

# Electrocardiogram, handheld, digital

Country of origin | India

Primary function | Diagnosis

Health problem addressed

According to WHO, 17.5 million people die every year of cardiovascular diseases (CVDs). In developing countries, access to heart healthcare is difficult due to poor infrastructure and the small number of cardiologists in hospitals.

This device offers a wholistic solution to diagnose and support heart patients, by providing neighbourhood doctors with the right equipment and knowledge to perform cardiac diagnosis.



Disease addressed

Diseases of the circulatory system.

Technical descriptions

The device is a 12 lead handheld digital electrocardiogram (ECG), SpO2 and blood pressure (BP) monitoring system with Android and cloud backend. It allows general physicians and technicians to quickly screen a heart patient potentially at risk. The data is acquired at 1kHz and transmitted to a native Android application wirelessly through Bluetooth. The application displays, analyses and transmits the data to a web application for real time remote diagnosis. PDF reports are generated with complete analysis.

Developer's claims of products benefits

Existing ECG monitors are expensive, bulky, standalone, mostly analog design (making them prone to failure) and require frequent calibration. Doctor and patient have to be colocated or else the report has to be carried by the patient for diagnosis. The present monitoring device is a completely digital, battery-operated and network-connected ECG machine. It allows patients to connect in real time irrespective of their location. The device supports multiple languages and automatically updates its software.

Operating steps

10 lead ECG cable and SpO2 finger clip must be connected to the patient. Cardi-track data acquisition unit must be switched on. Enter patient details on Android application and click on 12 Lead ECG. ECG gets displayed on Android and stored on the tablet automatically. Generated PDF report can be emailed for referral.

Regulatory status and standards compliance

ISO certification through National Accreditation Board for Testing and Calibration Laboratories (NABL, India) accredited body Swisscert. ISO 13485.

Use and maintenance

**User:** Trained caregiver (e.g family member), technician, nurse, general physician, specialised physician.

**Training:** Device usage training required.

**Maintenance/Calibration required:** No

Environment of use

**Setting:** Rural settings, urban settings, outdoors, indoors, at home, primary level (health post, health centre), secondary level (general hospital), tertiary level (specialists hospital), ambulances.

**Energy requirements:** Rechargeable battery.

Product specifications

**Weight (kg):** 0.14

**Dimensions:** 115mm x 69mm x 20mm

**Consumables:** Ag/AgCl ECG gel

**General product:** Android phone (mandatory), printer (optional)

**Lifetime:** 5-10 years

**In UN catalog:** No

Commercial information

**Reference price (USD):** \$500.00

**Year of commercialization:** 2015

**Number of units distributed:** 101-1 000

**Software requirements:** Native Android application (free), browser-based Web application (free)|. ECG snapshots with patient data can be read without the hardware.

**Model:** Carbon

**Other features:** Portable, reusable (assuming appropriate decontamination and/or other reprocessing between uses)

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