LithiumWerks™

18650 Lithium Ion Energy Cell

Lithium Iron Phosphate Technology

Lithium Werks' AER18650 energy cells are best for Power.Safety.Life.™ applications. They deliver high power and energy due to their use of lithium iron phosphate battery technology ($LiFePO_4$ or LFP). The cells are inherently safe over a wide range of temperatures and conditions. Whether the application requires outstanding cycle life or stable float reliability, the Lithium Werks' AER18650 cells are suitable for a wide variety of industrial, motive, marine, medical, and stationary applications.

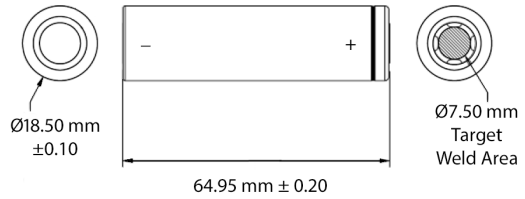
Lithium Werks' Lithium Iron Phosphate battery technology offers thermal-stable chemistry, faster charging, consistent output, low capacity loss over time, and superior total cost of ownership (TCO). It provides the foundation for safe systems while meeting the most demanding customer requirements. Multiple layers of protection are employed at the chemistry, cell, and system level to achieve an energy storage solution with superior safety and abuse tolerance compared to metal oxide lithium-ion chemistries.

> ***"batteries using LFP cathode materials reduce to a minimum the likelihood of a fire event because they are technically safer"***
>
> *Roskill, June 2020**

Applications

- Telecom Applications
- Energy Storage Applications
- Material Handling
- Medical Devices
- Robotics
- Electric Vehicles
- Industrial Equipment
- Electrified Mobility Devices

Dimensions



* The resurgence of LFP cathodes, Roskill White Paper (June 2020)

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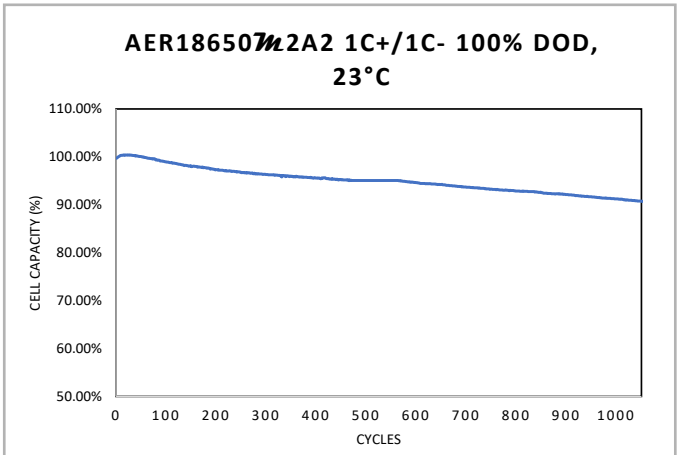
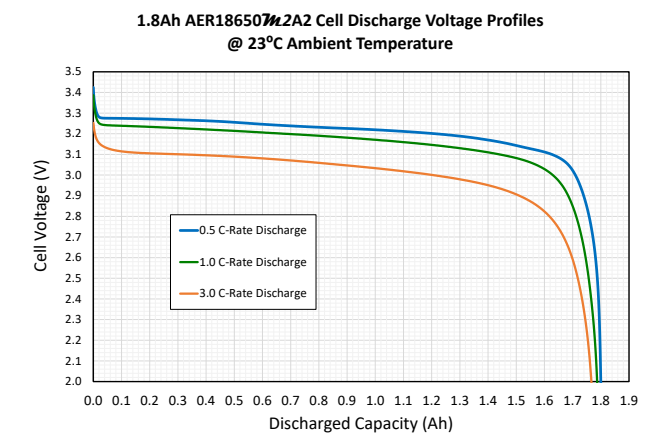
Specs for AER18650M2A2

Nominal Ratings	
Voltage	3.2 V
Capacity @ C/5 Typical (Min)	1.8 Ah (1.7)
Energy	5.76 Wh
Specific Energy	133 Wh/kg
Energy Density	330 Wh/L
Impedance (1kHz ACIR)	< 20 mΩ
Cycle Life at 0.5C/0.5C, 100% DOD	> 4000 cycles
Discharging	
Max Continuous Discharge Current	5.4 A (3C)
Max Pulse Discharge Current, 10s	18 A (10C)
Minimum Voltage	2.0 V
Temperature	-20 ºC to 60 ºC
Charging	
Recommended Charge Voltage	3.6 V
Recommended Charge Current	≤ 0.9 A (C/2)
Max Continuous Current, >10 ºC	2.7 A (1.5C)
Terminate Charge @ 3.6 V	< 36 mA
Float Voltage	3.5 V
Temperature	0 ºC to 60 ºC
Storage	
Temperature	-30 ºC to 70 ºC
Mechanical	
Diameter	Ø18.5 +/- 0.1 mm
Length	64.95 +/- 0.2 mm
Mass	43.4 g +/- 1.0 g
Certifications	
Transportation shipped @ ≤ 30% SOC	UN 3480 UN 38.3
Safety	UL 1973, IEC 62620 *pending early 2024
Part Number 320749-001	

Cell Data





Abuse

Nail penetration	Pass - EUCAR4
Over-Discharge	Pass - EUCAR3
Thermal Stability	Pass - EUCAR4
External Short	Pass - EUCAR3
Crush	Pass - EUCAR3
Overcharge	Pass - EUCAR2

18650 Energy Cell Data Sheet
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