

Research Work Title

Design and Production of Defibrillator



Executive Organization
SAIRAN Medical Industry

Representative
Khalil Torkan

Collaborator Organization
Avecinna Co.

Abstract

The designed defibrillator by SAIRAN Medical Industry is being used not only as a vital sign monitor but also as a manual defibrillation, AED and external pacer. The following items are considered RELIVE DM5 defibrillator's applications and modes:

- In a manual defibrillation, the capacitor is charged to maximum 200J in less than 6 seconds in order to be delivered to the patient at the right time by the user.
- Cardioversion (Synchronized) delivers the energy by the user's command applying special algorithms and R wave detection.
- In AED mode, algorithms analyse the ECG signal for shockable arrhythmias and notify the user by verbal alarms and voice prompts.
- An external pacer generates pulses stimulating the heart to beat at a normal rate based on a rate and electrical current specified by the user.
- In the monitoring mode, the patients' vital signs (ECG, SpO2, CO2, NIBP, IBP, TEMP) are measured and displayed.
- With telemedicine capability, vital signs and the device status are sent to a cloud server and are used for keeping the patients' medical records and after sale services.

