LIFEPAK® 20e DEFIBRILLATOR/MONITOR
with CodeManagement Module®
Amidst financial pressures and evolving guidelines, your hospital remains focused on saving lives. With the LIFEPAK 20e defibrillator/monitor, you get the lifesaving power and ease of use that are essential for swift, successful response to today’s cardiac events, plus something more—the ability to improve your resuscitation management for tomorrow’s emergencies.
Improving resuscitation performance is a top priority for today’s hospitals. And for us.

You need defibrillation equipment you can depend on in that moment when saving a life is the only thing that matters. And you need the right tools to monitor, document and review each event to respond even better the next time. All of this is key for effective resuscitation management—and we designed the LIFEPAK 20e defibrillator/monitor with CodeManagement Module to deliver it.

As part of the Physio-Control Resuscitation Management System, the 20e meets all your defibrillator/monitor needs in a compact, affordable package. Designed specifically for crash cart use, it is simple yet powerful, and ready when you are. With features like capnography, a CPR metronome, and the ability to remotely send data to CODE-STAT, the LIFEPAK 20e with CodeManagement Module helps your hospital meet the demands of performance improvement and better prepare for tomorrow’s emergencies.

*CodeManagement Module adds new capabilities to the 20e to transform the way your hospital manages resuscitations.*
The LIFEPAK 20e with CodeManagement Module

Easy to use for both BLS and ALS teams

- With an intuitive door system, the 20e functions as an automated external defibrillator (AED) for your BLS teams, who can begin early defibrillation before the resuscitation team arrives
- Standardized and clear user interface, so teams who also use the LIFEPAK 12 and LIFEPAK 15 will recognize it immediately
- Larger clock provides better visibility throughout the room and a centralized device to use for time management and documentation
- Compact, ergonomic footprint ensures stability and efficiency during patient transport
- Auto-send of patient and device data facilitates quality improvement review and hospital-wide device tracking*

Flexible to fit your hospital’s needs

A choice of purchase options for an integrated system that works together seamlessly and adds new features without breaking standardization:

- Purchase new LIFEPAK 20e defibrillator/monitors or upgrade 20/20e software to add metronome and larger code clock
- Extend the capabilities of your existing 20e devices by adding CodeManagement Module
- Purchase new LIFEPAK 20e defibrillator/monitors with CodeManagement Module

Powerful to improve your resuscitation management

- Capnography (Class I recommendation for ET tube confirmation and monitoring in the 2010 AHA and ERC guidelines) aids ET tube placement and CPR effectiveness*
- Other advanced monitoring parameters include ECG (3- or 5-wire), pacing, pulse oximetry
- Metronome helps rescuers perform compressions at the ERC Guideline rate of 100/minute
- 360J biphasic technology allows highest available energy for difficult-to-defibrillate patients
- Wirelessly transmits* patient data to CODE-STAT** software for post-event review, to capture event data and facilitate resuscitation response improvement

Ready for when your team needs to respond

- Performs daily readiness self-check
- LIFENET® Asset status wirelessly monitors device data including battery charge status, updates and self-tests, and enables your biomed team to do upgrades that would have previously required a service call
- Battery status indicator
- Runs on long-lasting Lithium-ion internal battery,*** connects to AC power
- On-site inservice training by dedicated nurses, clinical training materials
- On-site service and off-site biomed training solutions available

---

** CODE-STAT software now available as a subscription. Ask your sales representative for details.
*** CodeManagement Module runs on a separate but equally long-lasting Lithium-ion battery. Both are connected to AC power using a single cord.
AED Mode
for BLS teams

Manual Mode
for ALS teams
Meet today’s highest standards of resuscitation management—and improve your hospital’s performance for tomorrow’s emergencies.

Physio-Control not only supplies lifesaving technology like the LIFEPAK 20e defibrillator/monitor, we also help you get your cardiac resuscitation devices, protocols, departments and people in sync across the entire hospital. So you can respond better to evolving guidelines and requirements, improve performance and efficiency, and give your teams a better chance of ensuring the right outcomes today—and even better ones tomorrow.
The Physio-Control Resuscitation Management System

**Readiness**
The Resuscitation Management System gives you the visibility, insight and control to make sure your people and equipment are fully prepared, so your hospital has the resources to better handle a cardiac event wherever and whenever it occurs. The right start is everything when it comes to a favorable outcome.

**Response**
The Resuscitation Management System is based on our decades of experience working with the real-world needs of hospitals like yours. We know that our equipment must be powerful but easy to use, so you can respond to cardiac events early and effectively for the best possible outcomes.

**Review**
The Resuscitation Management System enables you to easily collect and review post-event data for quality improvement, providing your trained staff valuable information to reduce risk and drive improved lifesaving performance.

**Prevention**
With Resuscitation Management System technologies, you can extend your hospital’s monitoring capabilities, better assess patient status, and give rapid response teams the information they need to provide fast, effective care. Think of it as giving your teams a vital head start should a patient’s condition start to deteriorate.

The LIFEPAK 20e defibrillator/monitor with CodeManagement Module is an integral part of the Physio-Control Resuscitation Management System. It wirelessly transmits device data for readiness, delivers advanced technology for sophisticated defibrillation, works with other Physio-Control technologies to improve CPR performance, and transmits patient data for post-event review.
SPECIFICATIONS

GENERAL

The LIFEPAK 20e defibrillator/monitor has seven main operating modes:

- **Manual Mode:** Provides a normal operating capability for ALS users. Allows access to manual mode energy selections up to 360J, synchronized cardioversion and pacing. ECG waveform is displayed.
- **AED Mode:** Provides a normal operating capability for BLS users. All user features are available except manual defibrillation, synchronized cardioversion, pacing, and access to archived patient records. Provides shock energy defaults up to 360J. User selectable option to display ECG waveforms and/or visual sounds.
- **Setup Mode:** Allows the operator to configure the device settings.
- **Service Mode:** Allows the operator to execute diagnostic tests and calibrations, to display device module software and hardware versions, and to display and print the diagnostic code log.
- **Inservice Mode:** Simulated waveforms are available for demonstration purposes. The waveforms consist of short segments of realistic data, which are repeated to form a continuous waveform.
- **Archive Mode:** Provides operator the opportunity to access continuous waveform.
- **Auto Test Mode:** Performs daily self-tests.
- **Auto Test Mode:** Performs daily self-tests.

POWER

The device is an AC line-operated device with an internal battery as backup.

- **AC Powered:** Provides a normal operating capability for BLS users. All user features are available except manual defibrillation, synchronized cardioversion, pacing, and access to archived patient records. Provides shock energy defaults up to 360J. User selectable option to display ECG waveforms and/or visual sounds.

Battery Charge Time: <4 hours when device is powered off and AC power is applied.

Low Battery Indication and Message: When the device is unplugged from AC power, it switches to battery. When the battery gets low, the battery status indicator displays one yellow segment and a “low battery” message and warning tone occurs. Shortly thereafter the status indicator displays one flashing red segment, the “low battery, connect to AC power” message appears, and a warning tone occurs.

Service Indicator: LED illuminates when service is required.

PHYSICAL CHARACTERISTICS

- **Weight:**
  - Fully-featured defibrillator/monitor (pacing, SpO2, and paper) (not including electrode assembly) 5.58 kg (12.3 lbs)
  - QUIK-COMBO pacing/defibrillation/ECG electrodes or FAST-PATCH disposable defibrillation/ECG electrodes) are used for paddles lead monitoring.
  - Compatible with LIFEPAK 12 ECG and therapy cables.
- **Lead Selection:** Leads I, II and III (3-wire ECG cable)
  - Leads I, II, III, AVR, AVL, AVF, V (c) acquired simultaneously, (5-wire ECG cable)

DISPLAY

Size (active viewing area): 115.18 mm (4.53 in) wide x 86.38 mm (3.4 in) high

Resolution: 320 x 240 dot color active LCD

**Data Management**

- **Data Management:**
  - The device is capable of transferring data records by IrDA
  - The device can print archived patient records.
  - Provides shock energy to 360J. User selectable option to display ECG waveforms and/or visual AED prompts.

ECG

EGG can be monitored through 3-wire or 5-wire ECG cables.

- **Paddles:** Standard paddles or therapy electrodes (QUIK-COMBO defibrillation/ECG electrodes or FAST-PATCH disposable defibrillation/ECG electrodes) are used for paddles lead monitoring.

**Communications**

- **Communications:**
  - The device is capable of transferring data records by IrDA
  - The device can print archived patient records.

**Printer**

- **Printer:** Prints continuous strips of the displayed patient information.

**Frequency Response**

- **Frequency Response:** Diagnostic: 0.05 to 150 Hz or 0.05 to 40 Hz
  - Monitoring: 0.67 to 40 Hz or 1 to 30 Hz
  - Paddles: 2.5 to 30 Hz

**Defibrillator**

- **Waveform:** Biphasic Truncated Exponential. The following specifications apply from 25 to 200 ohms, unless otherwise specified.

**Paddle Options:**

- QUIK-COMBO pacing/defibrillation/ECG electrodes (standard)
- Standard adult paddles with embedded pediatric paddles (optional)
- External sterilizable paddles (optional)

**Cable Length:** 2.4 meter (8-foot) long QUIK-COMBO cable (not including electrode assembly)
The CodeManagement Module®

**SPECIFICATIONS**

**PHYSICAL CHARACTERISTICS**

CodeManagement Module adds 1.63 kg (3.6 lbs) to LIFEPAK 20/20e defibrillator/monitors.

Size (maximum) of LIFEPAK 20/20e device with CodeManagement Module

Height: 25.4cm (10.0 in)

Width: 26.2cm (10.3 in)

Depth: 29.7 cm (11.7 in)

**DISPLAY**

With CodeManagement Module, the LIFEPAK 20e defibrillator/monitor displays a minimum of 3.7 seconds of ECG and alphanumeric values for values, device instructions, or prompts.

Waveform display sweep speed: 12.5 mm/sec for CO₂.

**POWER**

LIFEPAK 20/20e defibrillator/monitor with CodeManagement Module

AC Powered: 100–120 VAC 50/60Hz, 220–240 VAC 50/60 Hz; total power draw less than 150 Volt-Amperes (VA)

Internal Battery Backup: Lithium-ion. Batteries charge while device operates from AC Power.

Low Battery Indication and Message: When the device is unplugged from AC power, it switches to battery. When battery gets low on the CodeManagement Module, the defibrillator indicates with a message to connect to AC power in the status area, and a warning tone occurs.

Battery charge time: <4 hours when device is powered off and AC power is applied

Operating time: A new fully-charged internal backup battery will provide at least 210 minutes of monitoring prior to shutdown.

**CO₂ MONITORING**

Drift of Measurement Accuracy: No drift in accuracy for at least 6 hours

Respiration Rate Accuracy: 0 to 70 bpm: ±1 bpm

71 to 99 bpm: ±2 bpm

Respiration Rate Range: 0 to 99 breaths/minute

CO₂ Range: 0 to 99 mmHg (0 to 13.2 kPa)

Units: mmHg, %, or kPa

Flow Rate: 42.5 to 65 ml/min (measured by volume)

Rise Time: 190 msec

Response Time: 4.5 seconds maximum (includes delay time and rise time)

Initialization Time: 30 seconds (typical), 10–180 seconds

Ambient Pressure: Automatically compensated internally

Waveform Scale Factors: Autoscale, 0–20 mmHg (0 to 2.6 kPa), 0–50 mmHg (0–6.9 kPa), 0–100 mmHg (0–13.3 kPa)

**CO₂ Accuracy**

<table>
<thead>
<tr>
<th>CO₂ PARTIAL PRESSURE AT SEA LEVEL</th>
<th>ACCURACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–80 mmHg*</td>
<td>± 2 mmHg (0.27 kPa)</td>
</tr>
<tr>
<td>39 to 99 mmHg (5.2 to 13.4 kPa)</td>
<td>±5% of reading + 0.8% for every 1 mmHg (0.13 kPa) above 38 mmHg (5.2 to 13.4 kPa)</td>
</tr>
<tr>
<td>18 to 99 mmHg (2.55 to 13.3 kPa)</td>
<td>±4 mmHg (0.54 kPa) or ±12% of reading, whichever is higher</td>
</tr>
</tbody>
</table>

*For RR > 60 bpm, to achieve specified CO₂ accuracy, the Microstream® Filmicore® H Set for infants must be used.

**ENVIRONMENTAL**

Temperature, Operating: 5 to 40° C (41 to 104° F)

Temperature, Nonoperating: -20 to +60° C (-4 to +140° F) except therapy electrodes

Relative Humidity, Operating: 5 to 95%, noncondensing

Atmospheric Pressure, Operating: Ambient to 522 mmHg (0 to 3.048 meters) (0 to 10,000 feet)

Water Resistance, Operating (without accessories except for ECG Cable and hard paddles): IPX1 (splillage) per IEC 60601-1 clause 44.6

Vibration: MIL-STD-810E Method 514.4, Cat 1

Shock (Drop): 1 drop on each side from 45.7 cm (18 in.) onto a steel surface

**EMC**


IEC 60601-2-4:2002; Clause 36/EN 60601-2-4:2003; Clause 36, Particular Requirements for the Safety of Cardiac Defibrillators and Cardiac Defibrillator Monitors

All specifications are at 20° C (68° F) unless otherwise stated.

**WIRELESS NETWORKS**

The LIFEPAK 20/20e device with the CodeManagement Module supports the following:

- 802.11a, b, g, and n wireless networking standards
- Security types:
  - Open
  - WPA-Personal
  - WPA2-Personal
  - WPA-Enterprise
  - WPA2-Enterprise
- Enterprise authentication protocols:
  - EAP-TLS
  - EAP-TTLS
  - PEAP/MICHAEL/MSCHAPv2
  - TCP/IP support

- Internet Protocol Version 4 (IPv4)
- Internet Protocol Version 6 (IPv6)
- IP addressing: automatically obtains IP address, or a static address may be assigned.
- DNS servers: automatically obtains DNS server address, or static addresses of the primary and secondary DNS servers may be assigned.
Physio-Control Family of Products

Defibrillators/Monitors

**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® 1000 Defibrillator**
The LIFEPAK 1000 Defibrillator is a powerful and compact device designed to treat cardiac arrest patients and provide continuous cardiac monitoring capabilities. Built-in flexibility allows the 1000 to be programmed for use by first responders or professionals and enables care providers to change protocols as standards of care evolve.

**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 effective and LIFEPAK TOUGH™ device available today. The 15 offers sophisticated clinical technologies with a rich array of features—like the most powerful escalating energy available (up to 360J), advanced monitoring parameters and a completely upgradable platform.

**LIFEPAK® 20e Defibrillator/Monitor with CodeManagement Module®**
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. The CodeManagement Module adds waveform capnography and wireless connectivity to enhance your hospital’s ability to effectively manage resuscitations from preparedness through review.
CPR Assistance

LUCAS® 2 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.

TrueCPR™ Coaching Device
TrueCPR helps your team optimize their manual CPR performance using simple real-time and post-event feedback on the most critical resuscitation parameters. It accurately measures compression depth through proprietary Triaxial Field Induction technology.

Data Solutions

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

PulsePoint
PulsePoint Respond alerts CPR-trained bystanders about nearby sudden cardiac arrests in a public area. The app guides the responder to the public location of the incident using a map while also identifying nearby AEDs. Because the PulsePoint solution is integrated into the local dispatch center, alerts are only sent after 911 has been notified.

PulsePoint AED is an app designed to build a comprehensive registry of AEDs available for use during cardiac emergencies. AED submissions are verified by the local agency and then become available within the Respond app.
Find out how the LIFEPAK 20e defibrillator/monitor with CodeManagement Module can take your hospital’s resuscitation performance to the next level.

Visit www.physio-control.com/20e or call 1.800.442.1142 today.