

- DEFIBRILLATOR •
- AED •
- PACEMAKER •
- ECG •
- RESPIRATION •
- OXIMETRY •
- NIBP •
- CAPNOGRAPHY •
- PRINTER •
- CPR MAESTRO •

CARDIOMAX 8 SERIES

Biphasic
Defibrillator
Monitor and
Cardioverter



RTC
Real Time Check

Auto **CAS** Sequencing

SDP Sudden
Death
Prevention

biphasic
SHOCK

AVAILABLE PARAMETERS

- Real Time Check Technology (RTC)*
- Automated External Defibrillator Mode (AED)
- Sudden Death Prevention Mode (SDP)
- Cardiopulmonary Resuscitation Accessory (CPR Maestro)*
- Electrocardiogram (ECG) up to 12 derivations*

Complete, advanced, reliable and easy to use: definitely the best investment in emergency equipment.



*Some items are optional - Please verify availability.

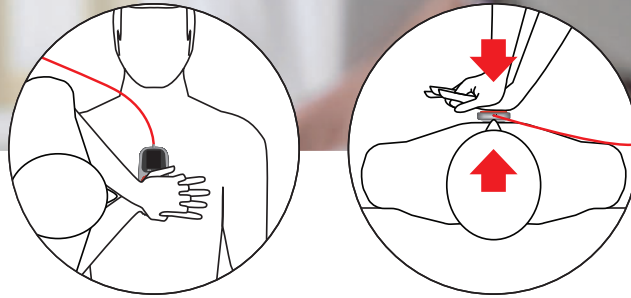
- Oximetry (SpO₂)*
- Non invasive pacemaker*
- Non-invasive pressure (NIBP)*
- Capnography (EtCO₂)*
- Printer*
- Removable rechargeable battery

THE IDEAL PARTNER FOR YOUR CARDIOMAX

Positioned on the patient's chest, the CPR Maestro provides real-time feedback on the rescuer's performance by guiding him through voice, LCD display and indications on the CardioMax screen about the procedure's optimal frequency, strength and interval.

The result is a much more effective and consistent performance of CPR, resulting not only in increased chances of patient survival, but reducing the occurrence of severe sequelae due to lack of oxygenation.

 **CPR**
Maestro



CARDIOMAX 
SERIES

PRACTICAL

- Light.
- Ready to use in less than 6 seconds.
- Biphase power delivery of up to 360 J.
- AED Mode – Automated External Defibrillator.
- CPR Maestro assists in performing cardiopulmonary resuscitation by measuring the frequency and depth of the chest compressions applied (optional).
- Internal battery, easy to replace, allows more than 100 shocks.

EASY TO USE

- Easy to use - All operations centralized on just two buttons.
- Easy operation - 1, 2, 3 standard.
- Quick access to main functions.
- Easy-to-use user interface - automatically adjusts itself to the number of active parameters, presenting clear and organized information.
- Large 8.4" color display.

SMART

- Auto Sequencing Charge function - When enabled, applies charges pre-configured by the user for the first, second and third shocks without the need to change the selector manually.
- Smart monitoring alarms.
- Sudden Death Prevention (SDP) technology. This characteristic allows CardioMax to monitor the patient continually and identify the beginning of a Ventricular Fibrillation or Rapid Ventricular Tachycardia episode.

RELIABLE

- Reliability - Instramed is a brand present in hundreds of medical organizations on more than 60 countries.
- Dependable products developed for the reality of emergency care.
- A wide network of dealers providing sales and parts, along with the factory-certified technical assistance, provides excellent post-sales service.
- With more than 30 years in the business, Instramed is a manufacturer that maintains stock parts and components even for discontinued products.

KNOW MORE ABOUT THIS PRODUCT IN WWW.INSTRAMED.COM.BR

GENERAL SPECIFICATIONS

- Pads dimensions**
 - 30.0 cm (11.81 in) length.
 - 21.5 cm (8.46 in) depth.
 - 28.0 cm (11.02 in) height..
- Weight**
 - Device - 5.15 kg (11.35 lbs).
 - Li-Ion battery - 0.60 kg (1.32 lbs).
 - External pads - 0.85 kg (1.87 lbs).
 - Complete 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**
 - Type: Li-Ion, 14.4 VDC 4 A/h.
 - Duration: battery with full charge - 3 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.
 - Type: 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 (Available when equipped with optional Li-ion battery)**
 - 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 for adult/external defibrillation

- 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.

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. Multilingual.

USB

- USB 2.0 for transfer of the electrocardiogram stored in AED mode to a compatible PC.

SoftDEA

- Software for viewing the data transferred to the PC.

Maximum charge time

- 50 J: 2 seconds.
- 150 J: 4 seconds.
- 200 J: 6 seconds.

EXTERNAL (OPTIONAL)

Modes

- Demand or fixed.

Amplitude

- From 5 mA to 200 mA (resolution of 5 mA), accuracy 10%.

Pulse width

- 20 ms (tolerance of 10%).

Frequency

- From 30 PPM to 180 PPM (increments of 5 PPM), accuracy $\pm 2\%$.

Refractory period

- 340 ms (from 30 to 80 PPM).
- 240 ms (from 90 to 180 PPM).

NIBP (OPTIONAL)

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 \pm mmHg.
- Neonate: 150 \pm mmHg.

Resolution

- 1 mmHg.

CPR MAESTRO (OPTIONAL)

Accessory for Cardiopulmonary Resuscitation (CPR)

- Feedback of the thoracic compressions.

Resolution

- 1 mmHg.

DISPLAY

Battery level indicator

- Yes.

Size

- 128.2 mm x 170.9 mm.

Diagonal

- 8.4".

Type

- Color LCD TFT.

Resolution

- 640 x 480 pixels (VGA).

Scan speed

- 6.25, 12.5, 25 e 50 mm/s.

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

- Inputs**
 - 3 or 5 lead ECG cable.
 - 10 lead ECG cable (optional).
 - External pads.
 - Multifunctional pads.
- Range**
 - 15 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

- 60 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 (OPTIONAL)

SpO₂ range

- 0 to 100%.

Pulse range

- 30 to 250 BPM.

SpO₂ precision

- $\pm 2\%$ from 70 to 100%.

- $\pm 3\%$ from 50 to 69%.

Pulse precision

- ± 2 BPM.

CAPNOGRAPHY (OPTIONAL)

CO₂ measurement interval

- 0 - 99 mmHg.

Precision

- ± 2 mmHg (0 - 38 mmHg).

- $\pm 5\% + 0.08\%$. For each 1 mmHg above 38 mmHg (39 - 99mmHg).

Consumption

- 1.5 W.

Compensation

- BTPS, N₂O and O₂.

PRINTER (OPTIONAL)

- Prints up to three simultaneous derivations.

Type

- Thermal.

Weight

- 0,104 Kg.

Speed

- 25 or 50 mm/s with $\pm 5\%$ precision.

Paper size

- 58 mm (width) x 15 m (maximum length).

STANDARD

- 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 60601-2-27
- NBR IEC 60601-2-30
- NBR IEC 60601-2-49 or equivalent IECs.

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Some items are optional. Please verify availability.



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