ZOLL AED 3® BLS

Technical Specifications

Enhanced Real CPR Help

The ZOLL AED 3® BLS provides enhanced Real CPR Help®, which measures the actual depth and rate of each compression and displays it numerically on the CPR Dashboard™ feature. The ZOLL AED 3 BLS display also shows elapsed time, CPR cycle countdown, shocks delivered, and ECG. The Real CPR Help integrated, real-time CPR feedback tells and shows rescuers when they are administering high-quality CPR.

RapidShock® Analysis

The ZOLL AED 3 BLS with RapidShock™ analysis enables the shortest rhythm analysis for more continuous care and potentially life-saving CPR. Minimising the pre-shock pause and providing more CPR can improve patient outcomes.* Research shows that minimising time to shock after the CPR cycle ends may improve survival.[1] The 2015 ERC Guidelines note, "The delay between stopping chest compressions and delivery of the shock (the pre-shock pause) must be kept to an absolute minimum; any delay will reduce the chances of the shock being successful."[2]

Integrated Pediatric Rescue

Pediatric rescue is made easier with ZOLL's unique CPR Uni-padz™ electrodes and a child mode setting. Universal pad design provides rescuers a single solution to treat both adult and pediatric victims of SCA by using the same set of electrode pads and simply activating child mode. The CPR Dashboard displays numerical CPR depth, rate, and cycle time for additional guidance to the rescuer.

Rugged design – Built to Handle Extreme Environments

The ZOLL AED 3 BLS is designed to withstand the extreme environments in which professional rescuers work. With an IP (ingress protection) rating of 55 and a 1-meter drop-test rating, the ZOLL AED 3 BLS is highly impervious to moisture, dust, and rough handling.

WiFi and USB Connectivity

The 2015 AHA Guidelines state that a "continuous quality improvement approach to CPR can dramatically improve CPR quality and optimize outcomes…CPR data collection, implementation of best practices, and continuous feedback on performance have been shown to be effective."[3] Using RescueNet® CaseReview, detailed rescue performance data can be exported quickly and easily via USB or transferred directly over optional WiFi. Data on CPR rate, depth, release velocity, and compression fraction can easily be evaluated and used to improve future responder performance. ZOLL's connectivity also enables fast and easy distribution of event and ECG data to medical personnel.

[1]Snyder DE, et al. Crit Care Med. 2004;32(9) Supplement:S421-S424.
[2]AHA Guidelines for resuscitation 2015. Resusitation:2015;Sec 8.5
[3]Kleinman ME, et al. *Circulation*. 2015; 132(suppl 2):S423.

* On the ZOLL AED 3 Automatic, the pre-shock pause time is 5 seconds longer due to a warning to stand clear of patient and countdown before shock delivery.

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The ZOLL CPR Dashboard provides real-time numerical feedback on CPR depth, rate, and cycle time.

Child mode, when activated, invokes the pediatric heart analysis algorithm and reduces energy delivered.

Wi-Fi and USB connectivity enable quick and easy access to event data.

Universal CPR Uni-padz can be used for both adult and child rescues. They are the only pads that last 5 years and also include an integrated rescue kit.

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ZOLL AED 3 BLS Specifications

Defibrillator

Protocol: Semi-automatic

Waveform: ZOLL Rectilinear Biphasic™

Defibrillator Charge Hold Time: 30 seconds

Energy Selection: Factory preprogrammed selection (Adult: 120 J, 150 J, 200 J; Child: 50 J, 70 J, 85 J). User configurable.

Patient Safety: All patient connections are electrically isolated.

Charge Time: Less than 10 seconds with new battery

Pre-shock Pause: With RapidShock Analysis less than 5 seconds (semi-automatic) with new battery

Self-test: User-configurable automatic self-test every day or every 7 days. Default: Every 7 days. Monthly full-energy test (200 J).

Automatic Self-test Checks: Battery capacity, status, and expiration; electrode connection and expiration; ECG and charge/discharge circuits; microprocessor hardware and software; CPR circuitry and pads sensor; audio circuitry

CPR Metronome Rate: Constant 105 (+/- 2) CPM

Depth Measurement: 1.9 cm to 10.2 cm; 0.75 in to 4 in

Defibrillation Advisory: Evaluates electrode connection and patient ECG to determine if defibrillation is required

Shockable Rhythms: Ventricular fibrillation with average amplitude >100 microvolts and wide complex ventricular tachycardia with rates greater than 150 BPM for adults, 200 BPM for pediatrics. For ECG analysis algorithm sensitivity and specificity, refer to the ZOLL AED 3 Administrator's Guide.

Patient Impedance Measurement Range: 10 ohms to 300 ohms

Defibrillator: Protected ECG circuitry

Display Format: High-resolution LCD with capacitive touch panel

Display Screen Size: 5.39 cm x 9.5 cm; 2.12 in x 3.74 in

Display Sweep Speed: 25 mm/sec

Display Viewing Speed: 3.84 seconds

Data Recording and Storage: User-configurable for 1 or 2 clinical events for total of 120 minutes for each event. Includes ECG, impedance measurements, device prompts, and CPR data. With voice recording enabled, same data with synchronous audio added for total of 60 minutes for each event.

Data Recovery: Controlled by touchscreen, uploaded to USB memory stick, or RescueNet CaseReview, over a Wi-Fi network

Device

Size: (H x W x D) 12.7 cm x 23.6 cm x 24.7 cm; 5.0 in x 9.3 in x 9.7 in

Weight: 2.5 kg; 5.5 lbs

Power: Lithium manganese dioxide battery pack

WiFi Enabled Devices: Wireless 802.11 a/b/g/n; Security Protocols, WPA1, WPA 2, WPA Personal, WPA Enterprise; Internal Clock Synchronization: Coordinated Universal Time (UTC) synchronization occurs when communicating with the ZOLL Online server.

Port: USB 2.0

Audio Recording: User-configurable on/off (default=off)

Device Classification: Class III and internally powered per EN 60601-1

Design Standards: Meets applicable requirements of EN 60601-1, EN 60601-1-11, IEC 60601-2-4

Environmental

Operating Temperature: 0° to 50°C; 32° to 122°F

Storage Temperature: -30° to 70°C; -22° to 158°F

Humidity: 10% to 95% relative humidity, non-condensing

Vibration: IEC 60068-2-64, Random, Spectrum A.4, Table A.8, Cat. 3b; RTCA/DO-160G, Fixed Wing Aircraft, Section 8.6, Test Cat. H, Aircraft Zone 1 and 2 ; EN1789, Sweep per EN 60068-2-6 Test Fc

Shock: IEC 60068-2-27; 100G

Altitude: -381 m to 4,573 m; -1,250 to 15,000 ft

Particle and Water Ingress: IP55

Drop Test: 1 meter; 3.28 ft

Battery

Battery Capacity: Typical new battery running at an ambient temperature of +20° C to +25° C (68° F to 77° F) can provide 140 defibrillator discharges at maximum energy (200 joules), or 6 hours of continuous monitoring (with 2-minute CPR periods). *Note:* CPR periods shorter than 2 minutes can decrease the operating time that can be obtained from a new battery.

Type: Disposable, sealed lithium manganese dioxide

Battery Standby Life (once installed): 5 years with weekly self-test*. Battery end of life indicated by blank status window (typical remaining shocks: 9).

Battery Shelf Life: Store for up to 2 years at 23°C (77°F) prior to installing in ZOLL AED 3 BLS to maintain battery life detailed above.

Temperature: 0°C to 50°C (32°F to 122°F)

Humidity: 10% to 95% (non-condensing)

Weight: 317.5 grams; 0.7 lbs

Size: (H x W x D) 27.75 mm x 133 mm x 88 mm; 1.0 in x 5.16 in x 3.5 in

Nominal Voltage: 12 volts

CPR Uni-padz®

Shelf Life: 5 years

Conductive Gel: Polymer Hydrogel

Conductive Element: Tin

Packaging: Multilayer foil laminate pouch

Impedance Class: Low

Cable Length: 142 (+/-3.8) cm; 56 (+/- 1.5) in

Design Standards: Meets requirements of IEC 60601-2-4

ZOLL AED 3 BLS Carry Bag

Size: (H x W x D) 29.2 cm x 27.4 cm x 17.8 cm; 11.5 in x 10.8 in x 7.0 in

Weight: 3.4 kg; 7.5 lbs (ZOLL AED 3 BLS with battery installed and electrodes preconnected in carry bag)

Holds: ZOLL AED 3 BLS with battery inserted and back-up set of electrodes

Specifications subject to change without notice.

*Battery standby life will be shorter in areas with low WiFi signal strength and/or more complex WiFi authentication protocols.

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