

# LIFEPAK® 11

defibrillator/pacemaker

For use with the LIFEPAK 11 diagnostic cardiac monitor



*Rugged transport unit*

*User-friendly controls*

*Optional built-in noninvasive pacing*

*QUIK-COMBO™ module offers "hands free" defibrillation and noninvasive pacing via QUIK-COMBO electrodes*

*Optional standard paddles module*

*AC or DC auxiliary power supply*

*Expanded CODE SUMMARY™ critical event record*



The PhysioControl LIFEPAK 11 defibrillator/pacemaker is the perfect accompaniment for the LIFEPAK 11 diagnostic cardiac monitor. Rigorously tested, built field tough and designed for ease of use, the combination forms a complete portable Advanced Life Support system.

Features include simple 1-2-3 operation, a user-friendly display, low energy selections for pediatric use, optional built-in noninvasive pacing, and an AC or DC auxiliary power supply. Connection to the LIFEPAK 11 monitor provides a large clear display and transmission of critical events to the emergency department. Defibrillation and pacing events stored in the monitor's expanded CODE SUMMARY record support advanced quality

assurance practices and can be downloaded to the CODE-STAT™ data management system for later analysis.

This unit features a QUIK-COMBO module allowing defibrillation and pacing through one easy to use therapy cable and QUIK-COMBO electrodes. Use of the QUIK-COMBO system allows for complete compatibility with the entire Physio-Control product line. Optional standard paddles module is also available.

Physio-Control makes lifesaving tools for lifesaving teams...products which predict or urgently intervene in lifethreatening, cardiorespiratory events.



**LIFEPAK 11**

defibrillator/pacemaker

**COMMUNICATIONS**

Communicates with the LIFEPAK 11 diagnostic cardiac monitor.

**ECG MONITORING**

**Input:** Via standard paddles or QUIK-COMBO electrodes. All inputs electrically isolated (type BF per IEC 601-1)

**Common Mode Rejection:** 90dB at 60Hz

**Paddle Frequency Response:** 2.2 to 30Hz

**NONINVASIVE PACEMAKER**

**Output Rate:** 40 to 170 ppm

**Rate Accuracy:** ± 8msecs

**Output Waveform:** Monophasic truncated exponential current pulse (20 ± 1msec)

**Output Current:** 0 to 200mA ± greater of 5mA or 5% in 5 or 20mA steps (0, 10, 15, 20, 25 etc.) at 700Ω load. Output variation of less than an additional 5% over the load range of 100 to 1500Ω

**Refractory Period:** 200 to 300msec ± 3% (function of rate, see Operating Instructions)

**DEFIBRILLATOR**

**Waveform:** 5msec monophasic pulse (Edmark waveform)

**Energy Select:** On standard paddles, via rotary knob 0, 5, 10, 20, 50, 100, 200, 300, 360J  
On combo module, via up/down buttons 0, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 50, 100, 200, 300, 360J

**Charge Time:** Charges to 360J in less than 10 seconds

**Synchronizer:** < 60msecs delay per AAMI DF2-1989 para 3.2.1.23

**Standard Paddles Module:** Cable length: 2.3m (7.5 ft)  
Paddle area: 82cm<sup>2</sup> (12.8 in<sup>2</sup>)  
Controls: Energy Joules, Charge, Discharge (2 keys), Record

**Combo Module:** Cable length: 2.4m (8 ft)  
Connects to: QUIK-COMBO pacing/defibrillation/ECG electrodes  
Controls: Energy Select, Charge, Discharge (2 keys)

**ENVIRONMENTAL**

**Operating Temperature:** -10 to 55°C (14 to 131°F)  
Operating below 0°C (32°F) assumes the unit has been stored (two hours minimum) at 20°C (68°F) or greater prior to typical clinical use.

**Storage Temperature:** -20 to 60°C (-4 to 140°F)

**Relative Humidity:** 0 to 95% (noncondensing)

**Atmospheric Pressure:** 797mmHg to 439mmHg (-570 to 15,000 ft)

**Water Resistance:** IEC 601-1 section 7, clause 44.6 (splash-proof)

**Vibration:** MIL STD 810D, Method 514.3: Categories 4, 6, 8 (propeller, helicopter and ground mobile)

**EMC:** FDA standard MDS 201-0004 and German standard CISPR 11

**GENERAL**

**AC Input Options:** Compatible with Physio-Control AC Auxiliary Power Module

**Battery:** One nickelcadmium FASTPAK® battery

**Operating Time:** A new, fully charged battery will provide the following prior to shut down:

	Typical	Minimum
Pacing (700Ω, 100mA, 100ppm)	1.5 hours	45 minutes
Defibrillation (360J) 40 transfers		25 transfers

**Low Battery Indicator:** Flashing LOW BATTERY message and repeating tone indicate battery is depleted and must be replaced promptly.

**Service Indicator:** Flashing SERVICE message and repeating tone indicate self tests have detected improper operation which may require service attention.

**Physical Characteristics (Combo Module Installed)**

**Height:** 13.5cm (5.3 in)  
**Width:** 24.4cm (9.6 in)  
**Depth:** 33.8cm (13.3 in)  
**Weight:** 4.8kg (10.5 lbs) includes one FASTPAK battery, or 4.2kg (9.2 lbs) without battery

**Display:** Selected and Available Energy, indicated on sunlight-viewable, 7 segment, 0.3 inch high red LEDs.

**CODE SUMMARY critical event record when used with the LIFEPAK 11 diagnostic cardiac monitor:**

Defib events: preshock, postshock, energy selected and time stamp.

Pacing events: current, rate, mode and time stamp

All specifications at 25°C unless otherwise stated.



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