DRE Waveline EZ

Portable Patient Monitor

Equipment for the way you operate

Technical Specifications

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

Power Requirements

AC 90-264V/47-63Hz **Power Supply** Input Power <55VA **Fuses** Two fuse sockets in the rear panel indicated by "FUSE", Φ 5X20, 2A/250V

Battery 12V/4.0AH sealed lead-acid Charge time ≥4 hours Operating time ≥2 hours (full recharge) Battery Charging Method Automatic charging after monitor is

connected to AC power supply (with charge protection function)

Discharge Protection When powered by battery, the monitor will be

automatically turned off when battery power is almost used up

Performance Specifications

ECG

Patient Safety

Standard IEC60601-1-1988 **CMRR** (Common Mode Rejection Ratio) 20 ~ 254bpm ± 1bpm Heart Rate Range 8 second average Heart Rate Averaging ST Segment Range $-0.8 \sim + 0.8 \text{mV}$ 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 5-lead ECG patient cable Input **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 \rightarrow 4 hours \rightarrow 8 hours \rightarrow 24 hours \rightarrow 48 hours

Patient Isolation

- Breakdown voltage 4000VAC 50Hz 60 seconds - Leakage current 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 $<10\mu A$

Performance Specifications

ECG continued

Enclosure Leakage Current <0.1mA 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

Respiration

Measurement Method Thoracic Impedance $0 \sim 100 \pm 1 \text{rpm}$ Respiration Rate Range ±2 rpm Accuracy

Pulse Oximetry (SpO₃)

SpO₂ Range 0-100% Adult/Pediatric/Neonate SpO₂ Averaging 8 second average $\pm 2\%$ (70 ~ 100%), SpO₂ Accuracy ±3% (40 ~ 70%) Pulse Rate Range 30 ~ 250bpm Pulse Rate Averaging 8 beat average Pulse Rate Accuracy ±1%@30~100bpm Sensor Types Finger, Universal "Y", wrap probes Pulse Rate Display Digital

Non-Invasive Blood Pressure (NIBP)

Method Automatic oscillometric **Parameters** Systolic, diastolic, mean arterial pressure, pulse mmHg or kPa Scale Manual, Automatic, Operating Modes Continuous Repeat Cycles $1 \sim 10, 15, 30, 60,$ 90, 120 minutes

Determination

40 ~ 250mmHg - Systolic, Adult/pediatric $(5.3 \sim 33.3 \text{kPa})$ 20 ~ 160mmHg - Systolic, Neonate $(2.7 \sim 21.3 \text{kPa})$ - Diastolic, Adult/pediatric 10~180mmHg $(1.3 \sim 24.0 \text{kPa})$

Cuff Pressure Range

- Diastolic, Neonate

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

10~140mmHg

 $(1.3 \sim 18.7 \text{kPa})$

- Neonate 0 ~ 140mmHg (0 ~ 18.7kPa)

Performance Specifications continued

NIBP continued

Initial Cuff Inflation

- Adult/pediatric 170±10mmHg

(22.7±1.3kPa)

100±10mmHg (16.0±1.3kPa) - Neonate Deflation Pressure 30mmHg(4.0kPa) higher than the last systolic pressure

Cuff Inflation Rate No greater than 50mmHg/

Measurement Time

25 seconds - Typical - Maximum 40 seconds - Typical Stat 20 seconds ±3mmHg Pressure Display Accuracy BP Pulse Rate Accuracy ±2% @ 40 ~ 240bpm Cuff Neonate, infant, pediatric, standard adult

Temperature (Dual Channel)

0~50°C Range YSI® 400 Skin surface Probe or rectal /esophageal Scale Celsius Accuracy ±0.1°C Resolution 0.1°C

CO,

Side stream, mom-dispersive IR Type CO₂ Range 0-99mmHg Scale mmHg/kPa +- 2mmHg (0-40mmHg) Accuracy +- 5mmHg (41-76mmHg) +-10mmHg (77-99mmHg) Calibration Automatic

Respiration Range 0-150rpm, +- 2rpm

TFT Color Display

8 inches Size Matrix 640 (H) x 480 (V) pixels

Dimensions

Approx. 9"(w) x 8.2"(h) x 4.7"(d) Weight Approx. 6 lbs.

Recorder (Optional)

Type Built-in 2-channel thermal array recorder Print mode Text or waveform Waveforms Real time or alarm-triggered Resolution 400dpi vertical, 800dpi horizontal **Annotations** Time, date, vital sign readings

Specifications subject to change without notice

