolic	10 to 210 mmHg
Measurement Accuracy	Meets ANSI/AAMI SP10: 2002; and EN 1060-4: 2002
Systolic	±5mmHg
Mean	±5mmHg
Diastolic	±5mmHg
Cuff Overpressure Protection	Meets ANSI/AAMI SP10: 2002; and EN 1060-4: 2002
Resolution	1 mmHg
Inflation Pressure	
Initial	User-configurable (100 to 270 mmHg)
Subsequent	40 mmHg above last systolic

Temperature (Option T)

Measurement Method	Oral/Axillary (Predictive or Continuous)
Units	° F or ° C (° F is default)
Measurement Range	95° to 106° F (35.6° to 41.1° C)
Measurement Accuracy	±0.2° F (±0.1° C) (Continuous mode)
Measurement Resolution	±0.1°

Classification

MDD	Class IIb
60601-1	Class 2, Type BF (SpO_2 Type CF) Rated for continuous operation.

Electrical Specifications

Mains Power (External)	100 to 240 VAC, 50 to 60 Hz, 0.7 A max
Battery	
Type	Lithium-ion rechargeable
Operating Time	8 hours (minimum)
Charging Time	3 hours to 90% (4 hours to full charge)
Isolation	Chassis leakage current meets UL 60601-1, CSA Std. C22.2 No. 601.1, and IEC 60601-1 standards

Environmental Requirements

Operating	
Temperature	0° to 40° C (32° to 104° F)
Humidity	15% to 90% (noncondensing)
Altitude	0 to 4,572 meters (0 to 15,000 feet)
Storage	
Temperature	-20° to 60° C (-4° to 140° F)
Humidity	15% to 95% (noncondensing)
Altitude	0 to 12,200 m (0 to 40,000 feet)

Accessories

A variety of GCX-brand mounting and mobility solutions are available from Spacelabs Healthcare or GCX directly.

Wireless Adapter Kit (040-1644-xx)	Provides 802.11b/g/n (2.4 GHz) wireless network capability with WEP/WPA/WPA2 security. Includes Wireless Client Adapter USB and RJ45 connection cables, and installation mounting hardware.

Documentation

	91330 Ultraview DM3 Monitor Documentation CD-ROM (P/N 084-1350-xx)
	Spacelabs Healthcare Supplies and Accessories Catalog www.spacelabshealthcare.com

Regulatory Approvals

ETL certified. Meets IEC 60601-1:2005, ANSI/AAMI ES 60601-1:2005, and CSA C22.2 No. 601.1 for electrical safety.

CE 0123

Meets EN 60601-1:2006. CE marked in accordance with the Medical Device Directive 93/42/EEC.

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