PULSE CO-OXIMETER™

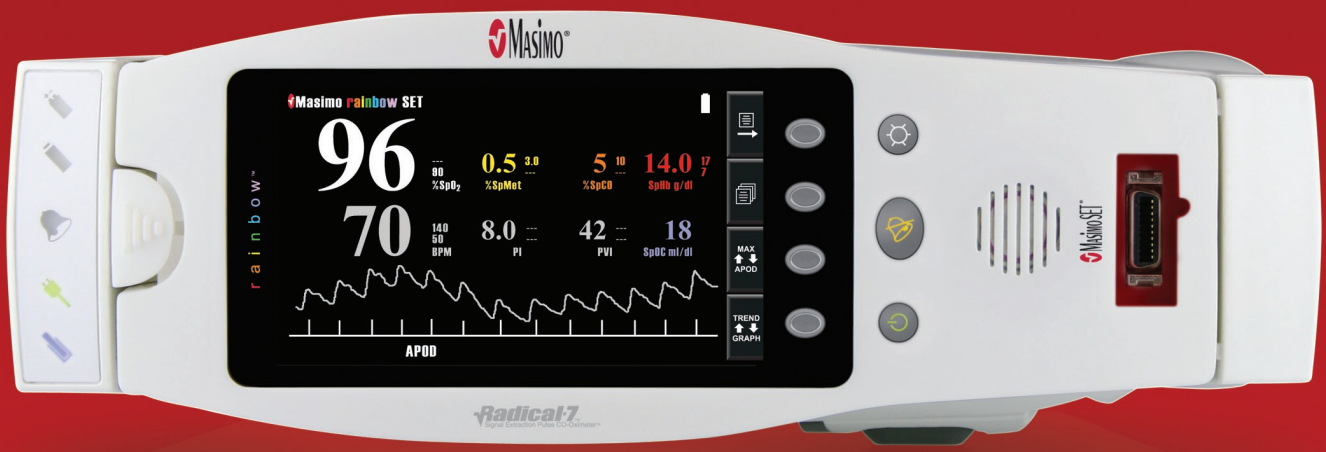
Masimo Radical-7™

Providing upgradable rainbow technology in multiple configurations for maximum clinical flexibility

Choose the noninvasive measurements that are right for your clinical setting— oxygen saturation, pulse rate, and perfusion index in addition to total hemoglobin, total arterial oxygen content, PVI, carboxyhemoglobin, and methemoglobin

Masimo SET® rainbow

Masimo Radical-7



- Featuring “gold standard” Masimo SET® pulse oximetry, proven in more than 100 independent and objective studies to provide the most accurate and reliable SpO_2 readings during motion and low perfusion.
- Upgradable Masimo Rainbow SET technology platform lets you add total hemoglobin (SpHb™) and total arterial oxygen content (SpOC™) as a factory-ordered option or through simple field-installed software upgrades.
- Additional upgrades allow you to continuously and noninvasively measure carboxyhemoglobin (SpCO®), methemoglobin (SpMet®), and PVI™.

MASIMO RADICAL-7 AS A HANDHELD OR BEDSIDE CO-OXIMETER

The Radical-7 easily detaches from the bedside unit as a full-featured handheld pulse co-oximeter. The onboard rechargeable 4-hour battery and >10 day trending facilitate both hospital transport and spot check applications.

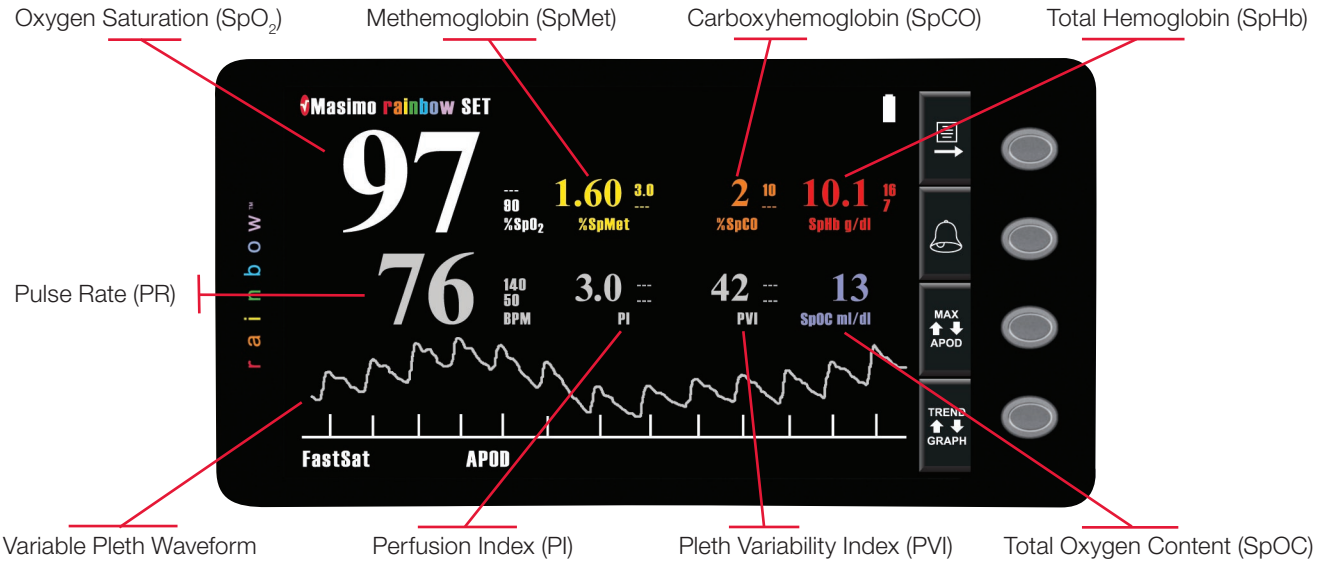
MASIMO SATSHARE

Upgrade your current system to Rainbow technology simply by linking the Radical-7 to a host monitor’s oximeter input connector. Get Masimo SET SpO_2 readings on more than 100 multiparameter monitors and SpHb, PVI, SpCO and SpMet readings on the Radical-7 itself.

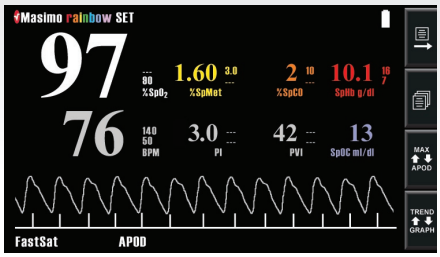
GRAVITY ACTIVATED ROTATION

Automatic display rotation (Gravity Activated) provides for vertical and horizontal positioning to maximize space utilization and visibility.

MASIMO RAINBOW SET MEASUREMENTS GIVE YOU A MORE COMPLETE PICTURE OF YOUR PATIENTS' PHYSIOLOGICAL STATUS

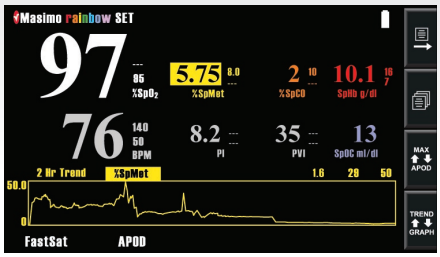


EASILY CONFIGURED TO MEET YOUR SPECIFIC CLINICAL NEED



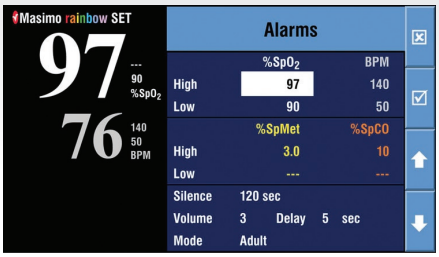
NORMAL VIEW

Allows for continuous monitoring of all parameters along with a plethysmograph waveform and Signal IQ indicator (below pleth) to provide confidence in the quality of the values displayed



TREND VIEW

The quick-trend feature allows for one-touch access to vital parameter trending information to instantly evaluate patient condition and illness severity. Auto-scaling feature allows the y-axis to automatically change with fluctuations in the measurement value



SIMPLIFIED ALARM MANAGEMENT

One-touch menu provides quick access to the most commonly used features and allows for quick configuration and management of parameter alarm settings

- The Radical-7 features a bright multi-color or monochromatic screen that is easy to read in either vertical or horizontal orientation—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.

NEONATAL

TRANSPORT

PROCEDURES

BEDSIDE

PERFORMANCE:

MEASUREMENT RANGE

SpO_2	0 – 100%
SpMet	0 – 99.9%
SpCO	0 – 99%
SpHb	0 – 25 g/dL
SpOC	0 – 35ml of O_2/dL of blood
Pulse Rate	25 – 240 bpm
Perfusion Index	0.02 – 20%
PVI	0 – 100%

OXYGEN SATURATION ACCURACY (%SpO_2)

Saturation	60 – 80%
No Motion	
Adults/Infants/Pediatrics	± 3%
Saturation	70 – 100%
No Motion	
Adults/Infants/Pediatrics/Neontates	± 2%
Motion	
Adults/Infants/Pediatrics/Neonates	± 3%
Low Perfusion	
Adults/Infants/Pediatrics/Neonates	± 2%

PULSE RATE ACCURACY

Pulse Rate	25 – 240 bpm
No Motion	
Adults/Infants/Pediatrics/Neonates	± 3 bpm
Motion	
Adults/Infants/Pediatrics/Neonates	± 5 bpm
Low Perfusion	
Adults/Infants/Pediatrics/Neonates	± 3 bpm

CARBOXYHEMOGLOBIN SATURATION ACCURACY (%SpCO)*

Adults/Infants/Pediatrics	1 – 40% ± 3%

METHEMOGLOBIN SATURATION ACCURACY (%SpMet)*

Adults/Infants/Pediatrics/Neonates	1 – 15% ± 1%

TOTAL HEMOGLOBIN ACCURACY (SpHb g/dL)

Adults/Infants/Pediatrics/Neonates	8 – 17 g/dL ± 1 g/dL

RESOLUTION

Oxyhemoglobin Saturation (%SpO_2)	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-1B ONLY)

Type	NiMH
Capacity (battery life)	10 hours
Charging time	6 hours

ENVIRONMENTAL

Operating temperature	41°F to 104°F (5°C to 40°C)
Storage temperature	-40°F to 158°F (-40°C to + 70°C)
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)

PHYSICAL CHARACTERISTICS

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)

WEIGHT

Handheld		1.2 lbs (0.54 kg)
Docking Station	(models RDS-1, 2, and 3)	2.5 lbs (1.14 kg)
	(model RDS-1B)	3.1 lbs (1.41 kg)
Standalone	(models RDS-1, 2, and 3)	3.7 lbs (1.68 kg)
	(model RDS-1B)	4.3 lbs (1.95 kg)

TRENDING

Provides 72 hours of trending at 2-second resolution for >10 days at 10 second resolution of SpO_2, SpHb, SpOC, SpMet, SpCO, Pulse Rate, and Perfusion Index with output to serial printer or other serial devices.

SpO_2 MODES

Averaging mode	2, 4, 8, 10, 12, 14, or 16 seconds
Sensitivity	Normal, APOD, and Maximum

ALARMS

Audible and visual alarms for high low saturation and pulse rate (SpO_2 range 1-99%, pulse rate range 30-235 bpm, SpCO 1-98%, SpMet .1-99.5%, SpHb 1-24.5 g/dl, PI .03-19%, PVI 1-99%)

DISPLAY/INDICATORS

Data display: %SpO_2, %SpMet, %SpCO, SpHb, pulse rate, pleth waveform, alarm status, trends, status messages,Signal IQ, perfusion index, MAX and APOD sensitivities, PVI and FastSat

Display Color	Multi-color or monochrome blue
Type	TFT Color LCD
Pixels	480 x 272 dots
Dot Pitch	0.20 mm

OUTPUT INTERFACE

SatShare (RDS-1, RDS-1B); Serial RS-232 (RDS-1, RDS-1B, RDS-3); Nurse Call/ Analog Output (RDS-1, RDS-1B, RDS-3); Philips Vuelink, Spacelabs Universal Flexport, RadNet, Patient SafetyNet (RDS-1, RDS-1B, RDS-3)

CLINICAL CONFIGURATIONS:

With a choice of docking stations for your Radical-7, you can select the connectivity configurations that work best for your clinical needs

RDS-1

Serial, analog, nurse call and SatShare connectivity. Optional extended battery provides battery life up to 10 hours. (RDS-1B)

RDS-2

Power Only.

RDS-3

Serial, analog and nurse call connectivity.

* SpO_2, SpCO, and SpMet accuracy was determined by testing healthy adult volunteers in the range of 60% - 100% SpO_2, 0% - 40% SpCO, and 0% - 15% SpMet against a laboratory CO-Oximeter. SpO_2 and SpMet accuracy was determined on 16 neonatal NICU patients ranging in age from 7 to 135 days old and weighing between 0.5 and 4.25 kgs. Seventy-nine (79) data samples were collected over a range of 70 - 100% SaO_2 and 0.5 - 2.5% HbMet with a resultant accuracy of 2.9% SpO_2 and 0.9% SpMet. Contact Masimo for testing specifications.

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