

# Avante Waveline EZ

## Portable Patient Monitor

### Extremely portable, feature rich, touchscreen monitor

Featuring cutting-edge innovations and impeccable craftsmanship, the Avante Waveline EZ patient monitor is the perfect choice for health care professionals who demand precision, performance and affordability. It features an intuitive touchscreen that helps you quickly and accurately evaluate patient conditions, resulting in better patient care. Utilize the Waveline EZ to monitor ECG, respiration, SpO2, NIBP and temperature; it's also available with EtCO2 monitoring and a printer.

#### FEATURES

- › Weighs only 6 lbs. One of the most mobile multi parameter monitors on the market
- › Touchscreen provides immediate operation
- › 8" high resolution color display
- › Simultaneous multi-lead ECG monitoring
- › Advanced ST and arrhythmia detection
- › Graphical and tabular trending
- › Audible and visual alarms
- › Quick BP readings recall
- › Masimo SET® Pulse Oximetry — ask your Avante representative for details
- › Standby button
- › Volume and Sounds are adjustable and now can be turned off completely
- › Battery backup
- › Option to print Numerical Data Only
- › Displays five waveforms
- › Color of the waveforms can be changed

#### SPECIFICATIONS



Weight:  
6 lbs



Height:  
~ 8.2"

Width:  
9"

Depth:  
4.7"

TFT Display:  
8"



Power Supply:  
AC 90-264V/47-63Hz

Input Power:  
≤55VA

Battery:  
12V/4.0AH  
sealed lead-acid

Charge Time:  
≥4 hours

Operating Time:  
≥2 hours (full recharge)



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## ECG

Input -3-lead ECG cable and standard AAMI line for connection

Input - (Optional) 5-lead ECG cable and standard AAMI line for connection

Patient Safety Standard IEC60601-1-1988

CMRR:  $\geq 60$ dB  
(Common Mode Rejection Ratio)

Heart Rate Range:  
20 ~ 254bpm  $\pm 1$  bpm

Heart Rate Averaging:  
8 second average

ST Segment Range:  
-0.8 ~ + 0.8mV

Interface: AAMI 6-pin

Lead Selection: I, II, III  
(3 lead mode) I, II, III, aVR, aVL, aVF, V (5 lead mode) (ST and Arrhythmia analysis)

Lead Fault Alarm: Audible, Visual  
Input 5-lead ECG patient cable

QRS Indicator:  
Audible and Visual Alert

Waveform Storage: 6 minutes

Sweep Speed: 12.5/25/50 mm/sec

Gain Selection: 4mV, 2mV, 1mV, 0.5mV, 0.25mV, Auto

Trends: 2 hours -> 4 hours -> 8 hours -> 24 hours -> 48 hours

Patient Isolation Breakdown Voltage: 4000VAC 50Hz 60 seconds Leakage current  $< 10\mu A$

Frequency Width: Monitoring mode 0.5 ~ 40Hz (+0.4dB, -3.0dB) Surgery mode 0.5 ~ 20Hz (+0.4dB, -3.0dB) not calibration significant

Patient Drive Current:  $< 10\mu A$

Enclosure Leakage Current:  $< 0.1$ mA

Maximum T Wave Rejection Capability: 1.2mV

Heart Rate Alarm Response Time:  $< 7$  seconds

Aspect Ratio: 0.24 ~ 0.6 sec/mV

Alarm Frequency: Low alarm - 2-2.4kHz; High alarm - 3-3.4kHz

Defibrillator Protected & ESIS Protected Tested with 5kV

Recovery Time Following Defibrillation:  $< 5$  seconds

## CO2

Type:  
Side stream, non-dispersive IR

Calibration: Automatic

Accuracy:  $\pm 2$ mmHg (0-40mmHg)  
 $\pm 5$ mmHg (41-76mmHg)  
 $\pm 10$ mmHg (77-99mmHg)

CO<sub>2</sub> Range: 0-99mmHg

Scale: mmHg/kPa

Respiration Range:  
0-150rpm,  $\pm 2$ rpm

## Temperature (Dual Channel)

Range: 0 ~ 50°C

Probe: YSI @ 400  
Skin surface or rectal /esophageal

Scale: Celsius

Accuracy:  $\pm 0.1$ °C

Resolution: 0.1°C

## Respiration

Measurement Method:  
Thoracic Impedance

Accuracy:  $\pm 2$  rpm

Respiration Rate Range:  
0 ~ 100 $\pm 1$ rpm

## Masimo SET SpO2

SpO<sub>2</sub> Accuracy (non-motion):  
Adult Pediatric: 70~100%:  $\pm 2\%$ ,  
0~69%: unspecified  
Neonate: 70~100%:  $\pm 3\%$ ,  
0~69%: unspecified

SpO<sub>2</sub> Accuracy (motion):  
Adult Pediatric: 70~100%:  $\pm 3\%$ ,  
0~69%: unspecified  
Neonate: 70~100%:  $\pm 3\%$ ,  
0~69%: unspecified

SpO<sub>2</sub>:  $\pm 2\%$

PR:  $\pm 3$  bpm

Modes:

Averaging mode: 2,4,8,10,12,  
14 and 16 s

Sensitivity: Normal, APOD and  
Maximum

PR Accuracy (non-motion):  
Neonate: 70~100 %:  $\pm 3\%$ ,  
0~69 % : unspecified  
Adult Pediatric Neonate:  
25~240 bpm:  $\pm 3$  bpm

PR Accuracy (motion):  
Adult Pediatric Neonate:  
25~240 bpm:  $\pm 5$  bpm

Measuring Range:

SpO<sub>2</sub>: 1~100 %

PR: 25~240 bpm

Perfusion: 0.02~20 %

Low Perfusion Performance:  
 $> 0.02\%$  Pulse Amplitude and %  
Transmission  $> 5$

## Non-Invasive Blood Pressure (NIBP)

Method: Automatic oscillometric

Parameters: Systolic, diastolic,  
mean arterial pressure, pulse

Scale: mmHg or kPa

Operating Modes: Manual,  
Automatic, Continuous

Repeat Cycles: 1 ~ 10, 15, 30, 60,  
90, 120 minutes

Determination:

Systolic, Adult/pediatric  
40 ~ 250mmHg (5.3 ~ 33.3kPa)

Systolic, Neonate  
20 ~ 160mmHg (2.7 ~ 21.3kPa)

Diastolic, Adult/pediatric  
10 ~ 180mmHg (1.3 ~ 24.0kPa)

Diastolic, Neonate  
10 ~ 140mmHg (1.3 ~ 18.7kPa)

Cuff Pressure Range:

Adult/pediatric 0 ~ 300mmHg  
(0 ~ 40.0kPa)

Neonate 0 ~ 140mmHg  
(0 ~ 18.7kPa)

Initial Cuff Inflation:

Adult/pediatric 170 $\pm$ 10mmHg  
(22.7 $\pm$ 1.3kPa)

Neonate 100 $\pm$ 10mmHg  
(16.0 $\pm$ 1.3kPa)

Deflation Pressure:  
30mmHg(4.0kPa) higher than the  
last systolic pressure

Cuff Inflation Rate: No greater  
than 50mmHg/sec

Measurement Time: Typical 25  
seconds, Maximum 40 seconds,  
Typical Stat 20 seconds

Pressure Display Accuracy:  
 $\pm 3$ mmHg

BP Pulse Rate Accuracy:  
 $\pm 2\%$  @ 40 ~240bpm

Cuff: Neonate, infant,  
pediatric, standard adult

## Safety Approval & Quality System

Designed to meet IEC60601-1-1988, EN60601-1-1, EN60601-2

Class II Equipment, double insulated

Type BF applied parts

ISO9001 & EN46001 Certified