

## Select Your Options

- ✓ Sensors - Nonin's PureLight® 8000AA-WO Adult Articulated Sensor & 8000J-WO Adult Flex Sensor
- ✓ Wristbands - Replacement cut-to-length wristbands
- ✓ Carrying Case - Convenient for transport and storage – Avant Series Product
- ✓ Rolling Stand - Standard or deluxe 5 point stand increases portability – Avant Series Product
- ✓ Pole Clamp - Mounts horizontally or vertically – Avant Series Product
- ✓ Output Options - nVISION® Data Management Software for oximetry screening
  - Portable thermal printer
  - PC Interface Cable
  - Digital to Analog Converter Module



## Your Partner of Choice

With over 18 years of experience and dedication to the design and support of noninvasive monitoring devices, Nonin has helped many medical professionals meet clinical and economic objectives. Trusted by clinicians worldwide, countless tests are performed every day on thousands of Nonin pulse oximeters in more than 125 countries. Nonin's dedication to technological leadership, precision manufacturing and uncompromised customer support ensures quality products and service you expect.

Please contact your authorized distributor for more information.

## Specifications

### Model 4100 Wrist-Worn Patient Module

Oxygen Saturation Range (%SpO <sub>2</sub> )	0% to 100%
Pulse Rate Range	18 to 300 pulses per minute
Accuracy Blood Oxygen Saturation (%SpO <sub>2</sub> ±1 SD) Pulse Rate	70 - 100% ± 2 digits for adults using Finger Clip sensor ±3%
Connection Status LED	Amber or green
Measurement Wavelengths Red Infrared	660 nanometers @ 3 mw nominal 910 nanometers @ 3 mw nominal
Internal Power Battery Operating Storage	Two 1.5 volt AA batteries Minimum 120 hours of continuous operation with new batteries 10 months
Weight	4.4 oz with batteries (125 g)

### Avant 4000 Display Unit

Displays Numeric Displays Pulse Strength Indicator Pulse Quality Indicator Connection Status LED	3-digit LED's, Tricolor (red, green, amber) Tricolor LED segments Amber LED Amber or green
Power Requirements Mains DC Input	100-240 VAC 50-60 Hz 12 VDC AC adapter
Internal Power Battery Operating Storage Recharge	7.2 volt battery pack (6 cells) Minimum 18 hours of continuous operation with a fully charged battery pack 17 days 4 hours
Dimensions	7.25" wide x 5.5" high x 4.5" deep 18.4 cm x 14 cm x 11.4 cm
Weight	2.2 lbs with battery (1 kg)
Memory	33.5 hours minimum

### Avant 4000 Digital Pulse Oximetry System

Temperature Operating Storage/Transportation	+32° to +122°F (+0° to +50°C) -22° to +122°F (-30° to +50°C)
Operating Altitude	Up to 40,000 feet
Hyperbaric Pressure	Up to 4 atmospheres
Humidity Operating Storage/Transportation	10% to 90% noncondensing 10% to 95% noncondensing
Antenna Type	Inverted F type antenna
Antenna Gain	+2 dB (typical), +3 dB (max)
Warranty	3 years

### Transmitter

Bluetooth Compliance	Version 1.1
Operating Frequency	2.4 to 2.4835 GHz
Output Power	< 1.1 mW
Operation Range	10 m radius indoors (30 ft)
Network Topology	Point-to-Point
Operation	Slave: Model 4100; Master: Model 4000
Antenna Type	Internal

### Classifications per IEC 60601-1/UL2601-1

Type of Protection	Class I (when on AC power with 300PS-UNIV battery charger) Internally powered (on battery power)
Degree of Protection	Type BF-Applied Part
Mode of Operation	Continuous

\*Accuracy is expressed for adult patients and determined with the Reusable 8000AA Finger Clip Sensor and 8000J Flex Sensor. All accuracy specifications are results determined by induced hypoxia studies on healthy adult volunteers. Motion accuracy specifications apply to the 8000AA Finger Clip Sensor and 8000J Flex Sensor. The low perfusion specifications apply to monitor performance.

±S.D. (Standard Deviation) is a statistical measure; up to 32% of the readings may fall outside these limits.

Quality Systems are registered to ISO 13485:2003 and EC certificates per Annex II, clause 3 of EC Directive No. 93/42/EEC concerning medical devices.



Specifications are subject to change without notice.



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✓ Where People Make the Difference



# Wireless Pulse Oximetry

# 4000<sup>®</sup> Avant

## Wearable Digital Pulse Oximetry with Bluetooth<sup>®</sup> Wireless Technology



## Product Highlights

- ✓ Wireless - Improves patient freedom by eliminating the wire between the patient and monitor
- ✓ Bluetooth<sup>®</sup> Technology - A widely accepted wireless communication standard
- ✓ Powerful - 120 hours of battery life; 33 hours of memory
- ✓ Versatile - A portable wireless solution wherever you need it
- ✓ Sophisticated - Effortless connections and encrypted data transmission

✓ Where People Make the Difference



# Oximetry Unplugged® – Wearable Wireless Oximetry



Imagine oximetry without the constraints of size or cables. Now Nonin's time honored technology is paired with a wireless solution. The Avant® 4000 System with Bluetooth Wireless Technology provides freedom from wired connections while ensuring reliable and secure transfer of patient data – all in a small package. The lightweight wrist-worn patient module wirelessly sends data to a small tabletop display, improving patient mobility and reducing bedside clutter. Nonin – opening new horizons in connectivity.

## 4100 Patient Module

The 4100 patient module is the wrist-worn component of the Avant 4000 System. This small, lightweight wearable device sends SpO2, pulse rate and plethysmographic data via a wireless connection to the 4000 tabletop display. Each wrist-worn patient module has a unique identification number allowing the clinician to quickly and easily confirm the patient is “paired” to the 4000 display.

- ✓ Weighs only 4.4 ounces; fits comfortably on the patient's wrist or forearm
- ✓ Supplied with cut-to-size wristbands to fit a wide variety of patients
- ✓ 120 hours of continuous operation with two AA batteries
- ✓ Automatically turns on when sensor is connected
- ✓ Large color-coded connection status LED gives visual indication of wireless connection status
- ✓ Easily read individual identification number for confirmation with Avant 4000 display
- ✓ Nonin's PureLight® sensor technology

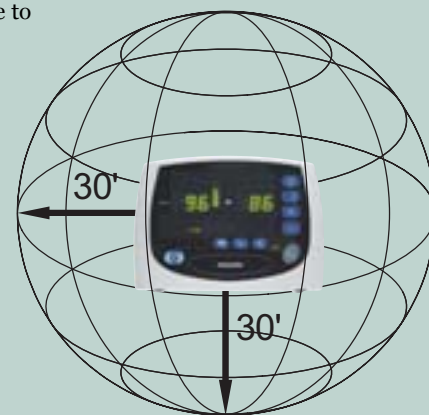


## Why Bluetooth®

Bluetooth is a proven technology widely accepted in many consumer devices that provides freedom from wired connections. An automatic wireless connection provides fast, reliable and secure transmission of data even when the devices are not in line-of-sight. Bluetooth uses a license-free, globally available frequency range in the Industrial Scientific Medical (ISM) band – to ensure communication compatibility worldwide.

**Nonin products continue to revolutionize the way you look at pulse oximetry.** With the integration of Bluetooth Wireless Technology into the Avant 4000 System, Nonin is the first to eliminate the wire between the patient and the display. The choice of Bluetooth Wireless Technology also offers other advantages:

- ✓ Internationally accepted communication standard
- ✓ Ideal for short-range use within a 30 foot radius
- ✓ Low power for long battery life
- ✓ Technology allows for compact design
- ✓ Reliable connections
- ✓ Data encryption feature to safeguard patient data



Complies with part 15 of the FCC Rules regarding Radio Frequency Devices.

## Avant 4000 Display

### User-Friendly Displays & Interface

- 1 **Wireless Connection Status LED** – Confirms the patient module is connected to the display.
- 2 **Qualitative Pulse Strength** – Color-coded bar graph assists in assessing the patient's status.  
An audible tone is generated with each pulse; the pitch changes with the patient's saturation level.
- 3 **Pulse Quality Indicator** – Detects movement or signal quality changes that may necessitate the need for sensor site stabilization.
- 4 **Sensor Indicator** – The sensor icon indicates the lack of sensor presence or the need for sensor attention.

A quick and complete assessment of your patient's oximetry readings is made easier with the combination of information supplied by the Qualitative Pulse Strength bar graph, variable pitch pulse/saturation tone and Pulse Quality Indicator.

### Flexible & Versatile Alarm Settings

- ✓ User-Defined Defaults – Alarm settings return to user customized settings on power up.
- ✓ Recall Function – Reinstatement of user's last customized alarm settings.

### Print Options

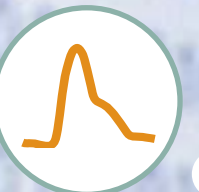
- ✓ Print-on-Demand allows one-touch printing of the current measurements.
- ✓ Real-time printing provides unlimited once-per-second value outputs.



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