

Product Bulletin

Product Bulletin: 2019-015

ZOLL AED 3[®] Battery Consumption Information and Tips for Optimizing Battery Life

Overview

The ZOLL AED 3 device provides many advanced features designed to improve outcomes and operational efficiencies, including RapidShock Analysis, WiFi connectivity, and a capacitive touch-screen display. Since these features require significant power, some users may experience battery consumption higher than expected. This Product Bulletin will provide you information on the ZOLL AED 3 Battery as well as tips on how to optimize your battery life.

ZOLL AED 3 Battery

The ZOLL AED 3 device is powered by a disposable, sealed lithium magnesium dioxide battery that can provide a standby life of 5 years with a weekly self test enabled. Standby battery life is defined as available battery capacity if the device is configured, deployed, and stored correctly. When the ZOLL AED 3 device is used clinically, in training, or is connected to WiFi for data communication, users will see increased battery consumption and a decreased 'life' when compared to AEDs with less advanced features.

The below specifications are for the battery pack:

Battery											
Operating Time (Clinical Mode)	Typical new battery running at an ambient temperature of +20° C to +25° C (68° F to 77° F) can provide: <ul style="list-style-type: none"> • 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.										
Standby Life (years) When using a battery stored for up to 2 years at 23° C (73° F) and placed in a ZOLL AED 3 defibrillator.	<table border="0"> <tr> <td>Auto Self-Test Report OFF</td> <td></td> </tr> <tr> <td> Self-Test Interval (7 days)</td> <td>5</td> </tr> <tr> <td> Self-Test Interval (1 day)</td> <td>3</td> </tr> <tr> <td>Auto Self-Test Report ON</td> <td></td> </tr> <tr> <td> Self-Test Interval (7 days)</td> <td>3*</td> </tr> </table>	Auto Self-Test Report OFF		Self-Test Interval (7 days)	5	Self-Test Interval (1 day)	3	Auto Self-Test Report ON		Self-Test Interval (7 days)	3*
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*Battery standby life will be shorter in areas with low Wi-Fi signal strength and/or more complex Wi-Fi authentication protocols.

Tips to Improve Battery Life

Below are some tips to improve and preserve battery life in the ZOLL AED 3 defibrillator:

- Always make sure electrodes are pre-connected.
- Always ensure that a WiFi network is programmed before configuring “AUTO SELF TEST REPORT” to “ON”.
- Because the device performs a 200j self test each time the battery is inserted, it is important to keep the battery in place once it is inserted.
- Use the (i) button to confirm battery status. The “INFO” screen will display complete battery information.
- When training, make sure to use CPR Uni padz demo/training pads as they will alert the ZOLL AED 3 device to deliver 0j when a shock is advised.
- Never insert a new battery pack to test it or confirm capacity. ALL batteries are tested and certified prior to shipment from ZOLL. When a battery is first inserted into a ZOLL AED 3 device it will be stamped with the date/time it was installed. This is the date the battery will use to drive the 5 year install life.
- Confirm the connection strength of the WiFi network using the “TEST” function within the WiFi setup section. If the WiFi signal is very weak the device will have to draw more power in order to make the transmission. Additionally, if the configured WiFi network cannot be reached, the device will continue to try and connect to the network. Both of these scenarios can result in additional drain on the battery.

ZOLL does not recommend configuring a ZOLL AED 3 device for daily self tests and/or configuring “AUTO SELF TEST REPORT” to ON. Doing so will result in significant battery consumption. Rather we recommend a weekly self test. Please reference attached whitepaper on why ZOLL recommends configuring your ZOLL AED 3 to weekly self test.

In addition, be aware that if you configure the “AUTO SELF TEST REPORT” to “ON” but have not configured your WiFi, the device will continue to retry sending the report which will result in increased battery consumption. Note that devices running SW Release 5 (05.03.010) forward will identify this situation and alert the user to adjust the configuration.

ZOLL AED 3 Self Tests

The ZOLL AED 3 defibrillator requires little maintenance. It automatically performs a self test every time you turn on the AED or install a battery, and it also performs a routine self test based on the interval of days that you specify (default is 7 days). The defibrillator collects the self test information in its device history.

The ZOLL AED 3 device will perform the following self tests:

- Battery Installation Self Test: Performed every time a battery is inserted
- Power On Self Test: Performed every time the device is turned on clinically
- Manual Self Test: Performed every time the device is turned on in non-rescue mode
- Automatic Self Test: Performed on a weekly basis following the previous self test. Can also be configured to be performed daily.
- Automatic Monthly Self Test: Performed on a monthly basis, the first week of every month.

Descriptions of Self Tests and WiFi Data Transmission

- **Battery Installation Self Test**

A 200j charge test is performed every time the battery is inserted into the ZOLL AED 3 device. Frequently removing the battery from the unit will result in additional unnecessary 200j charge tests being performed.

- **Manual Self Test**

The ZOLL AED 3 device will perform a manual self test every time a user goes into configuration mode. This self test will perform a 200j charge test on ZOLL AED 3 devices running SW Release 1 (01.03.203), SW Release 2 (02.03.016), and SW Release 3 (03.03.008). The 200j charge test was removed on SW Release 4 (04.03.500) forward as the 200j test is performed when a battery is inserted and during the monthly self test.

- **Automatic Self Test**

The ZOLL AED 3 device will perform an automatic self test based off the previous self test or clinical use. The frequency of this can be user configurable for WEEKLY (default – recommended) or DAILY. This test covers ALL critical functions/components of the device.

With SW Release 1 (01.03.203), SW Release 2 (02.03.016), SW Release 3 (03.03.008), and SW Release 4 (04.03.500), the self test protocol is driven by the completion of the previous self test. With SW Release 5 (05.03.010) forward the user can configure the day/time the self test is performed.

- **Automatic Monthly Self Test**

The automatic monthly self test performs the same set of functions as the Automatic self test with the addition of a 200j charge/discharge test.

- **Automatic Self Test Transmission**

Users can configure the ZOLL AED 3 device to wirelessly transmit the results of the Automatic Self Test to PlusTrac or Defibrillator Dashboard.

The below table illustrates what is tested per type of self test:

	Battery Installation Self Test	Power On Self Test	Manual Self Test	Automatic Self Test	Automatic Monthly Test
Battery Capacity	✓	✓	✓	✓	✓
Defibrillation Pads Connection	✓	✓	✓	✓	✓
Defibrillation Pads/ Battery Expiration	✓	✓	✓	✓	✓
ECG Circuitry	✓	✓	✓	✓	✓
Defibrillator Charge and Discharge Circuitry (2 Joule Charge/ Discharge Test)	✓	✓	✓	✓	✓
Microprocessor Hardware/Software	✓	✓	✓	✓	✓
CPR Circuitry and Sensor (if defibrillation pads with CPR functionality are connected)	✓	✓	✓	✓	✓
Audio Circuitry	✓	✓	✓	✓	✓
200 Joule Charge/ Discharge Test	✓				✓

WiFi and Automatic Self test Transfer

All ZOLL AED 3 models have wireless communication that provides automatic upload of self test reports and on-demand transfer of patient clinical archives and device history information through a wireless access point.

If configured, the AED can automatically transfer self test information over WiFi to the PlusTrac™ AED program management system or to another AED program management provider. If a user configures “AUTO SELF TEST REPORT” to “ON” but does not configure the WiFi network information, the user will see increased battery consumption. With software release 5 forward users will be reminded to program a WiFi network should they configure “AUTO SELF TEST REPORT” to “ON”.

It is possible to configure the device to send its daily / weekly self test reports via WiFi. However, if the WiFi signal is very weak the device will have to draw more power in order to make the transmission. Or if the configured WiFi network cannot be reached, the device will continue to try and connect to the network. Both of these scenarios can result in additional drain on the battery.

If you are experiencing battery discharge in less than the expected time and are using WiFi transmission of self check data, check the signal strength at the AED location to ensure that a strong enough signal is available to allow the successful transfer of the file.

Please contact Technical Support for compatibility details and installation instructions.

ZOLL Customer
Outside the US

Contact your local ZOLL Service Center or Authorized Distribution Partner
If you need further assistance please
email ZOLL Chelmsford Service



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