



The Radical-7 is a noninvasive monitor that measures arterial oxygen saturation, pulse rate, and perfusion index, along with optional measurements of hemoglobin (SpHb), carboxyhemoglobin, total oxygen content, methemoglobin, Pleth Variability Index, Oxygen Reserve Index, Acoustic Respiration Rate, and Pleth Respiration Rate.

Featuring “gold standard” Masimo SET pulse oximetry, proven in more than 100 independent and objective studies to provide the most accurate and reliable SpO2 readings during motion and low perfusion.

Upgradable Masimo Rainbow SET technology platform lets you add total hemoglobin (SpHb™) and oxygen content (SpOC™) through simple field-installed software upgrades.

Additional upgrades allow you to continuously and non-invasively measure carboxyhemoglobin (SpCO), methemoglobin (SpMet) and PVI™. Linked to improved care and reduced medical errors. Enhanced probe-off detection with Rainbow sensors. Color display allows immediate differentiation of critical measurements.

## Features

- Masimo SET pulse oximetry, proven in more than 100 independent and objective studies to provide the most accurate and reliable SpO2 readings during motion and low perfusion.
- Bright multi-color or monochromatic screen that is easy to read in either vertical or horizontal orientation.
- Reduced cost of ownership.
- Water resistant for ultimate protection in all conditions.
- Relative Perfusion Index helps locate best site for the sensor by providing a quantitative value to compare the strength of the pulse signal at different sites on patient.
- Superior portability.
- Fits conveniently in a pocket or can be worn using the included carrying case.
- Perfect for at-a-glance readings in a variety of clinical settings.
- Patented 3D alarms provide thresholds for desaturations and perfusion index based on clinician-specified severity and frequency, enhancing patient safety.
- Optional external wireless radio allows The Radical-7 to communicate with Masimo Patient SafetyNet, the remote monitoring and clinician-notification system that helps you keep at-risk patients safe on general care floors.



# Specifications

## Dimensions

Dimensions: 8.9" x 3.5" x 2.1" (22.6 cm x 8.9 cm x 5.3 cm)  
Standalone: 3.5" x 10.5" x 7.7" (8.9 cm x 26.7 cm x 19.6cm)

## Measurement Range

SpO<sub>2</sub>: 0 – 100%  
SpMet: 0 – 99.9%  
SpCO: 0 – 99%  
SpHb: 0 – 25 g/dL  
SpOC: 0 – 35ml of O<sub>2</sub>/dL of blood  
Pulse Rate: 25 – 240 bpm  
Perfusion Index: 0.02 – 20%  
PVI: 0 – 100%

## Resolution

Oxyhemoglobin Saturation (%SpO<sub>2</sub>): 1%  
Carboxyhemoglobin Saturation (%SpCO), digital display: 1%  
Methemoglobin Saturation (%SpMet), digital display: 0.1%  
Total Hemoglobin (SpHb g/dL): 0.1 g/dL  
Pulse Rate (bpm): 1 bpm

## Electrical

Standalone  
AC power requirements: 100 – 240 VAC, 47 – 63 Hz  
Power consumption: 55 VA  
Fuses: 1 Amp, Fast Acting, Metric, (5x20mm), 250V  
Batteries:  
Handheld  
Type: NiMH  
Capacity (battery life): 4 hours  
Charging time: 3 hours  
Standalone (Model RDS-18 Only):  
Type: NiMH  
Capacity (battery life): 10 hours  
Charging time: 8 hours

## Environmental

Operating temperature: 41F to 104F (5C to 40C)  
Storage temperature: -40F to 158F (-40C to + 70C)  
Operating humidity: 5% to 95%, noncondensing  
Operating altitude: 500 mbar to 1060 mbar pressure  
1000 ft to 18,000 ft (-304 m to 5,486 m)