

## 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 15 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> )	70 - 100% ± 2 digits for adults using Finger Clip sensor
Pulse Rate	±3%
Connection Status LED	Amber or green
Measurement Wavelengths	
Red	660 nanometers @ 3 mw nominal
Infrared	910 nanometers @ 3 mw nominal
Internal Power	
Battery	Two 1.5 volt AA batteries
Operating	Minimum 120 hours of continuous operation with new batteries
Storage	10 months
Weight	4.4 oz with batteries (125 g)

### Avant 4000 Display Unit

Displays	
Numeric Displays	3-digit LED's, Tricolor (red, green, amber)
Pulse Strength Indicator	Tricolor LED segments
Pulse Quality Indicator	Amber LED
Connection Status LED	Amber or green
Power Requirements	
Mains	100-240 VAC 50-60 Hz
DC Input	12 VDC AC adapter
Internal Power	
Battery	7.2 volt battery pack (6 cells)
Operating	Minimum 18 hours of continuous operation with a fully charged battery pack
Storage	17 days
Recharge	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	+32° to +122°F (+0° to +50°C)
Storage/Transportation	-22° to +122°F (-30° to +50°C)
Operating Altitude	Up to 40,000 feet
Hyperbaric Pressure	Up to 4 atmospheres
Humidity	
Operating	10% to 90% noncondensing
Storage/Transportation	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

Quality systems registered to ISO 9001:1994/EN 46001:1996, ISO 13485:1996, and CE self-marking 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**  
*Avant*®

**Wearable Digital Pulse Oximetry  
with Bluetooth® Wireless Technology**



## Product Highlights

- ✓ Wireless - Improves patient freedom by eliminating the wire between the patient and monitor
- ✓ Bluetooth® 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 SpO<sub>2</sub> and pulse rate data via a wireless connection to the 4000 tabletop display (plethysmographic data available for OEM applications). 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

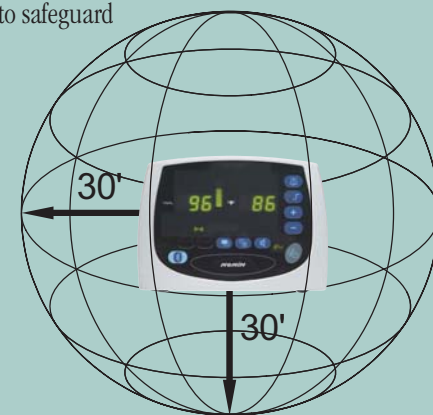


## Why Bluetooth®

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.

