

# PHYSIO-CONTROL LIFEPAK 1000 DEFIBRILLATOR



Rugged and durable this AED is built to withstand the harsh environments that EMS professionals encounter every day. Designed for the professional user, the Lifepak 1000 is the most advanced AED ever designed by Physio-Control.

The Lifepak 1000 is built with a large screen for graphics and text display so that wherever an emergency strikes, you will be ready with the Lifepak 1000. Loud and dark environments can make it difficult to hear and understand prompts from some AEDs, but this professional model makes it simple.



Continuing the Lifepak standard of care, this unit utilizes escalating energy technology and is the only AED in the market that can shock up to 360 Joules. FDA studies have shown that 360 Joules have been successful in terminating fibrillation in patients where 200 Joules were not effective. Some patients are just more difficult to defibrillate and the Lifepak 1000 can deliver the energy needed to help everyone who could one day become a victim of sudden cardiac arrest.

The Lifepak 1000 is versatile to accommodate for first responders or professionals by allowing you to change the protocols to your local standard. Up to 17 hours of continuous monitoring also gives you the confidence that your device will be ready for whatever you throw at it.

Also available with 3 wire ECG capabilities the Lifepak 1000 will stand up to the test of being the premier professional AED. Backed by a 5 year manufacturer's warranty and the Physio-Control name you know that your purchase will be protected.

**Features**

- Loud voice prompts and lighted buttons to guide you.
- Large LCD screen displaying graphics and text for quick reference can be seen from any angle and in bright sunlight.
- Pre-connected electrodes that help speed your response when every second counts.
- Pediatric therapy can be easily provided using the Infant/Child Reduced Energy Defibrillation Electrodes.
- Built-in flexibility to program the unit to your CPR and resuscitation protocols.
- High capacity battery to provide the power for up to 440 shocks or approximately 17 hours of monitoring time.
- Digitally recorded ECG rhythm and delivered shocks, which can be wirelessly transferred via IrDA port to a PC for post-event quality review.
- From the streets to the emergency room, the 1000 is compatible with the full suite of lifesaving tools from Physio-Control, including our line of manual defibrillator/monitors.
- With the touch of a button, the 1000 operates in manual override, so you can decide when to analyze and shock.
- Lead II ECG patient monitoring\*\* on large display via 3-wire cable provides flexibility for
- ECG-trained users and enables ALS teams to quickly assess patient rhythm.

**Package Includes:**

- Physio-Control LifePak 1000 AED
- Adult QUIK-COMBO Pads (2 Sets)
- Non-Rechargeable LiMnO<sub>2</sub> Battery
- Soft Shell Carrying Case
- LifePak 1000 Getting Started Guide
- Operating Instructions
- User Manual
- 5 Year Factory Warranty from Physio-Control

## SPECIFICATIONS

## DEFIBRILLATOR

All specifications are at 20°C unless otherwise specified.

**Waveform:** Biphasic truncated exponential with voltage and duration compensation for patient impedance\*.

**Energy Sequence:** User configurable, 150 joules–360 joules. Default energy output settings are 200, 300, 360 joules. 360 joules for every shock thereafter.


**Charge Time:** With new, nonrechargeable battery pack; 200 joules in less than 7 seconds (360 joules in less than 12 seconds).

**3-Wire (Lead II) Monitoring Capability:** (If ECG display option purchased). Requires purchase of 3-wire (Lead II) monitoring cable and LIFE-PATCH® electrodes.

**Device Software:** Field upgradeable.

**Infant/Child Reduced Energy Defibrillation Electrodes:** Reduces selected energy by a factor of 4. Intended for use only with children up to 8 years of age or 25 kg (55 lbs).

**Safety Classification:** Internally powered equipment IEC 60601-1.

**Electrical Protection:** Input protected against high voltage defibrillator pulses per IEC 60601-1. 

\*Voltage compensation is limited to the voltage that would result in delivery of 360 joules into 50 ohms.

## DEVICE SETTINGS

## Modes:

- **AED** – Provides operating capability for basic users.
- **Manual** – Provides operating capability for advanced users.
- **ECG** – Provides ECG display capability with 3-wire ECG cable.
- **Setup** – Allows user to configure the device.
- **Data Transfer** – Allows user to transfer patient data.
- **Auto Test** – Provides daily automatic tests of hardware and software.

**Controls:** On/Off, Shock, Menu, Two (2) configurable soft keys.

## User Defined Options:

- **Device ID** – Assigns unique identifier to particular device.
- **Energy Sequence** – User configurable from 150 to 360 joules.
- **Flexible Energy** – Increases only after a lower energy was unsuccessful.
- **Auto Analyze** – User can configure device to auto analyze, auto analyze after first shock, or prompt user to push analyze key before each analysis period.
- **CPR Time** – (Post shock or after no shock advised) – User configurable – 15, 30, 45, 60, 90, 120, 180 seconds.
- **Device Date/Time**
- **Voice Prompt Volume** – Allows user to change speaker volume.
- **ECG Display** – (If option purchased) – Turns display on/off for AED mode.
- **Motion Detection** – User defined On/Off (default On).
- **Service Alert** – Audio alarm if the device needs servicing. Configurable on/off.
- **Manual Access** – (If ECG display option purchased) – Devices configured with an ECG display may be set up to allow user to initiate a charge and shock without analysis.
- **cprMAX Technology Settings:**
- **Initial CPR** – User defined time for CPR after first analysis regardless of analysis decision. Can be set to OFF, 15, 30, 45, 60, 90, 120 and 180 seconds.
- **Pre-shock CPR** – Allows for CPR while device is charging. Can be set to OFF, 15, or 30 seconds.
- **Stacked Shocks** – (ON/OFF) When Off, allows for provision of CPR after each shock.
- **Pulse Check** – (Always, After Every NSA, After Second NSA, Never) Allows device to prompt for a pulse check either after each shock, after every NSA pulse check, or never prompt for a pulse check (default Never).

## DISPLAY

Backlit LCD displays number of shocks delivered, elapsed time, text and graphics of heart rhythm and optional ECG.

**Size:** 120mm (4.7 in) x 89 mm (3.5 in).

**Frequency Response:** 0.55 Hz to 21 Hz (-3 dB), nominal

## ECG Option:

- **Waveform Sweep Speed** – 25 mm/sec for ECG, nominal.
- **Waveform Viewing Time** – Minimum 4 seconds.
- **Waveform Amplitude** – 1 cm/mV, nominal.
- **Heart Rate** – 20 to 300 BPM digital display, Display “---” if heart rate is less than 20 bpm. Heart symbol flashes for each QRS detection.

ECG information is received from the adult and Infant/Child electrodes in anterior-lateral or anterior-posterior positions. A 3-wire cable can be used for ECG monitoring (Lead II).

## ENVIRONMENTAL

One Hour Operating Temperature (from room temperature to temperature extreme, one hour duration): -20 to 60°C (-4 to +140°F).

**Operating Temperature:** 0° to 50°C (32° to 122°F).

**Storage Temperature:** -30° to 60°C (-22° to 144°F) with battery and electrodes (maximum exposure limited to 7 days).

**Atmospheric Pressure:** 575 hPa to 1060 hPa (4572 to -382 meters; 15,000 to -1253 feet).

**Relative Humidity:** 5 to 95% (non-condensing).

**Dust/Water Resistance:** IP55 with battery and REDI-PAK™ electrodes installed (IEC 60529/EN 60529).

**Bump:** 15 g, 1000 bumps (IEC 600-68-2-29).

**Shock:** 40 g peak, 15-23 ms, 45 Hz cross over frequency.

**Drop:** 1 meter drop on each corner, edge and surface (MIL-STD-810F, 516.5, Procedure IV).

**Vibration:** Random vibration test – MIL-STD-810F, Method 514.5, Category 20; Ground vehicle 3.15 g rms 1 hour per axis.

## EMI:

- **Radiated** – IEC 60601-2-4, IEC60601-1-2, CISPR 11 Class B Group 1.
- **Immunity** – IEC 60601-2-4, IEC 60601-1-2; IEC 61000-4-2 (Level 4), IEC 61000-4-3, IEC 61000-4-6, IEC 61000-4-8.

## EVENT DOCUMENTATION AND COMMUNICATION

**Memory Capacity:** Dual patient storage. Minimum 40 minutes ECG for current patient. Summarized data for previous patient.

**Report Types:** Continuous ECG, summary (critical resuscitation events and associated waveforms), event log report (report of time stamped entries reflecting operator and device activity), test log report (self test activity report).

**Capacity:** Minimum 100 time stamped event log entries.

**Data Review:** CODE-STAT™ 6.1 Medical Informatics System, DT Express™ 2.1 Information Management System or higher.

**Communications:** Infrared wireless transfer to personal computer.

## BATTERY AND READINESS DISPLAY

Note: See operating instructions for information on battery care.

## Nonrechargeable Battery:

- **Type** – Lithium Manganese Dioxide (Li/MnO<sub>2</sub>), 12.0 V, 4.5 Ah
- **Capacity** – Typically will provide 440 200-joule discharges or 1030 minutes of operating time with a new battery (370 200-joule shocks or 900 minutes of operating time at 0°C (32°F)).
- **Weight** – 0.45 kg (1.0 lb)
- **Shelf Life** – (prior to installation) After the battery is stored for 5 years at 20° to 30°C, the device will provide 48 months of standby life.
- **Standby Life** – A new battery provides device power for 5 years.
- **Low Battery Indicator** – At least 30 200-joule shocks or 75 minutes of operating time remain when low battery is first indicated.

## Rechargeable Battery:

- **Type** – Lithium-ion, 11.1 V, 4.8 Ah, 53 Wh
- **Capacity** – Typically will provide 261 200-joule discharges or 608 minutes of operating time with a new fully-charged battery (247 200-joule shocks or 576 minutes of operating time at 0°C (32°F)).
- **Battery Charging Time** – Within 4.5 hours
- **Weight** – 0.45 kg (1.0 lb), maximum
- **Standby Life** – A new fully-charged battery provides device power for 6 months.
- **Low Battery Indicator** – At least 30 200-joule shocks or 75 minutes of operating time remain when low battery is first indicated.

## Battery Charger:

- **Supported Battery** – Lithium-ion Rechargeable Battery, 11.1 V, 4.8 Ah, 53 Wh
- **Electrical** – External Power Supply: 100-240VAC, 50/60Hz
- **Temperature** – Operating: 0°C to 40°C; Storage: -30°C to 70°C
- **Charge Time** – Within 4.5 hours
- **Charge** – Constant Current/Constant Voltage within temperature limits
- **Length** – 270 mm
- **Width** – 97 mm
- **Height** – 92 mm
- **Weight** – 0.5 kg

## PHYSICAL CHARACTERISTICS

**Height:** 8.7 cm (3.4 in).

**Width:** 23.4 cm (9.2 in).

**Depth:** 27.7 cm (10.9 in).

**Weight:** 3.2 kg (7.1 lbs) with one set of REDI-PAK electrodes and one nonrechargeable battery.



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