D7 DEFIBRILLATOR

A Different Point of View

The combined defibrillator monitor D7 is designed to be used by out-of hospital and hospital users. Having an innovative and fully featured design, it provides for defibrillation and monitoring in a single portable device.

Display

✓ Brilliant, high-resolution TFT LCD color 7" 800x480 dots display allows the simultaneous visualization in real time of 3, 6 or 12 leads ECG and plethysmograph waveform with SpO2 sensor connected.

✓ ECG leads error message when cable is disconnected. Customizable ECG display traces in setup menu.

✓ Three operating modes: manual, AED, Advisory. In Advisory mode Rescue Life alerts when the shock is necessary using voice prompts and display messages, leaving the energy level and charging choice to the operator.

Sensivity In Ecg Detection

✓ D7 can filter the ECG signal automatically thanks to two modes:

● DIAGNOSTIC: ECG signal processing recommended for interpretation and diagnosis of ECG traces by the qualified personnel.

● MONITORING: digital filtered ECG signal, rejects the most parts of noises and artefacts caused by patient motions or by other physiological process of the body.

● These two modes may facilitate the ECG detection and help the qualified personnel to take important decisions for the diagnosis of heart diseases.

Fast Connection

✓ Users can choose between ergonomic reusable paddles, suitable for the manual defibrillation in both adult and pediatric patients or disposable pads for AED defibrillation. Both types are equipped with a single fast lock connection for reliable rescue operations. The ECG can be detected via 3, 5 or 10 leads ECG cable and the optional SpO2 sensor is available for detecting blood oxygen saturation. D7 can be equipped with internal reusable defibrillation paddles with interchangeable different sizes.

Memory and Data Management

✓ Simple commands, extremely intuitive and easy to use. Immediate access to main setup parameters using only the trim knob and function keys. The internal memory is able to record more than 300 hours of ECG data and events. The data are recallable and printable on the integrated thermal printer. Printing can be done in manual or in automatic mode. In the automatic mode the printing initiates when the energy charging starts (recording the ECG signal before the shock) and will continue 10 seconds after the shock was delivered.

TECHNICAL SPECIFICATIONS

GENERAL REQUIREMENTS

Dimension	369 x 240 x 340 mm
Weight	5,5 Kg with battery
Electrical	AC 100-240 VAC, 50/60 Hz- inverter 12V car adapter (optional)
	Rechargeable 15.0 V – 3.2 Ah Lithium-ion battery
Battery Operation Time	>5 hours
Battery Charge Time	Max. 3 hours
Capacity	150 shocks at 230J with battery fully charged
Software	Voice and texts multi language
Memory	Internal flash 4 Gb up to 300 hrs of ECG data, events and usage review
Review and printing	Review and printing of archived events database

ENVIROMENTAL

Temperature	Operational -5° ~ 46° C, Storage -20° ~ 50° C,
	Relative humidity 10 ~ 95%
Isolation	ECG type CF, Defibrillation type BF
Water proof	Class IPX4

DEFIBRILLATION

Waveform	Biphasic Truncated Exponential (BTE)
	HiCAP technology (Large storage capacitor)
Impedance	Compensated, range 25 - 200 Ohm
Charge time	6 sec for 230 J with battery fully charged

AED MODE

Energy	Fixed energy at 200 J
Protocol	ERC 2015 CPR Guidelines with voice and text prompts
Shockable rhythms	VF with amplitude > 0.15 mV and VT with rhythm >150 bpm
Sensitivity	Shockable rhythm-VF > 95%
	Shockable rhythm-VT > 75%
Specificity	According to ERC 2015
	Normal sinusoidal rhythm > 99%
	Asystole and other non-shockable rhythms > 95%

MANUAL MODE

Energy range	1 - 230 J (from 1-10 J in 1 J steps; from 10 to 230 J in 10 J steps)
Commands	Multifunction trim knob. Charge and shock button directly in the front panel for hands free defibrillation
Paddles	Reusable adult & pediatric defi paddles with charge/shock command Disposable defi pads and internal defi paddles (optional)
Operating mode	ECG « R » wave synchro or async mode
Indicators	Battery and main led indicators
	Clear and visible backlight color buttons

DISPLAY

Type	High contrast TFT color LCD 7" (800X480 dots)
Information	Operational information, ECG traces, Spo2 value, NIBP values, parameters, Heart Rate indicator, filters, alarms and battery status
Display mode	Can select 3, 6, 12 ECG leads

ECG MONITORING

Bandwidth	0.5 - 120 Hz (-3 db) with filters off
CMRR	> 95 db
Input impedance	> 20 Mohm
Input	Patient cable 5 leads (I, II, III, aVL, aVF, aVR, V) - standard
	Patient cable 10 leads (I, II, III, aVL, aVF, aVR, V1.....V6) - optional
Gain	2,5, 5, 10, 20, 40 mm/mV with patient cable. AUTO with pads
Speed	5, 10, 25, 50 mm/sec
Filters	550/60 Hz, EMG Filter, base line
Monitoring Mode:	0.6 - 40 Hz (-3 db) bandwidth
Diagnostic Mode:	0.05 - 120 Hz (-3 db) bandwidth
HR range	20 - 300 bpm (~ 2%), digital readout on the display
Alarm	HR max settable 250 bpm; HR min 20 bpm

SPO2 (OPTIONAL)

SpO2 range	0 - 100%
HR range	30 - 250 bpm
Accuracy	70 - 100% ~ 2% for adults with finger clip sensor
Alarm	Adjustable min 50%

PRINTER

Type	Integrated thermal 3 channels printer for ECG traces and events documentation hardcopy including HR/SpO2/NIBP values
Paper speed	5, 10, 25, 50 mm/sec
Paper width	58 mm
Operating model	Manual, automatic (10" pre and post shock recording)

NIBP (OPTIONAL)

Technique	Oscillometric
NIBP Accuracy	Meets ANSI/AAMI SP10-2002, EN 1060-4
Patient Application	Adult/Paediatric/Neonatal
Systolic Range	Adult: 40-260mmHG, Paediatric: 40-160
mmHG, Neonatal	40-130 mmHG
Range MAP	Adult: 26-220 mmHG, Paediatric: 26-133
mmHG, Neonatal	26-110 mmHG
Diastolic Range	Adult: 20-200 mmHG, Paediatric: 20-120
mmHG, Neonatal	20-100 mmHG
PR RANGE	30-220 BPM
PR Accuracy	+/-2% or +/3 bpm
Operating Modes	Manual, Long Term Automatic, Stat, Service
Auto Interval Periods	1,2,3,4,5,10,15,30,60 and 90 minutes

EXTERNAL PACEMAKER (OPTIONAL)

Type	Rectangular wave
Operating mode	Fixed on demand
Pulse rate	30 ppm to 250 ppm, adjustable in steps of 5 ppm
Impulse duration	22.5 ms
Pulse current	0 to 150 mA adjustable in steps of 5mA
Amplitude	Max 150 V

STANDARDS & SAFETY

Standard	IEC 60601-2-4; IEC 60601-1; IEC 60601-1-2
	ANSI/AAMI 60601-2-4; ANSI/AAMI 60601-1; ANSI/AAMI 60601-1-2
CE Mark EEC 93/42	Medical device, Class IIb

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