

## Detailed specifications:

|   |  |
|---|--|
| Size and weight:  | 295 x 225 x 82 mm, 2.5 kg  |
| Mains voltage:  | 100-240 V 50/60 Hz   |
| Mains power consumption:  | Max. 2 A   |
| Battery type:   | 10V, min. 2000 mAh NiMH battery pack   |
| Operating time with battery:  | Min. 4 hours continuous operation in monitoring mode; min. 30 minutes printing           |
| Leads:  | 12 Standard, Cabrera, NEHB leads' simultaneous measurement                               |
| Paper speed:  | 10, 25, 50, 100 mm/sec $\pm$ 1%  |
| Sensitivity:  | 0.25, 0.5, 1, 2 cm/mV $\pm$ 3%   |
| <b>Built-in printer:</b>  |  |
| Printer paper:  | Heat-sensitive 112 mm wide, z-fold, 112 x 150 mm sheets                                  |
| Printing:   | High-resolution thermal printer head   |
| Printing / lead selection:  | 12 leads (2X6/3X4/3X4 + rhythm)  |
| <b>Optional external printer:</b>   |  |
| A4 laser printer connection option  |  |
| Printing / lead selection:  | 3, 6 or 12 channels from 12 leads  |
| <b>Printed data:</b>  |  |
| ECG record data:  | Date, time and patient name or identifier automatically                                  |
| ECG measurement results:  | Intervals, amplitudes, electric axis   |
|   | Mean complexes and rhythm curve  |
|   | Recommended diagnosis  |
|   | Rhythm analysis decision categories and statistics                                       |
| <b>Monitoring on the display:</b>   |  |
| Display:  | TFT, 800x480 pixel, 153 x 94 mm (optional: 9" LCD)                                       |
| Display / lead selection:   | 3, 6, 12 or 12 + 1 channels from 12 leads  |
| <b>Digital conversion data:</b>   |  |
| A/D converter:  | 13 bit simultaneous data acquisition   |
| ECG amplifier:  | 12 leads according to IEC and AAMI regulations   |
| Pacemaker tolerance:  |  |
| Max. pacemaker energy:  | $\pm$ 700 mV/2ms   |
| Pace detector operation:  | Min. 2 mV/0.5 ms ... max 700 mV/2 ms   |
| Filters:  | 50/60 Hz mains interference filter, programmable muscle filters, digital baseline filter |
| <b>Output / Input:</b>  |  |
| RS 232 isolated active serial   |  |
| Isolated USB A and B  |  |
| Analog input:   | +/-5V, 10mV/500Hz resolution   |
| <b>Storage capacity:</b>  |  |
| Min. 100 diagnosed curve  |  |
| <b>Controls:</b>  |  |
| Foil keys and touch-screen  |  |
| <b>Safety data:</b>   |  |
| Patient leakage current:  | Less than 10 $\mu$ A   |
| Safety class:   | "I", "CF" according to IEC 601-1   |
| Defibrillator protection:   | Only with defibrillator protected cable  |
| <b>Environment requirements:</b>  |  |
| Operating temperature:  | + 10... + 40 C°  |
| Storage temperature:  | -20... + 55 C°   |
| <b>Recommended accessories:</b>   |  |
| 10-lead patient cable with electrode set  |  |
| 4-lead patient cable  |  |
| USB cable   |  |
| <b>Device program selection:</b>  |  |
| Analysis and diagnosis program  |  |
| Rhythm analysis   |  |
| Exercise program module   |  |
| <b>PC program selection:</b>  |  |
| Innobase for Windows database management system. PC monitoring program with 12-channel monitoring and size A4 printing. Software options require at least Windows XP operating system. Windows XP is Microsoft Corp. trademark. |  |

We reserve the right to modify stated data.

All brand names and logos are owned by the respective companies. All rights reserved!

# Innomed Medical

Medical Developing and Manufacturing Inc.

Hungary: 1146 Budapest Szabó J. u. 12 ▶ Phone: (+36-1) 460-9200 ▶ Fax: (+36-1) 460-9222

E-mail: [innomed@innomed.hu](mailto:innomed@innomed.hu) ▶ Homepage: [www.innomed.hu](http://www.innomed.hu)



# HEARTSCREEN 112 Clinic

Diagnostic ECG with 12-channel Color LCD



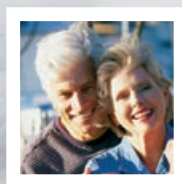
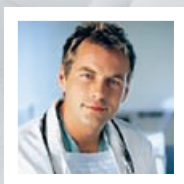
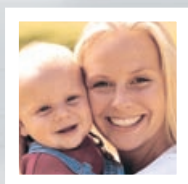
CE 0120

## Main features:

- ▶ 12 Standard, Cabrera, NEHB leads' simultaneous measurement
- ▶ 112 mm wide thermal printer, 6-channel printing
- ▶ 12+1 lead monitoring on the large 7" graphic LCD
- ▶ Size A4 printing when laser printer is connected (optional)
- ▶ Full alphanumeric keyboard on the touch-screen
- ▶ Mains and mobile operating mode: high-capacity battery, built-in power supply, intelligent quick charger
- ▶ High memory capacity

## Services:

- ▶ Automatic and manual lead selection
- ▶ Z-fold paper with 112x150 mm sheets
- ▶ Pace-maker signal detection and recording
- ▶ Programmable recording modes
- ▶ ECG analysis program with automatic diagnosis suggestion
- ▶ Rhythm analysis with statistics
- ▶ Pulseoximeter channel (optional)
- ▶ HR, SpO<sub>2</sub> monitoring possibility, adjustable alarm limit values for HR and SpO<sub>2</sub> parameters
- ▶ Foil keys for main functions
- ▶ Exercise ECG option
- ▶ High-speed 12-channel on-line monitoring and Cardiological database management program on the PC



## Reliable basic functions

The HeartScreen 112 Clinic is a 12-lead ECG device based on the most modern microcomputer-controlled development results.

As a result of the refined analog and digital signal processing technology the 12-channel recording display and processing is completely noise-free and precise.



## High-resolution LCD

The 800x480 pixel, 153x94 mm large display makes it possible to display in detail all the waves of the ECG curve. The leads appear in different colors, so the overlapping curves are easily distinguished. The strong backlight provides high-contrast image under all light conditions. All functions are easy to access and operate using the services that appear in the menu system.

## Ergonomic controls, menu-controlled functions

The new design that makes it comfortable and a pleasure to use the device, fits right into your modern environment. The functions and settings are easy to handle with the foil keys and the touchscreen, which also make operation flexible and simple.

## Long-life thermal printer, excellent printing quality

As a result of thermal printing technology, the printer contains few moving parts only, and can print as much as 50.000m. The printed curves perfectly indicate all details of the ECG's QRS complex and all other waves. The HeartScreen 112 Clinic contains a 112mm wide thermal printer unit that is able to print 6 or 3 channels.

A laser printer can be connected to the device, to print size A4 ECG reports directly to normal paper.

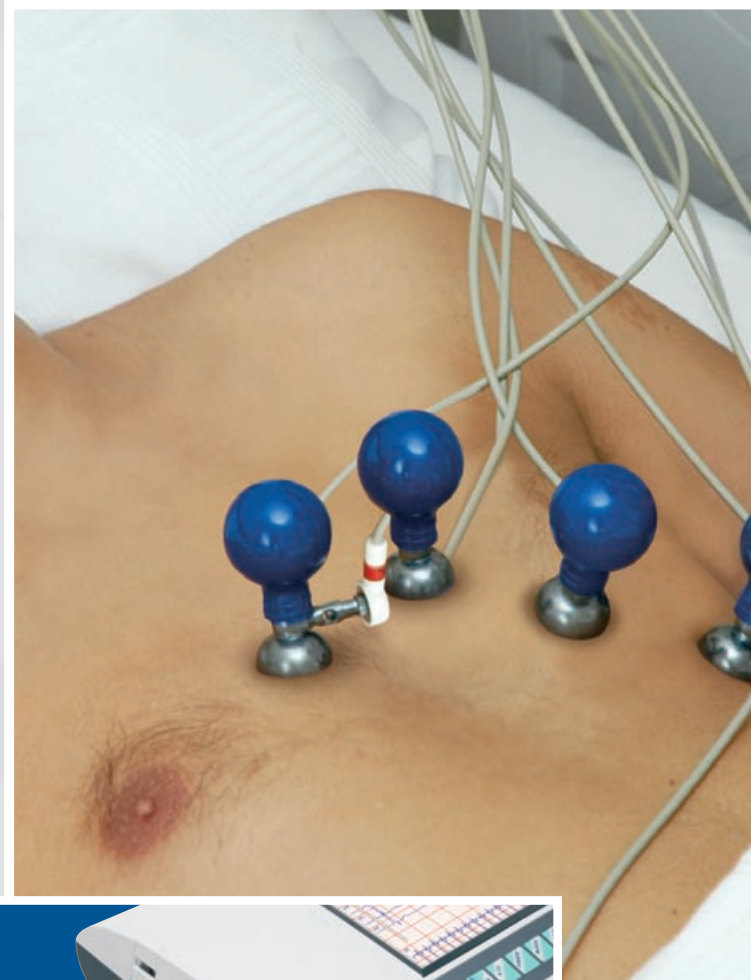
## Mobile operating mode

The high-capacity battery and the modern charging technology in the HeartScreen offer absolute safety for the user requiring mobile application. The minimum 4-hour continuous operation in monitoring mode and the minimum 30-minute printing with a single charge offer

ample security in even the most unanticipated situations. However, the built-in charger quickly charges the battery. Even when the battery is completely drained, the device operates automatically when connected to the mains.

## Infinite upgrade options

The HeartScreen family offers a wide range of options for the ECG diagnostics user to get the best possible device. The HeartScreen concept makes it possible to create a versatile, multi-functional cardiological diagnostic center from a high-level basic ECG diagnostic device. The user can do this anytime and at any pace, since the construction offers infinite possibilities for different versions.



## Options

The pulseoxymeter channel offers the simultaneous monitoring of the pulse wave, the ECG and an external analog signal (for example a doppler), and offers exact data about the patient's cardiovascular system.

To ease record analysis, select an analysis and diagnosis program; for long-period, several-minute ECG signal analysis select the rhythm analysis option.

You can upgrade the system to an exercise measurement workplace, since the new ECG generation offers automatic bicycle ergometer control as well. The program adapts flexibly to examining different types of patients, the safety devices support minimizing risk.

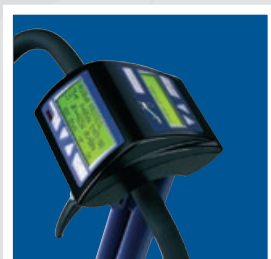
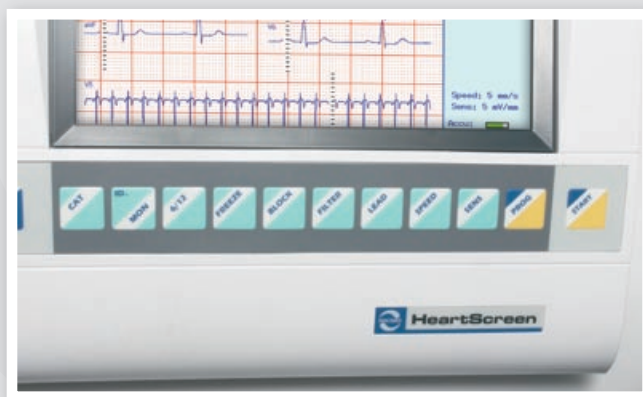


### HeartScreen 112 Clinic PC connection

Information management systems are becoming increasingly important in patient care, where quick access to comprehensive critical information is a must for more efficient patient care and more favorable cost efficiency.

Even in its most basic construction, the HeartScreen 112 Clinic contains computer connection possibility, which – with the optional software – ensures a wide range of options for professional information applications.

Innomed's new cardiological information system – Innobase – offers users complete solution for the integration of the HeartScreen into the information systems.



The arrhythmia program makes it possible to monitor a patient for over several 10 minutes. The device automatically recognizes ventricular and supraventricular extras, wide beats, and other heart cycles that appear irregularly in time. In one operating mode the device only prints extras and their environments, not the regular beats. Another operating mode makes it possible to store and print the entire continuous ECG signal in uncompressed format. At the end of the recording the device creates statistics about extra types and displays minimum and maximum RR distances and RR deviation as well.