

Trio™

GENERAL DESCRIPTION

The Trio is a portable, configured monitor designed for use in many hospital departments and outpatient areas – from traditional bedside monitoring to intra-hospital transport. Its high-resolution color display far exceeds the standard in compact patient monitors.

The Trio, with a rechargeable battery, allows you to continuously monitor vital signs while transporting the patient.

SUMMARY OF FEATURES AND BENEFITS

- 8.4" color TFT display with a resolution of 800 x 600 provides optimal visualization of patient data
- Standard features include up to 4 waveforms, 3 or 5 lead ECG, Respiration, NIBP, SpO₂ and Temperature
- Available options include Masimo SET® motion tolerant SpO₂, Nellcor® OxiMax™ SpO₂, Lithium Ion battery* and a dual-trace recorder
- 24 hour graphic and list trends with event markers provide extended review of all patient data
- Default menu stores user configured settings for each patient size
- Waveform and numeric data are configurable to five colors
- Ergonomically designed fold-away handle with built-in bed rail hook** provides maximum flexibility and easy handling
- Built-in Power Supply for direct AC connection allows for convenient transport from one location to the next
- Navigator™ Control Knob and quick action keys make for easy-to-use functions

* Future.

** Patent pending.

510(k) submission is pending. This product is not currently available for sale in the United States.



PERFORMANCE SPECIFICATIONS

ECG

Input:	5-lead or 3-lead selectable
Leads:	I, II, III, aVR, aVL, aVF, V
Gain:	x0.25; x0.5; x1; x2
Sweep Speed:	12.5 mm/s, 25 mm/s, 50 mm/s
Frequency Response to Screen	
Extended Mode:	0.05–100 Hz, -3 dB max
Monitor Mode:	0.5–40 Hz, -3 dB max
Surgical Mode:	1–20 Hz, -3 dB max
CMRR	
Extended Mode:	>90 dB min
Monitor Mode:	>105 dB min
Surgical Mode:	>105 dB min
Analog Output: (ECG)	
Delay:	25 ms
Sensitivity:	1 V/mV of input, \pm 10%

Heart Rate Meter

Range:	15-300 BPM Adult, 15-350 BPM Pediatric
Accuracy:	\pm 1 BPM or \pm 1% whichever is greater
Pacer Rejection:	Rejects all pulses of amplitude \pm 2.0 mV to \pm 700 mV and duration 0.1 ms to 2 ms with no tail per ANSI/AAMI EC13-2002 4.1.4.1 Rejects all pulses of amplitude \pm 2.0 mV to \pm 700 mV and duration 0.1 ms to 2 ms with 100 ms time constant tail of less than 2.0 mV, or 4 ms time constant tail of less than 2.0 mV per ANSI/AAMI EC13-2002 4.1.4.2
Tall T-Wave Rejection:	Rejects all T-Waves less than 120% of a 1 mV, 100 ms QRS, and a T-Wave duration of 180 ms and a Q-T interval of 350 ms per ANSI/AAMI EC13-2002 4.1.2.1c

Display

Size:	8.4 inch (21.3 cm) Color TFT
Resolution:	VGA 800 x 600
Waveforms:	4
Sweep Speed:	6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s

Non-Invasive BP

Technique:	Oscillometric
Measurement Intervals:	1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 1 hr, 2 hrs, 4 hrs, CONT, OFF
Systolic Range:	Adult: 40-255 mmHg Pediatric: 40-200 mmHg
Diastolic Range:	Adult: 10-210 mmHg Pediatric: 10-150 mmHg
Systolic Accuracy:	Mean Error less than \pm 5 mmHg, Standard Deviation less than \pm 8 mmHg
Diastolic Accuracy:	Mean Error less than \pm 5 mmHg, Standard Deviation less than \pm 8 mmHg
Connector Type:	Rectus

Temperature

Scale:	Selectable $^{\circ}$ C or $^{\circ}$ F
Range:	0–50 $^{\circ}$ C / 32–122 $^{\circ}$ F
Accuracy:	\pm 0.1 $^{\circ}$ C (0–50 $^{\circ}$ C) exclusive of probe errors \pm 0.2 $^{\circ}$ F (32–122 $^{\circ}$ F) exclusive of probe errors

Respiration (ECG)

Method:	RA-LL impedance
Range:	Adult: 6–120 BPM, Pediatric: 6–150 BPM
Accuracy:	\pm 2% or \pm 2 breaths per minute, whichever is greater
Lead	II

Recorder

Speed:	25 and 50 mm/sec
--------	------------------

Pulse Oximetry

Masimo SET [®] SpO ₂ Saturation Accuracy with no motion conditions	
Adult/Pediatric:	70% to 100% \pm 2 digits SpO ₂
Masimo SET [®] SpO ₂ Saturation Accuracy during motion conditions	
Adult/Pediatric:	70% to 100% \pm 3 digits SpO ₂
Response Time:	20 seconds to 95% of final step of % SpO ₂ value from 60–95% at 75 BPM. Averaging set at 8 seconds.
Nellcor [®] OxiMax [™] SpO ₂ Saturation Accuracy	
Adult/Pediatric:	70% to 100% \pm 2 digits SpO ₂
Sensors:	MAX-A, MAX-AL, MAX-N, MAX-P, MAX-I, MAX-FAST
Adult/Pediatric:	70% to 100% \pm 3 digits SpO ₂
Sensors:	DS-100A, OXI-A/N, OXI-P/I, D-YS
Pulse Rate Range Masimo with no motion conditions	
Adult/Pediatric:	30–235 BPM \pm 3 BPM
Pulse Rate Range Masimo during motion conditions	
Adult/Pediatric:	30–235 BPM \pm 5 BPM
Pulse Rate Range Nellcor	
Adult/Pediatric:	20–250 BPM \pm 3 BPM

Electrical Ratings

AC Voltage:	AC100–240 V, 50/60 Hz
Battery Type:	Sealed Lead Acid or Lithium Ion*
Number of Batteries:	1
Battery Voltage:	Sealed Lead Acid: 12 Vdc Lithium Ion: 10.8 Vdc
Battery Capacity:	Sealed Lead Acid: 2.3 A-Hr Lithium Ion: 3.6 A-Hr
Battery Run Time:	Sealed Lead Acid: 75 minutes from one fully charged new battery at 25 $^{\circ}$ C with ECG, SpO ₂ , and NIBP every 15 minutes. Lithium Ion: 3 hours from one fully charged new battery at 25 $^{\circ}$ C with ECG, SpO ₂ , and NIBP every 15 minutes.
Battery Recharge Time:	Sealed Lead Acid: 8 hours max Lithium Ion: 4 hours max

Environmental Conditions

Storage Altitude:	-1,000 to 20,000 ft ASL, 1050 hPa to 466 hPa, 788 mmHg to 349 mmHg
Storage Temperature:	-20 to 60 $^{\circ}$ C / -4 to 140 $^{\circ}$ F
Storage Humidity:	10–95% non-condensing
Operating Altitude:	-1,000 to 9,889 ft ASL, 1050 hPa to 700 hPa, 788 mmHg to 525 mmHg
Operating Temperature:	5 $^{\circ}$ C to 40 $^{\circ}$ C / 41 $^{\circ}$ F to 104 $^{\circ}$ F
Operating Humidity:	15–95% non-condensing

PHYSICAL DIMENSIONS

Monitor Size:	241 mm W x 228 mm H x 174 mm D 9.49" W x 8.98" H x 6.85" D
Monitor Weight:	4 kg (8.8 lbs) excluding battery & optional accessories 4.66 kg (10.25 lbs) including 1 sealed lead acid battery excluding optional accessories 4.33 kg (9.52 lbs) including 1 lithium ion battery excluding optional accessories

Agency Compliances

This monitor complies with the following industry standards:

Safety:	IEC 60601-1:1988 +A1:1991, A2:1995/EN 60601-1:1990 +A1:1993, A2:1995, A13:1995, UL 2601-1:1997, CSA Standard C22.2 No.601.1M90, IEC 60601-1-4:1996/EN 60601-1-4:1996 + A1:1999, IEC 60601-2-30:1999/EN 60601-2-30:2000, IEC 60601-2-34:2000/EN 60601-2-34:2000, IEC 60601-2-27:1994/EN 60601-2-27:1994, EN 12470-4:2000
Hazard:	EN 1441:1997, EN ISO 14971:2000
Performance:	EN 865:1997, EN 1060-1:1995, EN 1060-3:1997, ANSI/AAMI EC13:2002, ISO 3744:1994, ANSI/AAMI/ISO 10993-1:1997, AAMI SP10:1992, EN 475:1995, EN 1041:1998, EN 980:1996 + A1:1999 + A2:2001, IEC 878:1998, ISO 1000:1992 + A1:1998
Environmental:	IEC 60601-1-2:2001/EN 60601-1-2:2001, IEC 68-2-6:1982 +A1:1983 +A2:1985, IEC 68-2-27:1987, IEC 68-2-37:1973 +A1:1983, IEC 529: 1989, ISTA: 1998 Procedure 1A, ECRI PB-296892:1979 (Drop and impact)

Datascope Corp., US, Canada & Latin America Patient Monitoring Division
800 MacArthur Boulevard Mahwah, NJ 07430-0619
Customer Service: 1.800.288.2121 or 201.995.8000
Fax: 1.800.926.4275
E-Mail Address: pm_sales@datascope.com

www.datascope.com

*Future

Trio[™] and Navigator[™] are U.S. trademarks of Datascope Corp. Masimo SET[®] is a U.S. registered trademark of Masimo Corp. Nellcor[®] is a registered trademark and OxiMax[™] is a trademark of Nellcor Puritan Bennett Inc. Subject to change.

© 2003 Datascope Corp. 0002-08-13002 Rev B