



This specification shall be applied to Lithium rechargeable battery cell supplied by AA Portable Power Corp.

## Product Specification

Type	Cylindrical Lithium Iron Battery
Model	LC-18500
Voltage	Nominal: 3.7V
Capacity (0.2C discharge)	Nominal: 1600mAh Minimum: 1580mAh
CV Charging Voltage	Maximum: 4.2V±0.05V
Charge current	Standard Charge: 320mA / 0.2C Max. Charge: 1600mA / 1C
Discharge current	Standard Discharge: 320mA / 0.2C Fast Discharge: 3200mA / 2C Max. Discharge: 4800mA / 3C
Discharge cut-off voltage	3.0V±0.05V
Life Cycle	After 300 cycles, Remained capacity/Initial Capacity ≥80%
Internal impedance (23±2°C)	≤100mΩ
Dimension (Including shrink sleeve/label)	Diameter: 18.5mm Max.; Height: 50.3mm Max.
Weight	36±2g (Approx)
Operation temperature	Standard Charge: 0~45°C Discharge: -20~60°C
Storage	Temperature -5~35°C Humidity: ≤ 75% RH

## Testing environment

Unless otherwise specified, all tests stated in this document shall be performed at 23±2°C, 65±20% RH

## Performance and test conditions

- Standard charge: 0.2C=320mA constant current (CC) charge to 4.2V, followed by 4.2V constant voltage (CV) charge until current taper to ≤0.01C
- Standard discharge: 0.2C=320mA CC discharge to the end of discharge voltage 3.00V.

## Welding allowable part on a cell

Welding is not allowed on cell side wall

## Insulation

Can top face (positive terminal) and side is covered with insulation tubing

## Charge State of Battery before shipment

Approximately 30% charged



## **Storage**

Store the battery at low temperature (-5~35°C is recommended), low humidity, no dust and no corrosive gas atmosphere.

## **Handling and Prohibitions**

### **1) Electrical misusage**

- Use dedicated charger
- Don't charge the cell/battery reversely.

### **2) Environmental misusage**

- Don't leave the cell/battery near the fire or a heated source.
- Don't throw the cell/battery into the fire.
- Don't charge or use the cell/battery in a car or similar place where inside of temperature may be over 60°C.
- Don't immerse, throw or wet the cell/battery in water / seawater.

### **3) Others**

- Don't store the cell/battery in a pocket or a bag together with metallic objects such as keys, necklaces, hairpins, coins, or screws.
- Don't short circuit (+) and (-) terminals with metallic object intentionally.
- Don't heat partial area of the battery with heated objects such as soldering iron.
- Don't hit with heavy objects such as a hammer, weight.
- Don't step on the cell/battery and throw or drop the cell/battery on the hard floor to avoid mechanical shock.
- Don't disassemble the cell/battery or modify the cell/battery design including electric circuit.
- Don't use seriously scared or deformed cell/battery.
- Don't put the cell/battery into a microwave oven, dryer or high-pressure container.
- Don't use or assemble with different brands, types and/or models of cell/battery such as dry cell/battery, nickel-metal hydride cell/battery, or nickel-cadmium cell/battery.

## **[ Warning! ]**

- Don't use or assemble old and new cell/battery together.
- Stop charging the cell/battery if charging isn't completed within the specified time.
- Stop using if the cell/battery becomes abnormally hot, discoloration, deformation, or abnormal conditions are detected during use, charge, or storage.
- Keep away from fire immediately when leakage or foul odors are detected.
- If liquid leaks onto your skin or cloths, wash well with fresh water immediately. If liquid leaking from the cell/battery and getting into your eyes, don't rub your eyes but wash them with clean water and go to see a doctor immediately.
- If the terminals of the cell/battery become dirty, wipe with a dry cloth before use.
- The cell/battery can be used within the certain temperature ranges. Don't exceed these ranges. Check specification first.



## [ Caution! ]

- Battery must be charged with constant current-constant voltage (CC/CV).
- Charge current must be controlled by specified value in cell/battery's specification.
- Discharge current must be controlled by specified value in cell/battery's specification. Cut-off voltage of discharging must be over 3V/cell.
- Keep the cell/battery away from babies and children to avoid any accidents such as swallow. If children use the cell/battery, their guardians should explain the proper handling method and precaution before using.
- Before using the cell/battery, be sure to read the user's manual and precaution of handling.
- Before using charger, be sure to read the user's manual of the charger.
- Before installing and removing the cell/battery from application, be sure to read user's manual of the application.
- Replace the cell/battery when running time becomes much shorter than usual. Cover terminals with insulating tape before proper disposal.
- If the cell/battery is needed to be stored for a long period, battery should be removed from the application and stored in a place where humidity and temperature are low.
- To prevent the deterioration of the performance caused by heat, cell/battery shall be positioned away from the area where heat is generated in the application and the charger.

**Please contact us when you need any help for custom battery packs and safety concerns**

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