

# PureSAT® Advantage



Nonin Medical's clinically-proven PureSAT pulse oximetry technology utilizes intelligent pulse-by-pulse filtering to provide precise oximetry measurements — even in the presence of motion, low perfusion or other challenging conditions. By reading the entire plethysmographic waveform, PureSAT signal processing prefilters the pulse signals to remove undesirable signals and advanced algorithms then separate the pulse signals from artifact and interference — leaving only the true pulse. And with Nonin's smart averaging technology, PureSAT automatically adjusts to each patient's condition to provide fast and reliable readings you can trust.

## Quality Sensors:

### Accuracy starts with the sensor

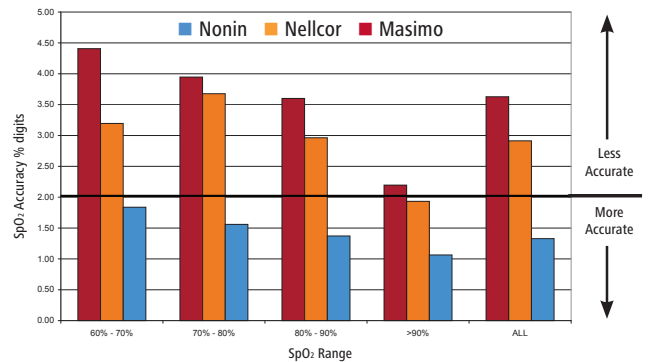
With over 20 years of expertise, Nonin's industry leading accuracy begins with a quality sensor. Nonin's PureLight® sensors emit pure and clean light. Lesser quality, impure sensor light distorts SpO<sub>2</sub> accuracy.

#### Key Benefits:

- Eliminates variations in readings from patient-to-patient and sensor-to-sensor due to impure sensor light emissions
- Accuracy not degraded due to skin pigmentation
- Industry leading accuracy with a low bias and standard deviation

## PureSAT Advantage – Industry Leading Accuracy<sup>1</sup>

Figure 1: Comparison of Nonin's superior accuracy in the most challenging environments (dark skin pigmentation).



## Low Perfusion Filter:

### Always a true, reliable reading in low perfusion

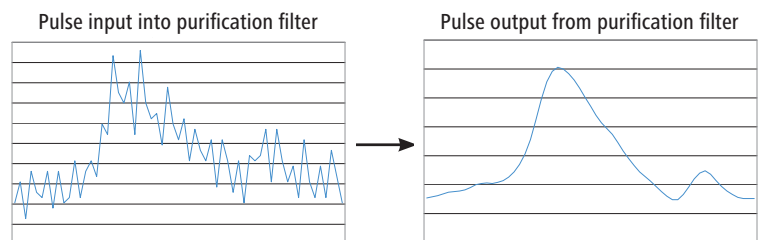
The removal of noise artifact is crucial to an oximeter's ability to accurately assess SpO<sub>2</sub> in low perfusion. PureSAT employs powerful filtering to achieve its dependable, proven accuracy in low perfusion.

#### Key Benefits:

- Automatically removes noise from weak/low perfusion signals
- Obtain a reading with challenging patients
- Dependable, FDA cleared +/-3% SpO<sub>2</sub> accuracy in low perfusion

## PureSAT Advantage – Reliable Measurement in Low Perfusion

Figure 2: Example of PureSAT's powerful filter for low perfusion.



## True Pulse Detection:

### Reduction of false alarms for improved efficiency

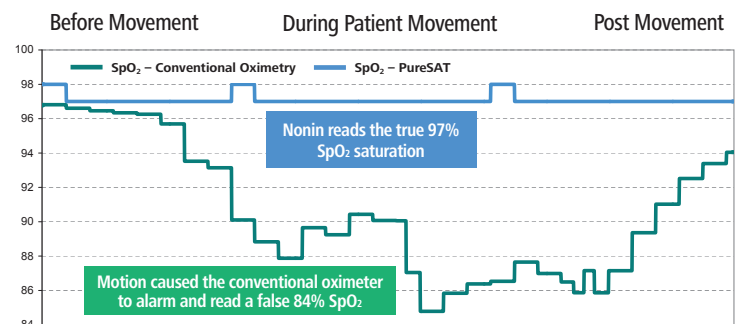
PureSAT's next generation signal processing locates the true pulse in motion and low perfusion.

#### Key Benefits:

- Eliminates false readings/alerts due to patient motion
- Less time spent obtaining a reliable measurement
- Reliable, FDA cleared +/-3% SpO<sub>2</sub> accuracy in motion

## PureSAT Advantage – False Alarms Due to Patient Movement Are Eliminated

Figure 3: Comparison of Nonin's next generation technology vs. conventional oximetry during a patient movement event.



## Smart Averaging:

### Save time with intelligent, automatic averaging

In a fast-paced environment, you can't afford to spend the time customizing your oximeter to each patient. PureSAT's pulse-by-pulse averaging automatically adjusts for three second averaging or faster.

#### Key Benefits:

- No modes to set for averaging — it's all automatic
- Smart algorithm that automatically adjusts for three second averaging or faster using pulse-by-pulse technology — ideal for adult, pediatric, infant/neonate
- Averaging adjusts with challenging conditions

Refer to the device operating manual for product specifications and information.

<sup>1</sup>Nonin Technical Bulletin M-5407, based on "Dark skin decreases the accuracy of pulse oximeters at low oxygen saturations: effects of oximeter probe type and gender," John Feiner, et al. *Anesthesia & Analgesia*, December, 2007.



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