

LIFEGAIN CU-HD1 DEFIBRILLATOR MONITOR



Medical Systems, Inc.



LIFEGAIN CU-HD1 DEFIBRILLATOR / MONITOR

LifeGain CU-HD1 – this is the company’s high end defibrillator/monitor intended for hospital use. It has defibrillation capabilities in AED and manual modes and may use disposable electrode pads and external and internal paddles for shock delivery. It has a transcutaneous pacer for temporary pacing of patients with low heart rate. It has an SPO2 module for the monitoring of oxygen saturation in the patient’s blood and a 12-lead ECG monitor for the evaluation and monitoring of the patient’s ECG.

It has a memory card port for the storage of acquired signals and an integrated printer for the generation of hard copies of the patient’s physiological signals. These features make this defibrillator suitable for use inside a hospital. This product is a defibrillator designed for qualified emergency staff and medical professionals to deliver defibrillating shocks to victims of sudden cardiac arrest and restore the normal ECG rhythm.



AED Mode

AED Mode is delivered to patients who are exhibiting the symptoms of Sudden Cardiac Arrest (SCA) including ventricular fibrillation, ventricular tachycardia, in order to bring them back to life by delivering electric shock and restoring the normal ECG rhythm.

In the AED mode, defibrillation pads must be used. These defibrillation pads work to obtain the ECG signal of patients and deliver electric shock according to the patients' condition.

Manual Mode

Manual Mode is divided into two functions such as asynchronous defibrillation and synchronous cardioversion. In asynchronous defibrillation, the usage target is the same in AED Mode.

For the asynchronous defibrillation treatment in the manual mode, the user is able to choose the level of electric shock energy from the range of 1-200 joule by the use of pads or paddles.

On the other side, when used for synchronous cardioversion, it is used on patients with the symptoms of atrial fibrillation. It is designed to analyze the R-wave of ECG QRS and deliver R-wave synchronized electric shocks.

In the Manual mode, synchronous cardioversion treatment can be delivered to patients with rapid atrial fibrillation, ventricular tachycardia, and cardiac ischemia.



Pacer Mode

Pacing is a method applied to patients who had lost natural cardiac movement functions, mostly used on patients with bradycardia. LiFEGAIN CU-HD1 functions to support non-invasive pacing, a way of helping maintain a patient's pulse by attaching its electrode to the patient's skin and delivering artificial electric stimulation to the heart. Pacing mode is divided into the 'Fixed mode' and the 'Demand mode'.

Monitoring Mode

Patient monitoring mode features the ECG monitoring function and the function to measure the level of SpO₂, functional oxygen saturation in the blood.

For the ECG monitoring function, you can discriminatingly use the 3-lead, 5-lead, 12-lead ECG cables. During the patient monitoring session, it is possible to analyze the ECG results to use the alarming function according to the conditions such as the number of pulses, ventricular fibrillation or ventricular tachycardia etc. If using an ECG cable, convert "Rotary Switch" to "Monitor mode" before usage.



KEY FEATURES

- Manual and AED Operation
- Defibrillation using paddles or pads
- Synchronized cardioversion
- Efficient and effective e-cube Biphasic technology (BTE Type)
- SpO2 pulse oximetry with alarm
- ECG monitoring (3 Lead ECG / 5 Lead ECG / 10 Lead ECG)
- Noninvasive pacing mode

SPECIFICATION

DEFIBRILLATOR

- | | |
|--|--|
| • Operating Modes | Manual / Semi automatic |
| • Waveform | Biphasic (Truncated exponential type) |
| • Shock Delivery | Via Paddles or multi-function defibrillator electrode pads |
| • Reusable External Paddle | Yes |
| • Pediatric Paddle | Yes |
| • Multifunction Defi Pads (Disposable) | Yes |
| • Energy sequence | Yes |
| • Manual mode, J | 1~10, 15, 20, 30, 50, 70, 100, 120, 150, 170, 200 J |
| • Synchronous Cardioversion | Yes |
| • AED mode, J | Fixed energy at 200 Joules |
| • Text and Voice Prompts | Yes |
| • Protocol configured | Yes |

ECG MONITOR

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|-------------------------------|--|
| • ECG acquisition | Disposable electrodes |
| • Monitors with ECG | YES |
| • Input | Lead I, II, III (3 Lead ECG cable) |
| | Lead I, II, III, aVR, aVL, aVF or V (5 Lead ECG cable) |
| | Lead I, II, III, aVR, aVL, aVF or V1, V2, V3, V4, V5, V6 (10 Lead ECG cable) |
| | (Display View : All 12 Lead ECG waves display simultaneously) |
| • Electrodes | Yes |
| • ECG display | Yes |
| • Message display | Yes |
| • Heart rate display | 30 to 300 bpm (± 3 bpm) |
| • ECG size | 5, 10, 20mm/mV and Auto-gain |
| • Heart Rate/Arrhythmia Alarm | HR, Asystole, VF, VT |
| • Lead Fault message | Yes |

NONINVASIVE PACING

- | | |
|----------------------|---|
| • Waveform | Monophasic Truncated Exponential |
| • Mode | Demand and Fixed mode |
| • Amplitude Accuracy | 0 ~ 200mA (± 5 mA) |
| • Pulse Width | 20ms (± 1.5 %) |
| • Pulse Rate | 30 ~ 180ppm (± 1.5 %) |
| • Refractory Period | 340 msec (30 to 80ppm) / 240 msec (90 to 180 ppm) |

SpO2 Pulse Oximetry

- | | |
|-------------------|--|
| • SpO2 monitoring | Yes (Nellcor) |
| • Saturation | 70~100% (± 3 digits) |
| • Pulse Rate | 20~250bpm (± 3 bpm) |
| • Perfusion | 0.2% |
| • SpO2 alarm | YES |
| | (Less than minimum setting rate, Over than maximum setting rate) |

NIBP

- Patient Population Adult, Pediatric, Neonate
- Method Oscillometric
- Control Automatic and manual measurements
- Auto Intervals 1, 3, 5, 10, 15, 30, 60, 120 min
- Displayed Pressures Systolic, Diastolic, Mean mmHg
- Displayer Units Adult : 40 to 260 mmHg
Pediatric : 40 to 160 mmHg
Neonate : 40 to 130 mmHg
- Systolic Range Adult : 20 to 200 mmHg
Pediatric : 20 to 120 mmHg
Neonate : 20 to 100 mmHg
- Diastolic Range ± 3 mmHg
- Pressure Transducer Accuracy Adult : 300 mmHg
Pediatric 300 mmHg
Neonate : 150 mmHg
- Redundant Circuit Overpressure Limit

PRINTER

- Continuous ECG Strip Real-Time (8 seconds delay)
- Auto Printing Recorder can be configured to print marked event, charge, shock and alarms
- Printing Speed 25mm/s
- Paper 50mm Width / 40mm Diameters

DATA STORAGE

- Information stored ECG data, Event, Voice
- Internal memory Yes
- Even & ECG record Yes
- Database storage Yes
- External memory card Yes(SD card)

EXTERNAL LINK

- Data management Yes
- Software Yes(CU-Expert)

POWER SOURCE

- Type Lithium Polymer (14.8V 3.1Ah – Rechargeable)
- Integral/removable Removable
- Charging method AC adapter / Car Cigar Lighter Jack / both
- AC Power Pack Output : 18V, 6A

PHYSICAL

- Size 318 X 208 X 355 (W X L X H, mm)
- Weight 5kg (with external paddle)

DISPLAY

- Type TFT Color
- Size 7 inch Diagonal (152mm X 91mm)
- Resolution 800 X 480 pixels

AUTOMATIC SELF-TEST

- Power on Self-Test YES
- Run Time Self-Test YES
- Manual Self-Test YES
- Periodic Self-Test Daily / Weekly / Monthly



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