



**LIFEPAK® 1000** DEFIBRILLATOR

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Not every cardiac emergency is the same. Neither is every responder. Your world demands flexibility—and that's exactly what the LIFEPAK 1000 defibrillator from Physio-Control delivers.



## The right tool at the right time. Every time.

A first responder on the scene of an emergency. A BLS-trained team in the field or in a hospital waiting room. An ALS team taking over. No matter who they are or the environment they're facing, with the LIFEPAK 1000 defibrillator they have just the device they need.

The rugged LIFEPAK 1000 defibrillator is an easy-to-use automated external defibrillator (AED) from the leader in defibrillation technology. But it's also a defibrillator powerful and adaptable enough for professional responders, featuring advanced capabilities that can help improve lifesaving outcomes and speed the transition of cardiac patients to the next critical level of care.

*First on the scene in an emergency, the LIFEPAK 1000 defibrillator can make the lifesaving difference for victims of sudden cardiac arrest.*

# For every trained responder, the opportunity to make a difference.

Picture the waiting room of a hospital or a corridor or a cafeteria. Now picture a visitor, patient or staff member struck down by sudden cardiac emergency. Who will respond first? It could be an ALS-trained member of the code team, but it's just as likely to be a nurse or a receptionist trained in the use of the 1000. The LIFEPAK 1000 defibrillator is ready for all these possibilities, combining the simplicity of one-push defibrillation with clear guidance, both onscreen and from audio prompts.

When an ALS-trained professional does step in—either as a first responder or in transition to advanced care—the touch of a button puts the 1000 into manual override, with greater control over when to analyze and shock. Its ECG capabilities provide critical information to guide your protocol and deliver faster, more appropriate treatment, and the 1000 also stores this vital data for use in post-event review.

On patrol in a squad car or onboard a fire engine, the flexibility of the 1000 makes the story even simpler. BLS-trained responders have exactly the device they need, with powerful defibrillation—up to 360 joules—long battery life, and a rugged construction that can stand up to severe environments. And with cprMAX™ technology, BLS medical directors can configure the settings of the 1000 to match their teams' CPR protocols.

When it's time to hand off a patient to the care of hospital code teams or EMS ALS teams, the compatibility of the 1000 with other Physio-Control devices can speed transfer by allowing electrodes to remain on the patient while responders quickly and seamlessly reconnect to a more advanced monitor.

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## **LIFEPAK 1000 Defibrillator and CODE-STAT 9.0 Data Review Software**

The patient and performance data captured by the 1000 can be easily viewed, analyzed and managed with CODE-STAT 9.0 Data Review Software. This information can help future care by enabling teams to review performance and target training areas.

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# The LIFEPAK 1000 defibrillator at a glance.

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## **Rugged Construction**

Rigorously drop-tested device and protective case and bumpers.

## **Vehicle Friendly**

Designed to ride along in any vehicle without damage from continuous vibrations and other movement.

## **Flexible Power Options**

Choose between a rechargeable Lithium-ion (Li-ion) or non-rechargeable Lithium-Manganese Dioxide (Li MnO<sub>2</sub>) battery for your device.

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## **360 Joules**

Can escalate defibrillation power to an industry-leading 360J.

## **cprMAX™ Technology**

Minimizes CPR interruptions by allowing compressions to continue during AED charging.

## **CPR Countdown Timer**

Provides direction for length of hands-on time for each CPR period based on system protocol.

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## **ECG Capability**

3-lead ECG function is available when needed.

## **Shock Counter**

Digitally records and displays delivered shocks for added insight.

## **Large Display**

Large, easy-to-read LCD screen provides more information at a glance.

## **Compatible Technology**

Electrodes are fully compatible with all other LIFEPAK defibrillators and monitors.

## **Programmable**

Adjust settings to match your team's CPR and resuscitation protocols.

## **Easy-To-Use AED**

Loud voice prompts and on-screen graphics provide guidance on applying electrodes and initiating a shock.

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### cprMAX Technology

The 1000 features our exclusive cprMAX technology, which gives you the flexibility to choose CPR settings that best accommodate your patient and CPR protocol requirements. The pre-shock CPR option allows adjustment of the CPR interval prior to the first shock, making the 1000 the only device that minimizes pre-shock pauses by allowing providers to continue compressions while the AED charges.

Recently published clinical data shows a relationship between increased compression fraction and survival to hospital discharge, and the 2010 AHA Guidelines place a strong emphasis on high-quality CPR.<sup>1</sup> With the LIFEPAK 1000, you have more control over the CPR you provide in lifesaving settings than ever before.

### LIFEPAK TOUGH™

Built for the harshest environments, the LIFEPAK 1000 is the toughest, most durable AED from Physio-Control. The device itself withstands rigorous drop-testing from any angle, and is enclosed in a highly protective case with bumpers. In addition, the 1000 has received an IP55 rating—the highest available AED rating signifying protection from external elements.

### 360 Joules

Like every LIFEPAK defibrillator from Physio-Control, the 1000 can escalate energy up to 360J. Studies show that for difficult-to-defibrillate patients, repeating 200J shocks yields significantly lower VF termination rates.<sup>2,3</sup> And the 2010 AHA Guidelines note that rescuers may consider using escalating energy up to 360J if initial shocks at a lower dose aren't working.<sup>4</sup>

### ALS Hand-off

The LIFEPAK 1000 is simple to use for any trained responder, but it also provides an easy, highly compatible transition to ALS care teams. The shock counter on the 1000 gives next level care teams insight into treatment provided. It has an available 3-lead ECG. And its electrodes are the same ones used on LIFEPAK ALS monitors—the brand of choice for more EMS teams across the country.

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# Getting responders ready with training tools.

Whether you are choosing the 1000 for the first time—or are adding new options—your Physio-Control representative will provide the introductory training you need to get the most from your LIFEPAK 1000 defibrillator. Additional training solutions are also available.

## **Trainer 1000**

With the same screen messages, audible tones and voice prompts as those found in the 1000, the Trainer 1000 provides realistic training without live energy. It helps guide users through simulated analysis, energy delivery and prompted CPR intervals—without taking your LIFEPAK 1000 defibrillator out of service for hands-on training. Includes simulated cprMAX technology.

## **Training Simulation Package**

For use with your LIFEPAK 1000 defibrillator, this package includes a patient simulator, spare battery and training electrodes, all at an affordable price. Without purchasing a separate training unit, responders can hone their AED skills, practice recognizing and responding to different ECG rhythms, and learn about the advanced capabilities of the 1000 with live-switching from ECG Monitoring Mode to Manual Mode.

## **AED Challenge**

An interactive, online refresher training tool for LIFEPAK automated external defibrillators, AED Challenge® enables you to stay up-to-speed with your AED/CPR skills when and where you choose. Real-life scenarios give you regular practice and immediate feedback, and administrators can adjust and track training with the included learning management tools. AHA 2010 Guidelines consistent.

## **Committed to Service**

With the largest and best-trained network of technical service representatives in the industry, Physio-Control proudly takes the lead in offering LIFEPAK 1000 defibrillator customers best-in-class technical support for their devices. On call 24-hours a day, 7-days a week in North America, our agents strive to return every phone call within two hours, working with you to quickly assess your particular problem and find the best solution. Our Redmond, Washington-based technical support center is also available to trouble-shoot problems by phone.

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## **Meets your Needs**

The flexible LIFEPAK 1000 defibrillator from Physio-Control is your chance to give first responders exactly the lifesaving device they need—and give advanced responders the information and capabilities they can use to change outcomes for patients.

**Contact your Physio-Control sales representative or call 1.800.442.1142 to find out more.**

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## Hospitals

The LIFEPAK 1000 defibrillator can be an important part of a comprehensive AED solution for your facility. Contact us for a free Heart Safe Hospital Assessment and see how the 1000 can be a part of a comprehensive AED solution for your facility. We'll analyze your existing equipment and resuscitation practices and recommend steps for aligning your cardiac response with the latest guidelines and clinical evidence—including AHA.

# Physio-Control Family of Products

## Defibrillators/Monitors

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### **LIFEPAK CR® Plus Automated External Defibrillator**

Featuring the same advanced technology trusted by emergency medical professionals—yet simple to use—the fully-automatic LIFEPAK CR Plus AED is designed specifically for the first person to respond to a victim of sudden cardiac arrest.



### **LIFEPAK® 15 Monitor/Defibrillator**

The LIFEPAK 15 monitor/defibrillator is the standard in emergency care for ALS teams who want the most clinically innovative, operationally innovative, and LIFEPAK TOUGH device available today.



### **LIFEPAK® 20e Defibrillator/Monitor**

Clinically advanced and packed with power, the LIFEPAK 20e defibrillator/monitor is highly intuitive for first responders, and also skillfully combines AED function with manual capability so that ACLS-trained clinicians can quickly and easily deliver advanced therapeutic care.

## CPR Assistance

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### **LUCAS® Chest Compression System**

Designed to provide effective, consistent, and uninterrupted compressions according to AHA Guidelines, LUCAS can be used on adult patients in out-of-hospital and hospital settings.

## Information Management

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### **LIFENET® System**

The LIFENET System provides EMS and hospital care teams with reliable, quick access to clinical information through a secure, web-based platform, helping to improve patient care flow and operational efficiency.

### **CODE-STAT™ 9.0 Data Review Software**

CODE-STAT 9.0 data review software is a retrospective analysis tool that provides easy access to data, reports, and post-event review.



### **ReadyLink™ 12-Lead ECG**

Handheld, portable, and easy-to-use, the revolutionary ReadyLink 12-Lead ECG quickly and easily captures and transmits 12-lead data to hospitals through the LIFENET System. Doctors can provide chest pain decision support, so teams in the field know exactly what kind of care the patient needs and where to take them.

## 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.

## REFERENCES

- 1 Christenson J, et al. Chest Compression Fraction Determines Survival in Patients with Out-of-Hospital Ventricular Fibrillation. *Circulation*. 2009; 120: 1241-1247.
- 2 Stiell, I., et al. (2007). "The BIPHASIC Trial: A randomized comparison of fixed lower versus escalating higher energy levels for defibrillation in out-of-hospital cardiac arrest." *Circulation*. 115: 1511-1517.
- 3 Koster RW, et al., Recurrent ventricular fibrillation during advanced life support care of patients with prehospital cardiac arrest. *Resuscitation*. 2008; 78: 252-257.
- 4 2010 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiac care science. *Circulation*. 2010.

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For further information, please contact Physio-Control at 800.442.1142 (U.S.), 800.895.5896 (Canada) or visit our website at [www.physio-control.com](http://www.physio-control.com)



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