Root® with O3®
Regional Oximetry
Available for Adult, Pediatric, Infant, and Neonatal Applications
O3 Regional Oximetry

O3 Regional Oximetry may help clinicians monitor cerebral oxygenation in situations in which peripheral pulse oximetry alone may not be fully indicative of the oxygen in the brain.

O3 Regional Oximetry monitors the regional hemoglobin oxygen saturation of blood (rSO₂) in the cerebral region for infant, neonatal, pediatric, and adult patients.

With their flexible design, O3 sensors easily conform to and allow for ergonomic application on foreheads of all sizes.

Infant and Neonatal Application

- 3% ARMS² trending accuracy specification
- Patients less than 10kg

Pediatric Application

- 5% ARMS absolute accuracy and 3% ARMS trending accuracy specifications
- Patients between 5kg and 40kg

Adult Application

- 4% ARMS absolute accuracy and 3% ARMS trending accuracy specifications
- Patients greater than 40kg

Expansion with Root

The expandable, versatile, and customizable Root patient monitoring and connectivity platform allows O3 Regional Oximetry to be combined with other monitoring modalities and automatically charts patient data in electronic medical records (EMRs).

Expanded Visibility of the Brain

Root with O3 Regional Oximetry and Next Generation SedLine® Brain Function Monitoring provides a more complete picture of the brain.

Root with Next Generation SedLine brain function monitoring helps clinicians monitor the state of the brain under anesthesia with bilateral data acquisition and processing of four leads of electroencephalogram (EEG) signals, enabling continuous assessment of both sides of the brain.
Expanded Visibility of Oxygenation Status

Root with O3 Regional Oximetry and Masimo SET® Pulse Oximetry (SpO2)

O3 is displayed with Masimo SET® pulse oximetry on Root, providing clinicians with expanded visibility of a patient’s oxygenation status.

Expanded Visibility of Patient Data

Iris Gateway® for Advanced Connectivity and Interoperability

Integrate data from Root and third-party devices using Iris® ports for automated charting in EMRs.
Expanded Visibility Through Supplemental Display

UniView™ aggregates data and alarms from multiple Masimo and third-party devices — such as patient monitors, ventilators, anesthesia machines, IV pumps and others connected through Masimo systems — on a supplemental display.

- Integrated real-time data visualization reduces cognitive overload and promotes data sharing among multiple clinicians, helping them to spot trends and coordinate care.
- Visual alarm indicators, relayed from connected devices, help care teams recognize patient distress and target areas for clinical focus.
- Tailored use-case-specific screen layouts optimize the presentation of advanced and integrated parameters, trend data, and waveforms in critical care areas.
- Adaptable layout automatically reconfigures based on connected devices.

Kite® expands visibility by providing a supplemental display of patient data from Root, with the ability to customize the layout differently from Root.

By allowing customization of what can be displayed, Kite allows clinicians to focus on the most pertinent data for each stage of a patient’s journey, empowering them to make more informed decisions.

With Kite, all clinicians in the OR can view brain monitoring information instantly, simultaneously.
## O3 Module Specifications

### PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (including cable)</td>
<td>12.1 ft (3.7 m)</td>
</tr>
<tr>
<td>Width</td>
<td>1.6 in (4.6 cm)</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.6 in (1.5 cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>7.1 oz max (200 g max)</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL

- **Operational Temperature**: 32 to 104°F (0 to 40°C)
- **Storage Temperature**: -40 to 158°F (-40 to 70°C)
- **Operating and Storage Humidity**: 10 to 95%, non-condensing
- **Altitude**: Up to 12,000 ft (3700 m)

## O3 Sensor Specifications

### Application Site

- Forehead

### Wavelengths

#### Adult (SO2 Sensor Accuracy (Aams))

- Absolute Regional Oxygen Saturation (rSO2): 4%
- Trending Regional Oxygen Saturation (rSO2): 3%

#### Pediatric (SO2 Sensor Accuracy (Aams))

- Absolute Regional Oxygen Saturation (rSO2): 5%
- Trending Regional Oxygen Saturation (rSO2): 3%

#### Neonatal (SO2 Sensor Accuracy (Aams))

- Absolute Regional Oxygen Saturation (rSO2): 10%
- Trending Regional Oxygen Saturation (rSO2): 3%

## SedLine Module Specifications

### PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Site</td>
<td>Forehead</td>
</tr>
<tr>
<td>Active Channels</td>
<td>4</td>
</tr>
<tr>
<td>Active Electrodes</td>
<td>L1, L2, R1, and R2</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL

- **Module Operating Conditions**
  - **Operating Temperature**: 41-104°F (5–40°C)
  - **Operational Humidity**: 15–95%, non-condensing
- **Module Storage Conditions**
  - **Storage Temperature**: 40 to 158°F (40 to 70°C)
  - **Storage Humidity**: 15–95%, non-condensing
  - **Exposure to Pressure**: 500–1060 mbar

## SedLine Sensor Specifications

### PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<td>Application Site</td>
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<td>4</td>
</tr>
<tr>
<td>Active Electrodes</td>
<td>L1, L2, R1, and R2</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL

- **Operating Temperature**: 32°F to 122°F (0°C to 50°C)
- **Transport/Storage Temperature**: 40°F to 158°F (-40°C to 70°C)
- **Operating Humidity**: 10% to 95%, Non-Condensing
- **Storage Humidity**: 10% to 95%, Non-Condensing
- **Operating Altitude**: 500 mbar to 1040 mbar
- **Transport/Storage Altitude**: 500 mbar to 18,000 ft (1,000 ft to 18,000 ft)
- **Exposure to Pressure**: 500–1060 mbar

## Root Specifications

### ELECTRICAL

- **Root**
  - **AC Power Requirements**: 100-240 VAC, 47-63 Hz
  - **Power Consumption**: ≤65W (Max)
  - **Fuses Each With**
    - 2 Amp, Fast Acting, Metric (5x20mm), 250V
  - **Battery**
    - Type: 10.8V Lithium Ion (Nominal)
    - Capacity: 4 hours
  - **Maximum Charging Time**: 4 hours

### PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>&lt;8 lbs (3.63 kg)</td>
</tr>
<tr>
<td>Dimension</td>
<td>10.5 in x 5.5 in (27.94 cm x 13.97 cm)</td>
</tr>
<tr>
<td>Display</td>
<td>Backlit Active Matrix TFT LCD</td>
</tr>
<tr>
<td>Resolution</td>
<td>1280 x 800 Pixels</td>
</tr>
<tr>
<td>Color</td>
<td>24 bit RGB</td>
</tr>
<tr>
<td>Size</td>
<td>10.1 in (25.65 cm) Diagonal</td>
</tr>
<tr>
<td>Touchscreen</td>
<td>Multi-Touch P-Cap</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL

- **Operating Temperature**: 32°F to 122°F (0°C to 50°C)
- **Storage Temperature**: 40°F to 158°F (-40°C to 70°C)
- **Operating Humidity**: 10% to 95%, Non-Condensing
- **Storage Humidity**: 10% to 95%, Non-Condensing
- **Operating Altitude**: 500 mbar to 1040 mbar
- **Transport/Storage Altitude**: 500 mbar to 18,000 ft (1,000 ft to 18,000 ft)

## Notes

1. Ams accuracy is a statistical calculation of the difference between device measurements and reference measurements. Approximately two-thirds of the device measurements fell within ± Ams of the reference measurements in a controlled study. This represents approximate run time at the lowest indicator brightness, using a fully charged battery.

Caution: Federal (USA) law restricts this device to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, and precautions.