LIFEPACK® 15 MONITOR/DEFIBRILLATOR
For Emergency Medical Services
When you respond to emergencies, you need the most advanced monitor/defibrillator that sets the new standard in innovation, operations and toughness.
The LIFEPAK 15 monitor/defibrillator delivers.

Physio-Control defibrillators have set the standard for over 60 years, and the enhanced LIFEPAK® 15 monitor/defibrillator raises the bar. As our most advanced emergency response monitor/defibrillator, the LIFEPAK 15 device balances sophisticated clinical technologies and supreme ease of use in a device that’s tough enough to stand up to your most challenging environments. Evolving from its original platform, the 15 adds new features—temperature monitoring and external power—to complement existing features which include 360J energy and 12-lead ECG transmission. And that means your team can be even more effective.

A LIFEPAK device never stands on its own—and the LIFEPAK 15 monitor is no different. Physio-Control is committed to providing innovative solutions for emergency response care, from first responders to throughout the hospital.

Our products have helped save tens of thousands of lives. We’re proud to continue this work with new features in the LIFEPAK 15 monitor/defibrillator.
The standard in clinical innovation.

The pioneer in portable defibrillation and monitoring technology, Physio-Control is committed to creating technologies and devices that change the way you provide emergency care. You can see the results in the enhanced LIFEPAK 15 monitor/defibrillator, which sets a new standard in innovation—yet again.
Advanced monitoring parameters
The 15 gives you more monitoring capabilities than any other device. Noninvasive monitoring of carbon monoxide, SpO2, and methemoglobin (related to certain chemical exposures and drugs) offered by Masimo® Rainbow® Technology helps you detect hard-to-diagnose conditions and improve patient care. In addition, the 15 now offers temperature monitoring—and like other data, you can transmit it to other systems, trend it, or display for post-event review in CODE-STAT™ software.

Advanced support for treating cardiac patients
The 15 continuously monitors all 12-leads in the background and alerts you to changes using the ST-Segment trend monitoring feature, after acquiring the initial 12-lead. Additionally, STJ values are now included on the 12-lead printout to help you identify changes. The 15 also works seamlessly with the web-based LIFENET System 5.0, so you can automatically share critical patient data with multiple patient care teams.

Full energy up to 360 joules, for every patient who needs it
The LIFEPAK 15 monitor/defibrillator features 360J biphasic technology, which gives you the option of escalating your energy dose up to 360J for difficult-to-defibrillate patients. Why is this necessary? Recent studies have shown that refibrillation is common among VF cardiac arrest patients and that defibrillation of recurring episodes of VF is increasingly difficult. A randomized controlled clinical trial shows the rate of VF termination was higher with an escalating higher energy regimen of 200J and over.

Proven CPR guidance and post event review
The CPR Metronome in the LIFEPAK 15 monitor uses audible prompts to guide you without distracting vocal critique. A metronome has been a feature that has been demonstrated to help professionals perform compressions and ventilations within the recommended range of the 2010 ERC Guidelines. Post-event review of CPR data and delivering feedback to the team has been shown to be effective in improving CPR quality in both hospital and out-of-hospital. And by transmitting code data directly to CODE-STAT Data Review software, EMS personnel can review CPR statistics and provide training and feedback where it is most needed.
The standard in operational effectiveness.

Flexible, connected and easy to use, the LIFEPAK 15 monitor/defibrillator was designed based on the feedback and needs specific to working in the field.

**Dual-mode LCD screen with SunVue™ display**
Switch from full-color to high-contrast SunVue mode with a single touch for the best full-glare view in the industry. A large screen (8.4 inches diagonally) and full-color display provide maximum viewability from all angles.

**Flexible power options**
Choose between external worldwide AC or DC power, or use the latest Lithium-ion dual battery technology for up to six hours of power. The LIFEPAK 15 monitor’s two-battery system requires no maintenance or conditioning, and allows you to charge batteries in the device. In addition, you can track the status and service life of your batteries using LIFENET® Asset, part of the LIFENET System data network.

**Data connectivity**
The 15 collects code summaries and equipment status data along with critical clinical information as you treat patients. Using LIFENET Connect, part of the LIFENET System data network, the code summaries can be sent directly to your quality improvement team for review with CODE-STAT Data Review Software. Your equipment manager can also view equipment status on the LIFENET System using LIFENET Asset and alert you to any potential issues.

**Upgradable platform**
The 15 platform is flexible enough to adapt to evolving protocols and new guidelines, and can be upgraded as you’re ready to deliver new capabilities. With more processing power and speed, the 15 is designed to grow as your needs change, helping you avoid costly premature replacements.

**Attention to detail**
The LIFEPAK 15 monitor is designed based on field feedback to make it a more effective tool. The 15 has a larger handle for easier handoffs, an easy to clean keypad, and a common interface to the LIFEPAK 12 defibrillator/monitor that helps reduce training.
The standard in toughness.

We believe LIFEPAK equipment should live up to the highest expectations of those working in the harshest settings. The 15 is LIFEPAK TOUGH™, with improved ruggedness and durability you can rely on.

Works when dropped, kicked, soaked or dirty
The LIFEPAK 15 monitor/defibrillator passes 30-inch drop tests, which is equal to falling off a cot or dropping it in transit. And with an IP44 rating, it doesn’t matter how wet or dirty it gets, so you can keep working in steady wind, rain and other harsh environments.

Toughened inside and out
We heard from emergency response teams that they wanted a tougher device—so we added a shock-absorbing handle, a double-layer screen that can take a beating from doorknobs and cot handles, and redesigned cable connections for confident monitoring and therapy delivery.

Unmatched field service
The unit’s self-checking feature alerts our service team if the device needs attention. Our onsite maintenance and repair, access to original manufacturer parts, and highly trained, experienced service representatives give you the peace of mind that your LIFEPAK 15 monitor will be ready when you need it.*

* A variety of customized service options are available.
LIFEPAK 15 MONITOR/DEFIBRILLATOR

Integrated Carbon Monoxide and Methemoglobin monitoring.

12-lead ECG transmissions via the LIFENET System and ST segment trend monitoring make the LIFEPAK 15 device a vital part of decreasing EMS-to-Balloon (E2B) response times.

The latest Lithium-ion battery technology and dual battery system allows for nearly six hour run time, automatic switching between external power and batteries, and an approximate two-year replacement cycle.

Easy one-touch Bluetooth data transmission.

Large screen for better visibility and easy monitoring and one touch to switch from LCD color view to SunVue mode for best viewing in sunlight.

On-screen temperature display in either Celsius or Fahrenheit.
CPR Metronome, a proven technology that actively guides users to a consistent compression rate without the need for extra external hardware.

Integrated Oridion EtCO2 provides waveform ranges as low as 0–20 mmHg to help identify ROSC or gauge CPR quality, consistent with the AHA guidelines.

Redesigned cable connector gives you the confidence for secure therapy delivery.

Ergonomically designed handle has built-in shock absorbers for cushion and fits two gloved hands for easy pass off.

The LIFEPAK 15 monitor/defibrillator at a glance.
For more than 60 years, Physio-Control has been developing technologies and designing devices that are legendary among first response professionals, clinical care providers, and the community.
A legacy of trust.

Since we were founded in 1955, Physio-Control has been giving medical professionals around the world legendary quality and constant innovation. Our LIFEPAK devices have been carried to the top of Mount Everest. They‘ve been launched into orbit on the International Space Station. And you‘ll find more than half a million units in use today on fire rescue rigs, ambulances, and hospital crash carts worldwide.

We are inspired and informed by the rescuers who choose our products to save lives. The knowledge gained from working with some of the world’s largest EMS organizations helps us constantly improve clinical standards and durability.

Today, we continue our legacy of innovation with leading technologies that improve patient care. Our 360J biphasic technology gives patients the best chance at survival. Our secure, web-based flow of ECG data helps improve STEMI patient outcomes. And our carbon monoxide monitoring helps catch the number one cause of poisoning deaths.

From the streets to the emergency room to the administrative office, we offer a powerful suite of solutions that range from code response to quality control analysis. And even as we bring ground-breaking products to the market, some things don’t change. As always, when you choose our products, you don’t just get a device. You also get the most comprehensive warranty in the business, industry-leading technical service, and a partner with over 60 years of experience in emergency care.

For more information about the enhanced LIFEPAK 15 monitor/defibrillator—and how it can help you do what you do best—please contact your local Physio-Control representative or visit www.physio-control.com.
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.

HealthEMS®
HealthEMS is a remote-hosted field data collection, management and reporting software solution which is proven to help Fire and EMS providers improve patient care and financial performance. HealthEMS creates a two-way information flow which dramatically improves the accuracy and timeliness of information needed to support billing and clinical decision-making.

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.

Support

Physio-Control Service
With a service plan from Physio-Control, you are free to focus on your mission while relying on us to help to ensure the integrity of your lifesaving tools. From emergency repairs to software updates to preventive maintenance, we respond to every service call with speed and expertise so you have the peace of mind to do your job with confidence.
**SPECIFICATIONS**

### GENERAL

The LIFEPAK 15 monitor/defibrillator has six main operating modes:
- **AED Mode**: for automated ECG analysis and a prompted treatment protocol for patients in cardiac arrest.
- **Manual Mode**: for performing manual defibrillation, synchronized cardioversion, noninvasive pacing, and ECG and vital sign monitoring.
- **Archive Mode**: for accessing stored patient information.
- **Setup Mode**: for changing default settings of the operating functions.
- **Service Mode**: for authorized personnel to perform diagnostic tests and calibrations.
- **Demo Mode**: for simulated waveforms and trend graphs for demonstration purposes.

### DATA MANAGEMENT

- **Weight**:
  - Basic monitor/defibrillator with new roll paper and two batteries installed: 7.9 kg (17.5 lb)
  - Fully featured monitor/defibrillator with new roll paper and two batteries installed: 8.4 kg (18.5 lb)

- **Lithium-ion battery**: < 0.60 kg (1.3 lb)

- **Accessory Bags and Shoulder Strap**: 1.77 kg (3.9 lb)

- **Standard (hard) Paddles**: 0.95 kg (2.1 lb)

- **Height**: 31.7 cm (12.5 in)

- **Width**: 40.1 cm (15.8 in)

- **Depth**: 23.1 cm (9.1 in)

### DISPLAY

- **Size (active viewing area)**:
  - 212 mm (8.4 in) diagonal; 171 mm (6.7 in) wide x 128 mm (5.0 in) high

- **Resolution**: display type 640 dot x 480 dot color backlit LCD

- **User Selectable Display Mode**: full color or SunVue™ display high contrast

- **Display**: a minimum of 5 seconds of ECG and alphanumeric values, device instructions, or prompts

- **Display**: up to three waveforms

- **Waveform Display Sweep Speed**: 25 mm/sec for ECG, 20.2 mm/sec for NIBP, and 12.5 mm/sec for CO2

### PHYSICAL CHARACTERISTICS

- **Weight**:
  - General: 20 kg (44 lb)
  - Fully featured monitor/defibrillator: 21.7 kg (47.8 lb)

- **Width**: 40.1 cm (15.8 in)

- **Height**: 31.7 cm (12.5 in)

- **Depth**: 23.1 cm (9.1 in)

### COMMUNICATIONS

- **Limited to devices drawing maximum 0.5 A current Bluetooth® technology provides short-range wireless communication with other Bluetooth-enabled devices**

### ECG

- **ECG**
  - ECG is monitored via several cable arrangements:
    - A 3-wire cable is used for the 3-lead ECG monitoring.
    - A 5-wire cable is used for the 7-lead ECG monitoring.
    - A 10-wire cable is used for 12-lead ECG acquisition.

- **Standard Leads**: I, II, III, AVR, AVL, AVF, and C lead acquired simultaneously (5-wire ECG cable)

- **Amplitude**: 0.5 to 5.0 mV

- **Accuracy**: ±4% or ±3 bpm, whichever is greater

### NIBP

- **Blood Pressure Systolic Pressure Range**: 30 to 255 mmHg

- **Blood Pressure Diastolic Pressure Range**: 15 to 220 mmHg

- **Mean Arterial Pressure Range**: 20 to 235 mmHg

### Memory Capacity

- **Units**: mmHg

- **Blood Pressure Accuracy**: ±5 mmHg

- **Blood Pressure Measurement Time**: 20 seconds, typical (excluding cuff inflation time)

- **Pulse Rate Range**: 30 to 240 pulses per minute

- **Pulse Rate Accuracy**: ±2 pulses per minute or ±2%, whichever is greater

### Operation Features

- **Initial Cuff Pressure**: User selectable, 80 to 180 mmHg

- **Automatic Measurement Time Interval**: User selectable, from 2 min to 60 min

### Automatic Cuff Deflation

- **Excessive Pressure**: If cuff pressure exceeds 290 mmHg

### CO2

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

- **Units**: mmHg, %, or kPa

### Respiratory Rate Accuracy

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

### Ambient Pressure: Automatic compensation internally

- **Optional Display**: CO2 pressure waveform

- **Scale factors**: Autoscale, 0–20 mmHg (0–0.4 kPa), 0–50 mmHg (0–1.3 kPa)

### Invasive Pressure

- **Transducer Type**: Strain-gauge resistive bridge

### Transducer Sensitivity

- **Sensitivity**: 5 V/mmHg

### Excitation Voltage

- **Voltage**: 5 Vdc

### Connectors

- **Electro Shield**: CXS 3102A 14S-6S

### Temperature

- **Range**: 24.8° to 45.2°C (76.6° to 113.4°F)

- **Resolution**: 0.1°C

### Accuracy

- **±0.2°C including sensor

### Disposable Sensor Types

- **Surface–Skin**: 5 foot or 10 foot

### Reusable Temperature Cable

- **Accuracy**: ±0.1°C

### NELLCOR sensors including RAINBOW® sensors when used with the MASIMO RED™ MNC adapter

### SpO2/SpCO/SpMet

- **Sensors**:
  - MASIMO® sensors including RAINBOW® sensors
  - NELLCOR® sensors when used with the MASIMO RED™ MNC adapter

### SpO2

- **SpO2 Displayed Saturation Range**: "<50" for levels below 50%; 50 to 100%

### Saturation Accuracy

- **70–100% (0–69% unspecified)**

### Adults/Pediatrics:

- **SpO2 Sensitivity User selectable**: Normal, High

### SpO2 Measurement Functional SpO2 values are displayed and stored

### Pulse Rate Range: 25 to 240 bpm

### Pulse Rate Accuracy (Adults/Pediatrics):

- **±3 digits (during no motion conditions)**

### SpC0

- **SpC0 Concentration Display Range**: 0 to 40%

### SpC0 Accuracy**: ±3 digits

### NIBP

- **Blood Pressure Systolic Pressure Range**: 30 to 255 mmHg

### Diastolic Pressure Range**: 15 to 220 mmHg

### Mean Arterial Pressure Range**: 20 to 235 mmHg

### Units**: mmHg

### Blood Pressure Accuracy**: ±5 mmHg

### Blood Pressure Measurement Time**: 20 seconds, typical (excluding cuff inflation time)

### Pulse Rate Range**: 30 to 240 pulses per minute

### Pulse Rate Accuracy**: ±2 pulses per minute or ±2%, whichever is greater

#### Operation Features

- **Initial Cuff Pressure**: User selectable, 80 to 180 mmHg

- **Automatic Measurement Time Interval**: User selectable, from 2 min to 60 min

#### Automatic Cuff Deflation

- **Excessive Pressure**: If cuff pressure exceeds 290 mmHg

#### CO2

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

#### Units**: mmHg, %, or kPa

#### Respiratory Rate Accuracy

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

#### Ambient Pressure: Automatic compensation internally

#### Optional Display**: CO2 pressure waveform

#### Scale factors**: Autoscale, 0–20 mmHg (0–0.4 kPa), 0–50 mmHg (0–1.3 kPa)

#### Invasive Pressure

- **Transducer Type**: Strain-gauge resistive bridge

#### Transducer Sensitivity**: 5 V/mmHg

#### Excitation Voltage**: 5 Vdc

#### Connectors**: Electro Shield: CXS 3102A 14S-6S

#### Bandwidth**: Digital filtered, DC to 30 Hz (< -3db)

#### Zero Drift**: 1 mmHg/hr without transducer drift

#### Zero Adjustment**: ±150 mmHg including transducer offset

#### Numeric Accuracy**: ±1 mmHg or 2% of reading, whichever is greater, plus transducer error

#### Pressure Range**: -30 to 300 mmHg, in six user selectable ranges

#### Invasive Pressure Display

- **Display**: 15 waveform and numerics

#### Units**: mmHg

#### Labels**: P1 or P2, ART, PA, CVP, ICP, LAP (user selectable)

#### Temperature

- **Range**: 24.8° to 45.2°C (76.6° to 113.4°F)

#### Resolution**: 0.1°C

#### Accuracy**: ±0.2°C including sensor

#### Disposable Temperature Cable**: 5 foot or 10 foot

#### Disposable Sensor Types**: Surface–Skin; Esophageal/Rectal

#### Trend

- **Time Scale**: Auto, 30 minutes, 1, 2, 4, or 8 hours

- **Duration**: Up to 8 hours

#### ST Segment: After initial 12-lead ECG analysis, automatically selects and trends ECG lead with the greatest ST displacement

#### Display Choice of**: HR, PR (SpO2), PR (NIBP), SpO2 (%), SpCO (%), SpMet (%), CO2 (EtCO2/FiCO2), RR (CO2), NIBP, IP1, IP2, ST

#### Lithium-ion battery:

- **< 0.60 kg (1.3 lb)

- **Fully charged**: 22 kg (48 lb)

- **Battery life**: 15 hours

#### Fully featured monitor/defibrillator: 21.7 kg (47.8 lb)

#### Physical Characteristic

- **Weight**:
  - General: 20 kg (44 lb)
  - Fully featured monitor/defibrillator: 21.7 kg (47.8 lb)

#### Physical Characteristic

- **Width**: 40.1 cm (15.8 in)

#### Height**: 31.7 cm (12.5 in)

#### Depth**: 23.1 cm (9.1 in)

#### Serial Port RS232 communication + 12V available

### Operating Modes

- **AED Mode**: for automated ECG analysis and a prompted treatment protocol for patients in cardiac arrest.

- **Manual Mode**: for performing manual defibrillation, synchronized cardioversion, noninvasive pacing, and ECG and vital sign monitoring.

- **Archive Mode**: for accessing stored patient information.

- **Setup Mode**: for changing default settings of the operating functions.

- **Service Mode**: for authorized personnel to perform diagnostic tests and calibrations.

- **Demo Mode**: for simulated waveforms and trend graphs for demonstration purposes.
ALARMS
Quick Set: Activates alarms for all active vital signs
VF/VT Alarm: Activates continuous (CPSG) monitoring in Manual mode
Apnea Alarm: Occurs when 30 seconds has elapsed since last detected respiration
Heart Rate Alarm Limit Range: Upper, 100–250 bpm; lower, 30–150 bpm

INTERPRETIVE ALGORITHM
12-Lead Interpretive Algorithm: University of Glasgow 12-Lead ECG Analysis Program, includes AMI and STEMI statements

DEFIBRILLATOR
Biphasic Waveform: Biphasic Truncated Exponential
The following specifications apply to 25 to 200 ohms, unless otherwise specified:
Energy Accuracy: ±1 joule or 10% of setting, whichever is greater, into 50 ohms, ±2 joules or 15% of setting, whichever is greater, into 25-175 ohms.
Voltage Compensation: Active when disposable therapy electrodes are attached. Energy output within ±3% or ±1 joule, whichever is greater, of 50 ohms value, limited to the available energy which results in the delivery of 360 joules into 50 ohms.
Paddle Options: QUIK-COMBO pacing/defibrillation/ECG electrodes (standard), Cable Length 8 foot long (2.4 m) QUIK-COMBO cable (not including electrode assembly). Standard paddles (optional)

Manual Mode
Energy Select: 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30, 50, 70, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, and 360 joules
Charge Time: Charge time to 360 joules in less than 10 seconds, typical
Synchronous Cardioversion: Energy transfer begins within 60 msec of the QRS peak
Paddles Lead Off Sensing: When using QUIK-COMBO electrodes, the device indicates Paddles Leads Off if the resistive part of the patient’s impedance is greater than 300 ±15% ohms, or if the magnitude of the patient’s impedance is greater than 440 ±15% ohms.

AED Mode
Shock Advisory System™ (SAS): an ECG analysis system that advises the operator if the algorithm detects a shockable or non-shockable ECG rhythm. SAS acquires ECG via therapy electrodes only.
Shock Ready Time: Using a fully charged battery at normal room temperature, the device is ready to shock within 20 seconds if the initial rhythm finding is “SHOCK ADVISED”
Biphasic Output: Energy Shock levels ranging from 150–360 joules with same or greater energy level for each successive shock

cprMAX™ Technology: In the AED mode, cprMAX technology provides a method of maximizing the CPR time that a patient receives, with the overall goal of improving the rate of survival of patients treated with AEDs.

Set Up Options:
– Auto-Analyze: Allows for auto analysis. Options are OFF, AFTER 1ST SHOCK
– Initial CPR: Allows the user to be prompted for CPR for a period of time prior to shock activity. Options are OFF, ANALYZE FIRST, CPR FIRST
– Initial CPR Time: Time interval for Initial CPR. Options are 15, 30, 45, 60, 90, 120, and 180 seconds.
– Pre-Shock CPR: Allows the user to be prompted for CPR while the device is charging. Options are OFF, 15, 30 seconds.
– Pulse Check: Allows the user to be prompted for a pulse check at various times. Options are ALWAYS, AFTER EVERY SECOND NSA, AFTER EVERY NSA, NEVER
– Stacked Shocks: Allows for CPR after 3 consecutive shocks or after a single shock. Options are OFF, DN
– CPR Time: 1 or 2 User selectable times for CPR. Options are 15, 30, 45, 60, 90, 120, 180 seconds and 30 minutes.

PACER
Pacing Mode: Demand or non-demand rate and current defaults
Pacing Rate: 40 to 170 PPM
Rate Accuracy: ±1.5% over entire range
Output Waveform: Monophasic, truncated exponential current pulse (20 uA ± 1 uA)
Output Current: 0 to 200 mA
Pause: Pacing pulse frequency reduced by a factor of 4 when activated
Refractory Period: 180 to 280 msec (function of rate)

ENVIRONMENTAL
Unit meets functional requirements during exposure to the following environments unless otherwise stated.
Operating Temperature: 0° to 45°C (32° to 113°F), -20°C to 45°C (-4° to 113°F) for 1 hour after storage at room temperature.
Storage Temperature: -20° to 65°C (-4° to 149°F) except therapy electrodes and batteries
Relative Humidity, Operating: 5 to 95%, non-condensing.
Relative Humidity, Storage: 10 to 95%, non-condensing
Atmospheric Pressure, Operating: 382 to 4,572 m (-1,253 to 15,000 ft). NIBP: -152 to 3,048 m (-500 to 10,000 ft)
Water Resistance, Operating: IP44 (splash proof, dust resistant) per IEC 529 and EN 1789 (without accessories except for 12-lead ECG cable, hard paddles, and battery pack)
Vibration: MIL-STD-810E Propeller Aircraft - category 4 (figure 514.4-7 spectrum a), Helicopter - category 6 (3.75 Grms), Ground Mobile - category 8 (3.14 Grms), EN 1789: Sinusoidal Sweep, 1 octave/min, 10-150 Hz, ±0.15 mm/2 g
Shock (drop): 5 drops on each side from 18 inches onto a steel surface EN 1789: 30-inch drop onto each of 6 surfaces
Shock (functional): Meets IEC 60666-2-27 and MIL-STD-810E shock requirements 3 shocks per face at 40 g, 6 ms half-sine pulses
Bump: 1000 bumps at 15 g with pulse duration of 6 msec
Impact, Non-operating: EN 60601-1 0.5 + 0.05 joule impact UL 60601-1 6.78 N/m impact with 2-inch diameter steel ball. Meets IEC62222 protection level IK 04
Cleaning: Cleaning 20 times with the following: Quaternary ammonium, isopropyl alcohol, hydrogen peroxide

POWER
Power Adapters: AC or DC
Power Adapters provide operation and battery charging from external AC or DC power
– Full functionality with or without batteries when connected to external AC/DC
– Typical battery charge time while installed in LIFEPAK 15 device is 180 minutes
– Indicators: external power indicator, battery charging indicator
Dual battery: Capability with automatic switching
Low battery indication and message: Low battery fuel gauge indication and low battery message in status area for each battery
Replace battery indication and message: Replace battery fuel gauge indication, audio tones and replace battery message in the status area for each battery. When replace battery is indicated, device auto-switches to second battery. When both batteries reach replace battery condition, a voice prompt instructs user to replace battery.
Battery Capacity: For two, new fully-charged batteries, 20° (68°F)

BATTERY
Battery Specifications
Battery Type: Lithium-ion
Weight: < 0.60 kg (1.3 lb)
Charge Time (with fully depleted battery): 4 hours and 15 minutes (typical)
Battery indicators: Each battery has a fuel gauge that indicates its approximate charge. A fuel gauge that shows two or fewer LEDs after a charge cycle indicates the battery should be replaced.
Charging Temperature Range: 5° to 45°C (41° to 113°F)
Operating Temperature Range: 0° to 45°C (32° to 113°F)
Short Term (<1 week) Battery Capacity: 20° to 60°C (68° to 140°F)
Long Term (>1 week) Storage Temperature Range: 20° to 25°C (68° to 77°F)
Operating and Storage Humidity Range: 5 to 95% relative humidity, non-condensing

Chemical Resistance: 60 hour exposure to specified chemicals: Betadine (10% Povidone-Iodine solution), Coffee, Coca, Digestive (5% Glucose solution), Electrode Paste (98% water, 2% Carbopol 940), HCL (0.5% solution), pH=1), Isopropl Alcohol, NaCl solution (0.9% solution), Cosmetic discoloration of the paddle well shorting bar shall be allowed following exposure to HCL (0.5% solution).
REFERENCES


All claims valid as of July 2015.

For further information please contact your local Physio-Control representative or visit our website at www.physio-control.com

©2015 Physio-Control, Inc. All names herein are trademarks or registered trademarks of their respective owners. Masimo, the Radical logo, Rainbow and SET are registered trademarks of Masimo Corporation. Specifications subject to change without notice. Not all products available worldwide. Manufacturers’ Declarations of Conformity list products and accessories available in the European Union.

GDR 3301020_H