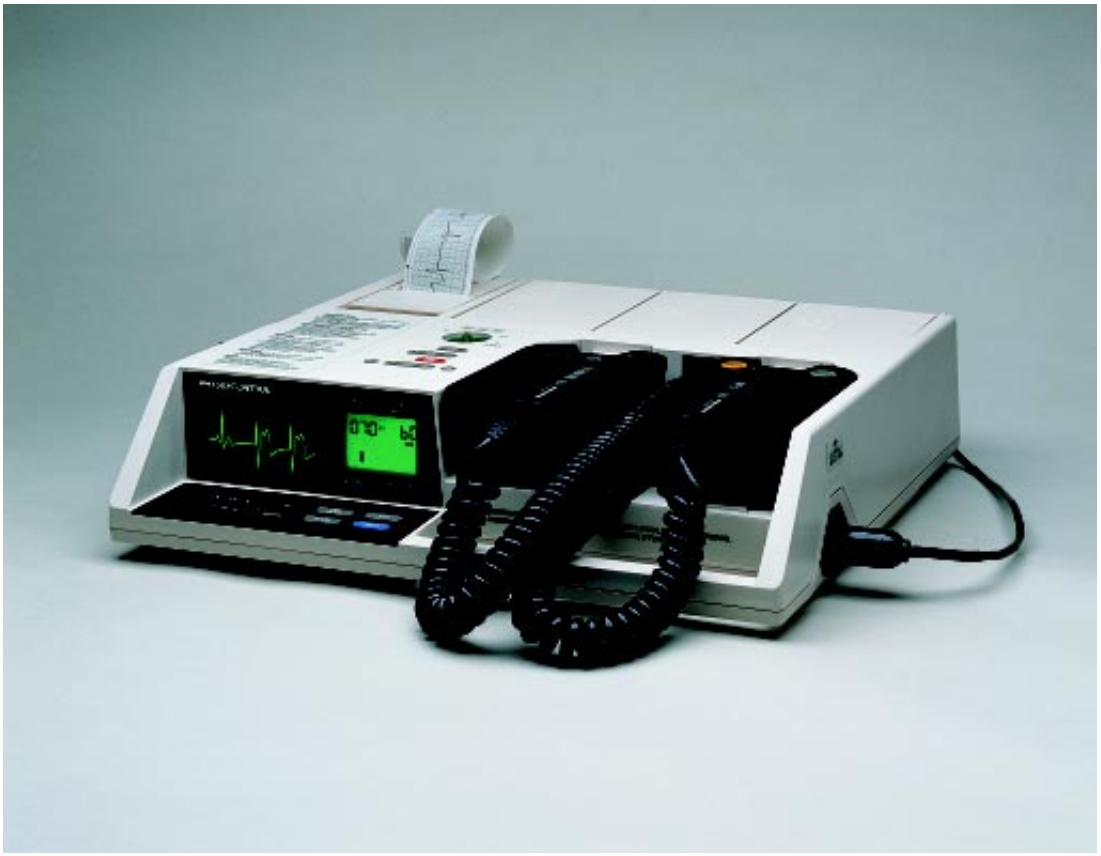
LIFEPAK® 10

defibrillator/monitor/pacemaker

Medtronic PHYSIO-CONTROL

- Rugged, transport unit
- User-friendly controls and display
- Optional built-in noninvasive pacing
- AC or DC auxiliary power supply
- Serial 12-lead adapter available
- Optional “hands-free” defibrillation adapter
- CODE SUMMARY™ critical event record



The Medtronic Physio-Control LIFEPAK 10 defibrillator/monitor/pacemaker was designed to withstand the harsh environment faced by emergency medical providers throughout the world. This rugged, portable unit, which follows the tradition of the company’s LIFEPAK 5 defibrillator/monitor, is built tough to withstand demanding field requirements.

Features include simple 1-2-3 operation and user-friendly display, and CODE SUMMARY critical event record, which recaps critical events from the moment of “power on.” This unit also features optional built-in noninvasive pacing, AC or DC auxiliary power supply, and a defibrillation adapter for “hands-free” defibrillation. A serial 12-lead adapter is also available.

For ease in transferring a patient from prehospital to hospital care, electrodes and cables are compatible with the family of LIFEPAK 9 defibrillator/monitors. This unit was designed for easier maintenance with on-screen diagnostics for test and calibration. It also includes an integral chassis which allows 360° serviceability.

The LIFEPAK 10 defibrillator/monitor/pacemaker joins the Medtronic Physio-Control family of prehospital products.

ECG MONITOR

ECG lead selection: Paddles I, II, III

Input: Isolated ECG via QUIK-LOOK® defibrillator paddles, FAST-PATCH® electrodes, or 3-lead patient cable.

ECG cable length: 3.96m (13 ft) total length; 3.05m cable (10 ft); with .91m leads (3 ft)

Electrical isolation and shielding: Input protected against high voltage defibrillator pulses and radio frequency interference per FDA Standard MDS-201-0004. RF interference depends on distance from RF source, radio output power, radiating frequency, vehicle environment, etc.

Common mode rejection: Minimum 100dB with respect to chassis ground at 60Hz, 65dB minimum with respect to isolated ground.

Cardioscope display

Size: 72.5mm (2.85 in) x 43.5mm (1.7 in), non-fade

Sweep speed: 25mm/sec

Frequency Response:
1 to 30Hz, -3dB (monitor freq. resp.—domestic)
0.5 to 25Hz, -1.4dB (monitor freq. resp.—agency)
0.05 to 30Hz, -3dB (expanded freq. resp. while recorder in DIAG mode)
2 to 20Hz, -3dB (paddles freq. resp.)

Strip chart recorder

Paper size: 50mm x 30m (100 ft)

Paper speed: 25mm/sec

Frequency Response:
1 to 30Hz, -3dB (monitor freq. resp.—domestic)
0.5 to (-1.4dB) to 40 (-3dB) Hz, (monitor freq. resp.—agency)
0.05 to 100Hz, -3dB (diagnostic freq. resp.)
2 to 20Hz, -3dB (paddles freq. resp.)
1 to 30Hz (CODE SUMMARY—domestic)
0.5 to 40Hz (CODE SUMMARY—agency)

Annotation: Includes time, date, lead, gain, heart rate, defibrillator and/or pacing parameters.

CODE SUMMARY critical event record: Digitally stored record of critical ECG and device parameters.

Status display:
- Heart rate: 3 digit readout displays rates from 20 to 295 bpm
- Available energy
- Pacing rate (optional)
- Pacing current (optional)
- DIAG (if recorder is operating in diagnostic frequency)

ECG output:
- Unmodulated: 1V/mV at x 1.0 gain
- Modulated: 1400Hz ± 2% center frequency, 1Vrms, ± 10%
- Frequency response: matches strip chart recorder

QUIK-PACE® NONINVASIVE PACEMAKER

Output rate: 40 to 170 bpm

Output waveform: Monophasic, truncated, exponential current pulse (20msec; 15 to 25% droop)

Output current: 0 to 200mA

Refractory period: 200 to 340msec (function of rate)

DEFIBRILLATOR

Waveform: 5msec monophasic pulse (Edmark) per AAMI spec

Energy select: 0, 5, 10, 20, 50, 100, 200, 300, 360J

Paddle controls: Charge (with indicator light); Record (activates strip chart recorder); Energy select (rotating dial; 0 to 360J); Discharge (dual energy discharge buttons, one on each paddle).

Charge time: Charge to 360 joules in less than 12 seconds above 0°C.

Paddle area: 82cm²

Synchronizer: Delivers energy discharge within 20msec of sync marker on cardioscope (triggers to patient generated QRS complex).

Cord length: 2.3m (7.5 ft)

ENVIRONMENTAL

Temperature:
Standby: 5 to 55°C (41 to 131°F)
Operating: -10 to 55°C (14 to 131°F) after minimum two hour storage at standby temperature
Storage (exclusive of batteries): -30 to 65°C (-22 to 149°F)

Humidity:
0 to 95% (noncondensing)
0 to 34°C (32 to 93.2°F)
0 to 80% (noncondensing)
35 to 55°C (95 to 131°F)

Atmospheric pressure: 797 to 439mmHg (-570 to +15,000 ft)

Shock (Drop): With carrying case (soft case), passes drops of 43 inches from the handle (30 inches from case). This exceeds test levels per ECRI Report, Contract No. 223-77-5035, prepared for FDA (April 1979).

Vibration Helicopter Aircraft: MIL-STD-810D, Method 514.3 (category 6). Test levels per U.S. Army Aeromedical Research Laboratory Report No. 91-14, Section 2.6.3. (March 1991), (UH-1 helicopter, floor under co-pilot's seat).

Vibration Fixed-Wing, Turboprop Transport: (take off and climb) Test level of .0016g²/Hz, the maximum level per figure 32(31) of ECRI Report, Contract No. 223-77-5035. Prepared for FDA (April 1979).

Sealed case: MIL-STD-108E and IEC 601-2-4

GENERAL

Battery: 3 NiCad batteries, 12V, 1.0 amp hours each. A new Battery Pak registering at least 100% capacity on the Battery Support System will provide at a minimum:
- 45 minutes of monitoring or
- 30 minutes of pacing or
- 25 discharges at 360 joules per Battery Pak

Physical characteristics

Height: 10.4cm (4 in)

Width: 40.6cm (16 in)

Depth: 37cm (14.6 in)

Weight: 9kg (20 lbs)

All specifications at 25°C unless otherwise stated.

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