

CardioMax

Practical and versatile.

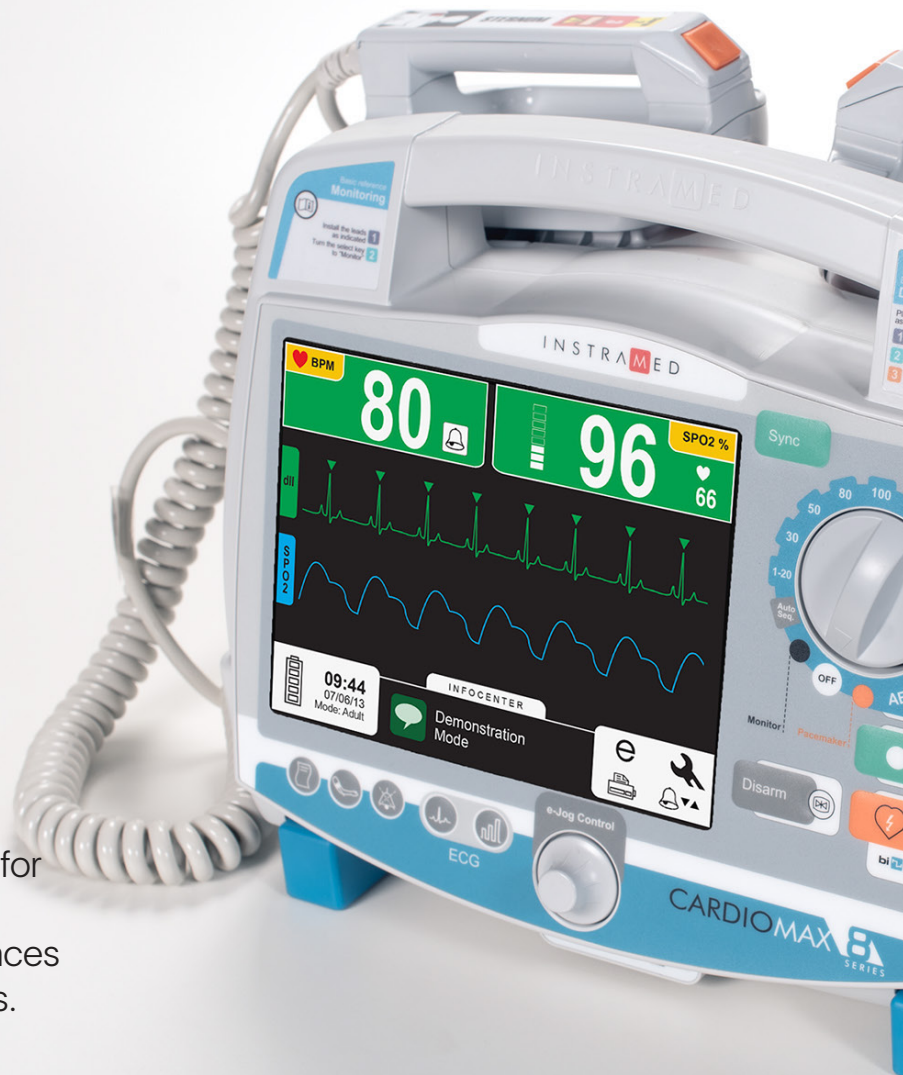
The fastest-charging cardioverter/defibrillator on the market, designed to treat adult, pediatric, and neonatal patients, offering ease of use and versatility.



CARDIO**MAX**

- Monitor
- Cardioverter
- Defibrillator

The CardioMax is a compact and robust biphasic cardioverter/defibrillator. Meticulously developed for use in emergencies, in-hospital transport, or ambulances, it incorporates a monitor that can be configured with the primary physiological parameters used in emergencies, providing a complete and reliable view of the patient's condition. With the CardioMax, you ensure precision and speed in care, even in the most critical situations.



Every minute is urgent.

The CardioMax has unique features for the emergency care segment that optimize time and increase the chances of achieving its purpose: saving lives.

Auto **GAS** Sequencing

Allows pre-programming of charges from 10 to 360 J for the first, second, and third shocks, optimizing the process and saving time by avoiding manual adjustments on the selector.

RTC Real Time Check

Performs self-diagnostics and provides advance notice if any maintenance actions are required, ensuring it is always ready for immediate use.

SIP Sudden Death Prevention

Enables the CardioMax to continuously monitor the patient, identifying episodes of Ventricular Fibrillation or Ventricular Tachycardia, triggering visual and audible alarms to alert the medical team.

Available Parameters

- Cardioverter
- Defibrillator
- Automated External Defibrillator (AED)
- Electrocardiogram (ECG)
- Respiratory Rate Monitoring
- ST Segment Analysis
- Non-Invasive Pacemaker
- Oximetry (SpO2)
- Capnography (EtCO2)
- Non-Invasive Pressure Monitoring (NIPB)
- Sudden Death Prevention
- Printer
- Charge Selection on Paddles
- IP44 Protection Index



Optimizing every second.

Advanced technology and software designed to meet the needs of emergency care, wherever it occurs.

Practical and intuitive.

Quick-access control panel for main functions and an 8.4" color display that automatically adjusts to the number of parameters, presenting information clearly and in an organized manner.



Exclusive features.

Charging up to 360 J in less than 6 seconds makes it the fastest on the market. Compatible with the CPR Maestro.

GENERAL SPECIFICATIONS

- **Dimensions**
 - Length: 30.0 cm (11.81 in).
 - Depth: 21.5 cm (8.46 in).
 - Height: 28.0 cm (11.02 in).
- **Weight**
 - Main unit: 5.15 kg (11.35 lbs).
 - Li-Ion battery: 0.60 kg (1.32 lbs). -External pads: 0.85 kg (1.87 lbs).
 - Full set (Li-Ion battery): 6.60 Kg (15.66 lbs) (except NIBP).
- **Electrical**
 - AC: 100 to 220 VAC, 50/60 Hz. -DC external: 11 to 16 VDC.
- **Removable rechargeable battery**
 - Li-Ion, 14.4 VDC 4 A/h**
 - Duration: battery with full charge - 4 hours in monitor mode, without printer, or a minimum of 140 shocks at 360 J or a minimum of 200 shocks at 200 J..
 - Battery full-charge time (when fully depleted): 4h 30min.
 - Li-Ion, 14.4 VDC 6 A/h**
 - Duration: battery with full charge - 6.5 hours in monitor mode, without printer, or a minimum of 250 shocks at 360 J or a minimum of 400 shocks at 200 J.
 - Battery full-charge time (when fully depleted): 7h 20min.
 - **Check availability.
- **Memory**
 - Type: Nand Flash.
 - Capacity: 2 Mbytes.
 - Patients stored: >150 patients.
 - ECG: 2 continuous hours of ECG curve recording, when in AED mode.
 - Storage: 15 seconds of ECG when in shock, physiological alarm and panel events.
 - **RTC - Real Time Check** -Defibrillation self-test, battery level, connected pads, power source connection check. Check is performed 3 times which are set in advance. This information is wirelessly transmitted to a PC with RTC System software installed and within range of the network.

ENVIRONMENTAL SPECIFICATIONS

- **Temperature** -Operational: 0 to 50 °C.
- Storage: -20 to 50 °C.
- **Humidity**
 - Operational: 10 to 95% RH without condensation.
 - Storage: 10 to 95% RH, without condensation.
- **IP rating**
IPX1 (standard) or IP44 (optional).

DEFIBRILLATOR • Waveform

- Biphasic truncated exponential. Waveform parameters adjusted in terms of patient's impedance. • **Shock application**
 - By means of multifunctional pads (adhesive) or defibrillation pads.
 - Scales: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 50, 80, 100, 150, 200, 250, 300 and 360 J (maximum power can be limited to 200 J). Maximum power limited to 50 J for children's pads.
 - Commands: On/Off button, charge, shock, synchronise.
 - Energy selection: selector switch in front panel.
 - Charge command: button in front panel or buttons in external pads.

- Shock command: button in front panel or buttons in external pads.
- Synchronized command: sync button in front panel.
- **CAS - Charge auto-sequencing** -When enabled, it charges power previously set by the user for the first, second and third shocks, with no need to manually adjust the selector.
- **Maximum charge time in maximum energy**
 - < 6 seconds with 90% to 100% of the minimum specified voltage. -< 6 seconds with a full charge.
 - < 13 seconds from equipment initialization.
- **Charge indicators**
 - Audio indication of equipment being charged.
 - Audio indication of charge completed.
 - LED on external pads and charge level indicated on display. •
- External pads size**
 - Adult = 10.3 cm x 8.5 cm. Contact area = 81.9 cm².
 - Children = 4.5 cm x 4 cm. Contact area = 18 cm².
- **Cardioversion**
 - < 60 ms. •
- Pads**
 - Adult and child external (included). Adult and child external (optional).
 - Multifunctional for pacemaker, monitoring and defibrillation (optional).
 - Multifunctional extension (optional).

AED MODULE

- **Functional characteristics** -Voice instructions, visual indications, CPR instructions, USB 2.0. Multilanguage.
- **USB**
 - USB 2.0 for transfer of the electrocardiogram stored in AED mode to a compatible PC. •
- SoftIDEA**
 - Software for viewing the data transferred to the PC.
- **Maximum charge time**
 - 50 J: 2 seconds. -150 J: 4 seconds.
 - J: 6 seconds.

EXTERNAL PACEMAKER*

- **Modes**
 - Demand or fixed.
- **Amplitude** -From 5 mA to 200 mA(resolution of 5 mA), accuracy 10%.
- **Pulse width**
 - ms (tolerance of 10%).
- **Frequency** -From 30 PPM to 180 PPM (increments of 5 PPM), accuracy ± 2%.

- **Refractory period** -340 ms (from 30 to 80 PPM).
- ms (from 90 to 180 PPM).

NIBP*

- **Operating principle** -Oscillometric.
- **Automatic mode**
 - 1, 2, 3, 4, 5, 10, 15, 30, 60 and 90 minutes. •
- Manual mode**
 - One measurement.
- **Measurement interval**
 - Adult range**
 - Systolic: 40 - 260 mmHg.
 - Mean: 26 - 220 mmHg.
 - Diastolic: 20 - 200 mmHg.
 - Pediatric range** -Systolic: 40 - 160 mmHg.
 - Mean: 26 - 133 mmHg.
 - Diastolic: 20 - 120 mmHg. **Neonatal range**

- Systolic: 40 - 130 mmHg.
- Mean: 26 - 110 mmHg.
- Diastolic: 20 - 100 mmHg.
- **Overpressure limit by software**
 - Adult: 290 mmHg max.
 - Neonate: 145 mmHg max.
- **Overpressure protection by hardware**
 - Adult: 300 ± mmHg.
 - Neonate: 150 ± mmHg.
- **Resolution**
 - 1 mmHg.

CPR MAESTRO* • Accessory for Cardiopulmonary Resuscitation (CPR)

- Feedback of the thoracic compressions.

DISPLAY

- **Battery level indicator**
 - Yes. • **Size**
 - mm x 170.9 mm.
- **Diagonal**
 - 8.4". • **Type**
 - Color LCD TFT.

- **Resolution**
 - x 480 pixels (VGA).

Scan speed -6.25, 12.5, 25 and 50 mm/s.

ECG (supports up to 12 simultaneous derivations when equipped with optional module)

- **Inputs**
 - or 5 lead ECG cable.
 - lead ECG cable (optional).
 - External pads.
 - Multifunctional pads. • **Range**
 - to 350 BPM.
- **Precision**
 - ± 1 BPM from 15 to 350 BPM.
- **Rejection in common mode**
 - Higher than 90 dB, in compliance with the AAMI standards for heart monitors (EC 13).
- **Sensitivity** -5, 10, 15, 20, 30 and 40 mm/mV.
- **AC line filter**
 - Hz or 50 Hz.
- **ECG response frequency**
 - Diagnostic mode: 0.05 -100 Hz.
 - Monitor mode: 1 - 40 Hz.
- **Patient insulation**
 - Defibrillation proof. - ECG: CF type.
 - SpO2: CF type.
- **Loose electrode**
 - Identified and shown with low level alarm.
- **Time to re-establish the ECG baseline after defibrillation:** -< 3 seconds.

SpO2*

- **SpO2 range**
 - to 100%.
- **Pulse range** -30 to 250 BPM.
- **SpO2 precision**
 - ± 2% from 70 to 100%.
 - ± 3% from 50 to 69%.
- **Pulse precision** ± 2 BPM.

CAPNOGRAPHY*

- **CO2 measurement interval**
 - 0 - 99 mmHg.
- **Precision**
 - ± 2mmHg from 0 to 38mmHg.
 - 5% + 0.08% for each 1 mmHg above 38 mmHg (from 39 to 99mmHg). *Optional. **Check availability.

- **Consumption**
 - 1.5 W.
- **Compensation**
 - BTPS, N2O and O2.

PRINTER*

- Print up to 3 (three) simultaneous derivations.
 - **Type** -Thermal.
 - **Weight**
 - Kg.
 - **Speed**
 - or 50 mm/s with ± 5% precision.
 - **Paper size**
 - mm (width) x 15 m (maximum length).

STANDARDS

- NBR IEC 60601-1
- NBR IEC 60601-1-2
- NBR IEC 60601-1-4
- NBR IEC 60601-1-6
- NBR IEC 60601-1-8
- NBR IEC 60601-2-4 -NBR IEC 60601-2-7
- NBR IEC 60601-2-30
- NBR IEC 60601-2-49 or equivalent IECs.

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