PHYSIO CONTROL® LIFEPAK™ 20

- Provides quick, effective AED use.
- Easily converts to manual mode.
- Compact and light weight for easy carrying and versatile use.
- Easy to maintain and service
- Options: SpO2, Pacing

Specifications

| General | Manual mode: provides a normal operating capability for ALS users. Allows access to manual mode energy selection up to 360J, synchronous 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, synchronous 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 AED prompts. Set up mode: allows the operator to configure the device settings. Service mode: allows the operator to execute diagnostic tests and calibration, to display device mode software and hardware versions, and to display and print the diagnostic code log. In-service 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 records of previous patients for review, transmission, printing, editing or deletion. Auto test mode: performs daily self-tests. |
| Power | The device is an AC line operated device with internal battery as back up. AC Power: 90-132 VAC 50/60 Hz, 706-264 VAC 50/60 Hz, total power draw less than 75 Watts. Internal battery back up: NiMh batteries charge while device operates from AC power. Operating time: a new fully charged internal backup battery will provide the following prior to shutdown: 120 minutes of monitoring, 135 minutes of monitoring without pulse oximeter, 90 360 joules discharges, and 70 minutes of monitoring plus pacing. Typical battery charge time: <2 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 battery gets low, the battery detection icon is indicated with low battery message in status area, and warning tone occurs. |
| Dimensions | Weight: fully featured defibrillator/monitor (pacing and SpO2) 5.58 kg (12.3 lbs). Height: 21.3 cm (8.4”). Width: 26.2 cm (10.3”). Depth: 26.2 cm (10.3”). |
| Display | Size: 115.18 mm (4.53”) wide x 86.38 mm (3.4”) high. Resolution: 230 x 240 dot color active LCD. Displays a minimum of 4 seconds of ECG and alphanumeric for values, device instructions or prompts. Option to display one additional waveform. Waveform display sweep speed: 25 mm/sec for ECG. |
| Data Management | The device can easily print a CODE SUMMARY™ report, including an introduction with patient information and critical event record. The summary report also includes event and vital signs log, and waveform associated with certain events. The device can print archived patient records and has two data communications port, which supports a serial data cable. |
| Communications | ECG: can be monitored through 3-wire or 5-wire ECG cables. Standard paddles or therapy electrodes are used for paddles lead monitoring. Lead selections: Leads I, II and III with a 3-wire ECG cable, leads I, II, III, AVR, AVL, and AVF, V acquired simultaneously with a 5-wire ECG cable. ECG size: 4, 3, 2.5, 2, 1.5, 1, 0.5, 0.25 cm/mV. Heart rate display: 20-350 bpm digital display. Voice prompts: used for selected warnings and alarms, configured on/off. SpO2: saturation range: 1 to 100%. Saturation accuracy: (70-100%) (0-69%)unspecified): Adults/ Pediatric: ±2 digits with no motion, ±3 digits with motion. Neonates: ±3 digits with or without motion. SpO2 update averaging rate: user selectable 4, 8, 12 or 16 seconds. SpO2 measurements: functional SpO2 values are displayed and stored. Pulse range rate: 25 to 240 pulses per minute. Pulse rate accuracy: ±3 digits without motion and ±5 digits with motion. |
| Alarms | Quick Set: activates alarms for all parameters. VF/VT Alarm: activates continuous CPSS monitoring in manual mode. |
Printer
Prints continuous strips of the displayed patient information. **Paper size:** 50 mm (2”). **Print Speed:**
continuous ECG 25 mm/sec ±5%. **Delay:** 8 seconds. **Auto print:** waveform events print automatically.
**Print speed for CODE SUMMARY reports:** 25mm/sec.

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

Defibrillator
- **Waveform:** biphasic truncated exponential.
- **Energy accuracy:** ±1 joule or 10% of setting, whichever is greater, into 50 ohms ±2 joules or 15% setting, whichever is greater, into any impedance from 25-100 ohms.
- **Voltage compensation:** active when disposable therapy electrodes are attached. Energy output within ±5% or ±1 joule, whichever is greater of 50 ohm value, limited to the available energy, which results in the delivery of 360 joules into 50 ohms.
- **Manual – 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 and user configurable sequence of 100-200, 100-300, 100-360.
- **Charge time:** charge time to 200J < 4 seconds with fully charged battery. Charge time to 360J<7 seconds with fully charged battery. Charge time to 360J<10 seconds while not in low battery operations.

Synchronous cardioversion:
- Energy transfer begins with 60 ms of the QRS peak. Energy begins within 25 ms of the External Sync Pulse. External Sync pulse: 0-5V(TTL level) Pulse, active High, > 5 ms in duration, no closer than 200 ms apart and no further than 1 second apart.

AED – Shock advisory system is an ECG analysis system that advises the operator if an algorithm detects a Shockable or nonshockable 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 16 seconds of power on, if initial rhythm finding is “Shock Advised.”

Pacer
- **Pacing mode:** demand or nondemand rate and current defaults.
- **Pacing rate:** 40 to 170 ppm. **Rate Accuracy:** ± 1.5% over entire range.
- **Output waveform:** Monophasic, amplitude stable to ±5% relative to leading edge of currents greater than or equal to 40 mA, duration 20 ± 1 ms, rise/fall times < 1 ms (10-90% levels).
- **Output current:** 0 to 200 mA. **Pause:** pacing pulse frequency reduced by a factor of 4 when activated.
- **Refractory period:** 200 to 300 ms ± 3% (function of rate).

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