



The **Zoll M Series** defibrillator combines advanced patient monitoring, noninvasive pacing, ECG display, and defibrillation with printing and recording in one device. This Zoll defibrillator can be used in all resuscitation situations in a hospital or EMS use. It can be configured to operate in manual, advisory, or semi-automated modes. The M series defibrillator from Zoll is compatible with the CPR-D-padz to utilize the Real CPR Help that provides feedback to the rescuer during CPR. PCMCIA cards can be installed to record ECG, voice data, and other system data to be reviewed and archived on a computer.

## Features

- Capability of delivering 360 joules of energy (200 joules for biphasic units.)
- Can be used in manual and semi-automatic defibrillation modes.
- CPR monitoring that provides visual and audio feedback to maintain compressions at the AHA/ERC recommended rate.
- External pacing with continuously variable current and pulses per minute.
- Vital signs trending including heart rate, SpO2, end tidal CO2, respiration, and noninvasive systolic, diastolic and mean blood pressure.
- 3-5 lead or 12 lead ECG analysis.



# Specifications

## Dimensions

**Height:** 6.8" (17.3 cm)

**Width:** 10.3" (26.2 cm)

**Depth:** 8.2" (20.8 cm)

**Weight:** 13.5 lbs (6.14 kg)

## Power

**AC Power:** 100-120 ~ 50/60 Hz, 220-240 ~ 50 Hz, 220 VA

**DC Input (Optional):** 10-29 V, 130 W

## Battery (PD 4410)

**Type:** Rechargeable, Sealed Lead Acid

**Weight:** 2.2 lbs (1 kg)

**Voltage:** 2V/cell; 5 cells wired in series

**Recharge Time:** 4 hours or less with integral charger

**Operating Time:** For a new, fully charged battery pack at 20 °C: 35 defibrillator discharges at maximum energy (360 J), or 2.75 hours of continuous ECG monitoring, or 2.25 hours of continuous ECG monitoring/pacing at 60 mA, 80 beats/min.

## Battery (XL Battery)

**Type:** Rechargeable, Sealed Lead Acid

**Weight:** 3.7 lbs (1.7 kg)

**Voltage:** 2V/cell; 5 cells wired in series

**Recharge Time:** 7.2 hours or less with integral charger

**Operating Time:** For a new, fully charged battery pack at 20 °C: 60 defibrillator discharges at maximum energy (360 J), or 4 hours of continuous ECG monitoring, or 3.25 hours of continuous ECG monitoring/pacing at 60 mA, 80 beats/min.

## Pacemaker

**Type:** VVI demand; asynchronous (fixed rate) when used without ECG leads or in ASYNC pacing mode.

**Pulse Type:** Rectilinear, constant current.

**Pulse Shape and Duration:** Rectilinear, 40 milliseconds  $\pm$ 2 milliseconds

**Pulse Amplitude:** Variable 0 mA to 140 mA  $\pm$ 5% or 5 mA, whichever is greater. Digitally displayed on the monitor (increments or decrements by a value of 2 mA).

**Pacing Rate:** Variable from 30 ppm to 180 ppm  $\pm$ 1.5% (increments or decrements by a value of 2 ppm).

**Output protection:** Fully defibrillator protected and isolated  
Multi-Function Electrode (MFE) Pads: Specifically designed adult anterior posterior pre-gelled ZOLL MFE Pads, and Multi-Function Stat-padz packaged in pairs.



# Specifications

## Defibrillator

**Waveform:** Dampened sinusoid.

**Patient Impedance Range:** Minimum: 15 oms; Maximum: 250 ohms; Internal paddle range: 7 - 250 ohms

**Synchronized Mode:** Synchronizes defibrillator pulse to patient's R-wave. 60ms maximum time delay between sync pulse and delivery of energy.

**Paddles:** Standard anterior/posterior adult and pediatric. Adult paddles slide off to expose pediatric paddles.

**Defibrillation Advisory:** Evaluates electrode connection and patient ECG to determine if defibrillation is required.

**Multi-Function Electrode Impedance Measurement Accuracy:** 0 ohms - 250 ohms  $\pm$ 10% or 5 ohms, whichever is greater.

## ECG Monitoring

**Patient Connection:** 3, 5, or 12-lead ECG cable, paddles or MFE Pads.

**ECG Size:** 0.5, 1, 1.5, 2, 3 cm/mV - display on monitor

**Heart Rate Range:** 30 - 300 bpm

**Heart Rate Accuracy:**  $\pm$ 5%

**Input Protection:** Fully defibrillator protected. Special circuit prevents distortion of ECG by pacer pulse.

**Vital Signs Trends:** Heart rate, SpO<sub>2</sub>, end tidal CO<sub>2</sub>, respiration rate and noninvasive systolic, diastolic and mean blood pressure values.

## CPR Monitoring

**Compression Depth:** 0.75 to 3 inches  $\pm$ 0.25 inches (1.9 to 7.6 cm  $\pm$ 0.6 cm)

**Compression Rate:** 50 to 150 compressions per minute

## Display

**Screen Type:** High resolution, electroluminescent or liquid crystal display (LCD)

**Screen Size:** 5.66 inches (14.4 cm) diagonally (EL Display)

**Sweep Speed:** 25 mm/sec, 50 mm/sec (configurable for 12-lead ECG recording)

**Viewing Time:** 4 seconds

## Recorder

**Paper:** 80 mm thermal (grid width) 90 mm (paper width)

**Speed:** 25 mm/sec (configurable for 12-lead ECG printing at 50 mm/sec)

**Delay:** 6 seconds

**Printing Method:** High resolution, thermal array printhead.

**Print-out Modes:** Manual or automatic — user-configurable.

**On/Off Control:** Front panel and paddle.

**Automatic Function:** 15 second recording initiated by alarm activation or defibrillator discharge

