



SLIMLINE LITHIUM IRON PHOSPHATE BATTERY
AP100LFP-MP / AP200LFP-MP

USER MANUAL



PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATION AND MAINTENANCE,
FOLLOW ALL PROVIDED WARNING & CAUTION, AND KEEP IT FOR FUTURE REFERENCE.

ABOUT US

ATEM POWER, born in June 2017, as a synonym for exciting outdoor experience, is an Australian company with dedication and passion for the R&D of high quality products in the field of renewable energy products, batteries and related accessories.

Since the company was founded, we have committed to innovation that aims to make your life infinitely more convenient. And the belief in our conviction for quality and commitment allows us to innovate in developing products that are optimally tailored to the needs of our amazing customers.

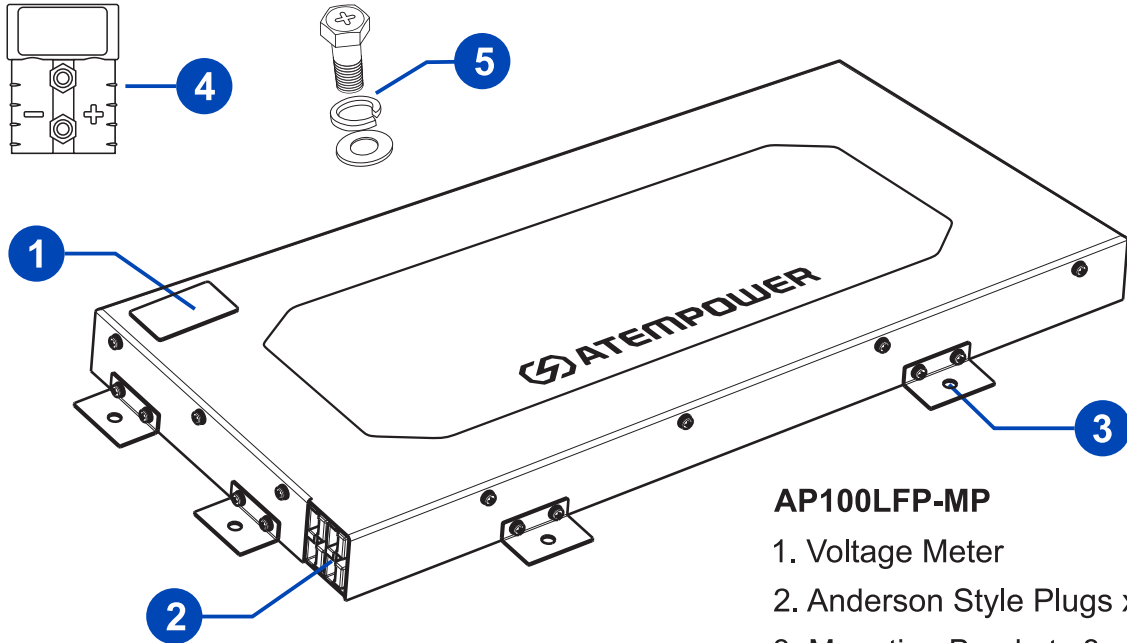
We engineer and supply solar products for homes, 4x4s, recreational vehicles and virtually any application you can think of. And we also develop reliable, high performing deep-cycled batteries and lithium batteries for standby or daily power needs. Accessories include battery chargers and inverters that are ideal for RV's, commercial vehicles, boats, yachts and many more applications!

At ATEM POWER, we stay true to our DNA by prioritizing technological innovation designed to improve our products and striving to provide excellent customer care. Because we are motivated to explore the limits of solar power!

WARNING & CAUTION

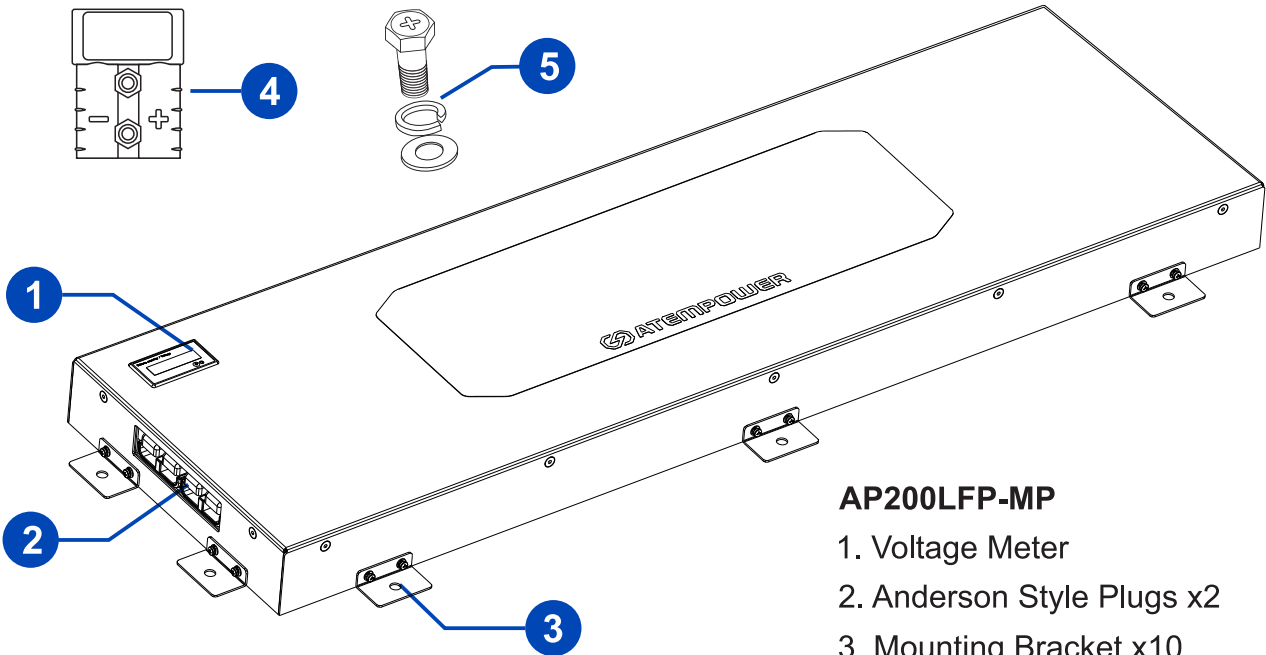
- The work on the lithium iron phosphate battery should be conducted by qualified personnel. It is essential that you thoroughly read the warnings, cautions, and warranty prior to installation or use.
- Please ensure that you wear appropriate protective eyewear, insulating gloves, and clothing to guarantee your safety. Avoid wearing any metallic items such as watches or bracelets.
- Ensure that the installation location meets the following conditions: the floor should be flat and level, with no presence of flammable or explosive materials, and minimal dust and dirt in the area.
- Under no circumstances should you touch the exposed electrolyte, open or dismantle the lithium iron phosphate battery if the battery casing is damaged. In case of skin or eye contact, flush with plenty of clean water and seek immediate medical assistance.
- Avoid placing any items or tools on the lithium iron phosphate battery. Furthermore, refrain from opening or disassembling the battery, as well as submerging it in water or exposing it to moisture.
- Operate and store the battery away from heat sources, flammable substances, harsh chemicals, or vapors. In the event of a fire, use a type D, foam, or CO₂ fire extinguisher.
- Handle the battery with care, as it is sensitive to mechanical shocks. Never strike or throw the battery, and pay attention to wire handling to prevent any damage.
- The parameters of the charger should meet the technical specifications of this battery. Do not charge the LiFePO₄ battery if it has been discharged below the discharge cut-off voltage or if it is damaged, as it can release a harmful mixture of gases.
- Before reactivating or reconnecting the battery to the charging source and load, ensure that it is completely dry. Failure to do so can negatively impact its performance and pose a safety hazard.
- Regularly inspect the battery cables and connections, replacing any damaged cables and tightening loose connections as needed.
- It is important to use batteries of the same brand and voltage. Mixing batteries of different ages is not recommended. Fully charge the batteries before connecting them in series or parallel. Note that combinations of series and parallel connections are not allowed for this battery, which is designed for up to two batteries in parallel or two batteries in series.
- Never puncture the battery case with sharp objects, and do not hammer, pedal, or directly solder the battery terminals, as these actions are prohibited.
- For distances over 3m, it is recommended to use 8AWG or smaller cables. Cables no larger than 6AWG are preferable in such cases.

IDENTIFICATION OF PARTS & ACCESSORIES



AP100LFP-MP

- 1. Voltage Meter
- 2. Anderson Style Plugs x2
- 3. Mounting Bracket x8
- 4. 120A Anderson Style Connectors x2
- 5. M8*12 Screws x8
M8*12 Washers x8
M8*12 Spring Washers x8



AP200LFP-MP

- 1. Voltage Meter
- 2. Anderson Style Plugs x2
- 3. Mounting Bracket x10
- 4. 175A Anderson Style Connectors x2
- 5. M8*12 Screws x10
M8*12 Washers x10
M8*12 Spring Washers x10

DIMENSIONS (MOUNTING BRACKETS INCLUDED):



Measured in millimeters

INSTALLATION

The ATEM POWER slimline battery is engineered for efficient storage in automobiles, including cars, pickups, RVs, and 4WDs. It is also a versatile choice for camping and outdoor activities where limited space is a crucial consideration.

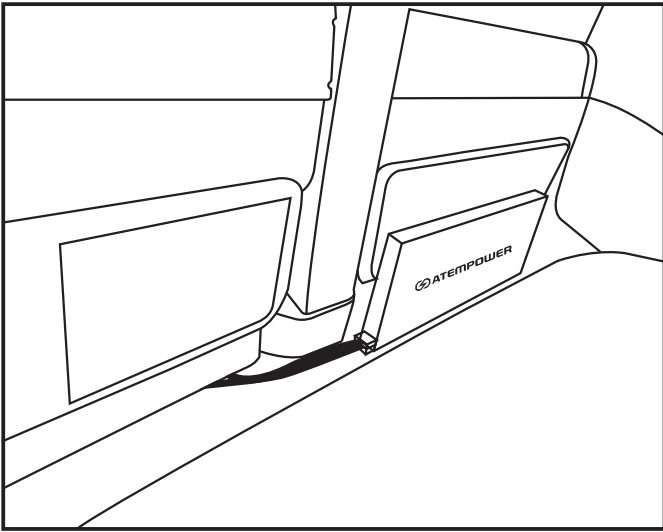


Figure 1b-Strapped at the back of a 4x4

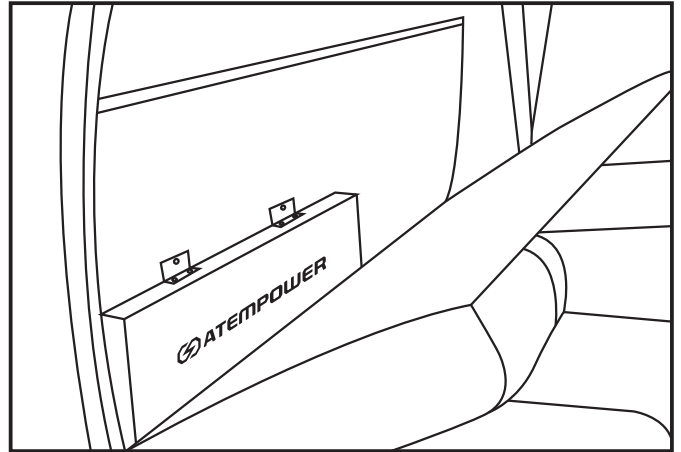


Figure 1a-Behind the seat

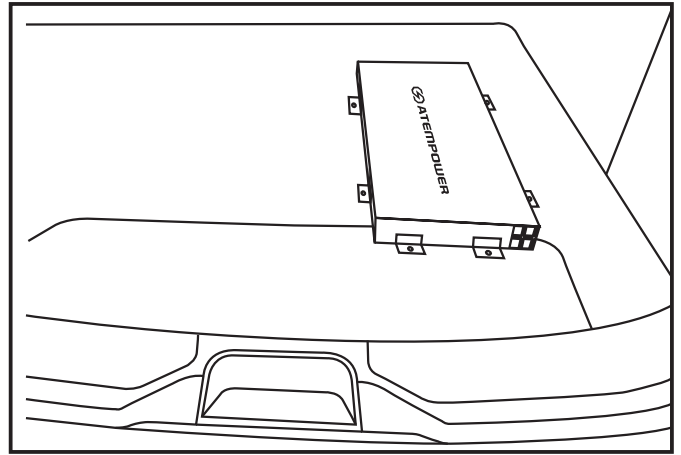


Figure 1c-Back of 4x4

Prior to embarking on your journey, it is imperative to ensure that the battery is securely fastened or firmly secured in place.

SERIAL AND PARALLEL BATTERY CONFIGURATIONS

Series Connection:

To connect the ATEM POWER batteries in series, please refer to Figure 1 and ensure that the cables used are of the same type and specification. It is important to note that when the batteries require charging, disconnect the series connection and charge the batteries separately before reconnecting them in series. Keep in mind that the battery capacity will be reduced when connected in series.

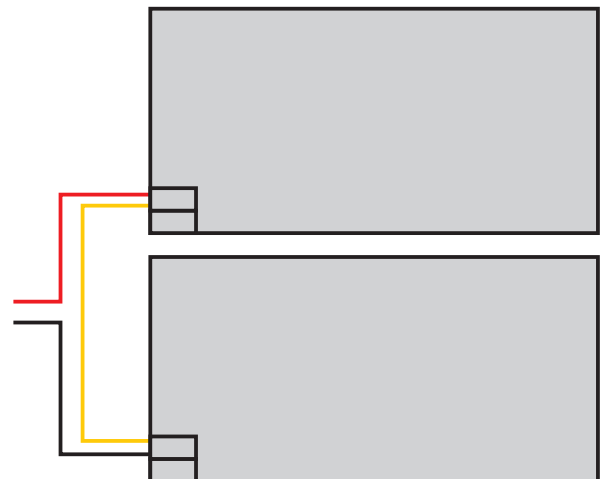


Figure 1.

Parallel Connection:

To connect the ATEM POWER batteries in parallel, follow the instructions provided in Figure 2. It is recommended to use thicker cables to prevent damage caused by over-current.

Note: 2*8AWG; 2*6AWG (>3m) or 4AWG cables are recommended.

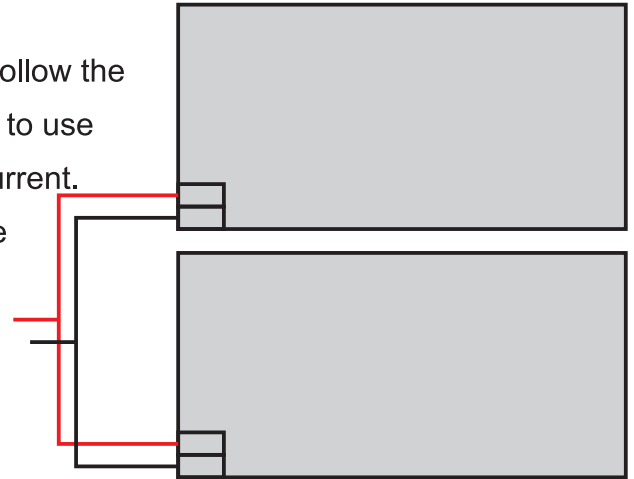


Figure 2.

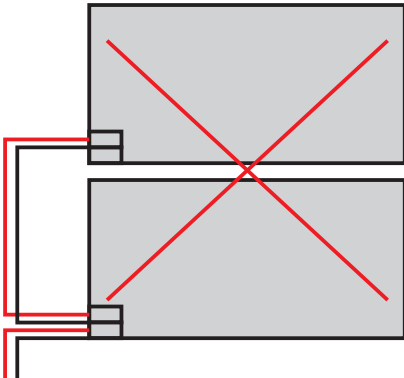


Figure 3.

Please be aware that the parallel connection example depicted in Figure 3 is strictly prohibited.

MOUNTING & ORIENTATION

To securely mount your slimline battery, it is advisable to use M8 screws with a minimum length of 10mm. The battery can be mounted either flat or on its side, in any orientation except with the voltage meter at the bottom. It is important to note that mounting the battery on its side with the voltage meter at the bottom goes against ATEM POWER's recommendations, as it positions the internal cells upside down. Please refer to Figure 4 for guidance.

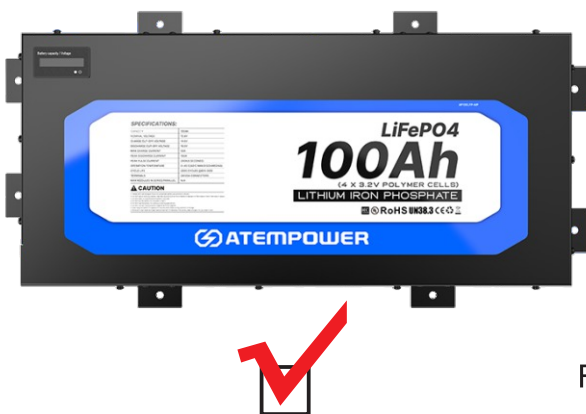


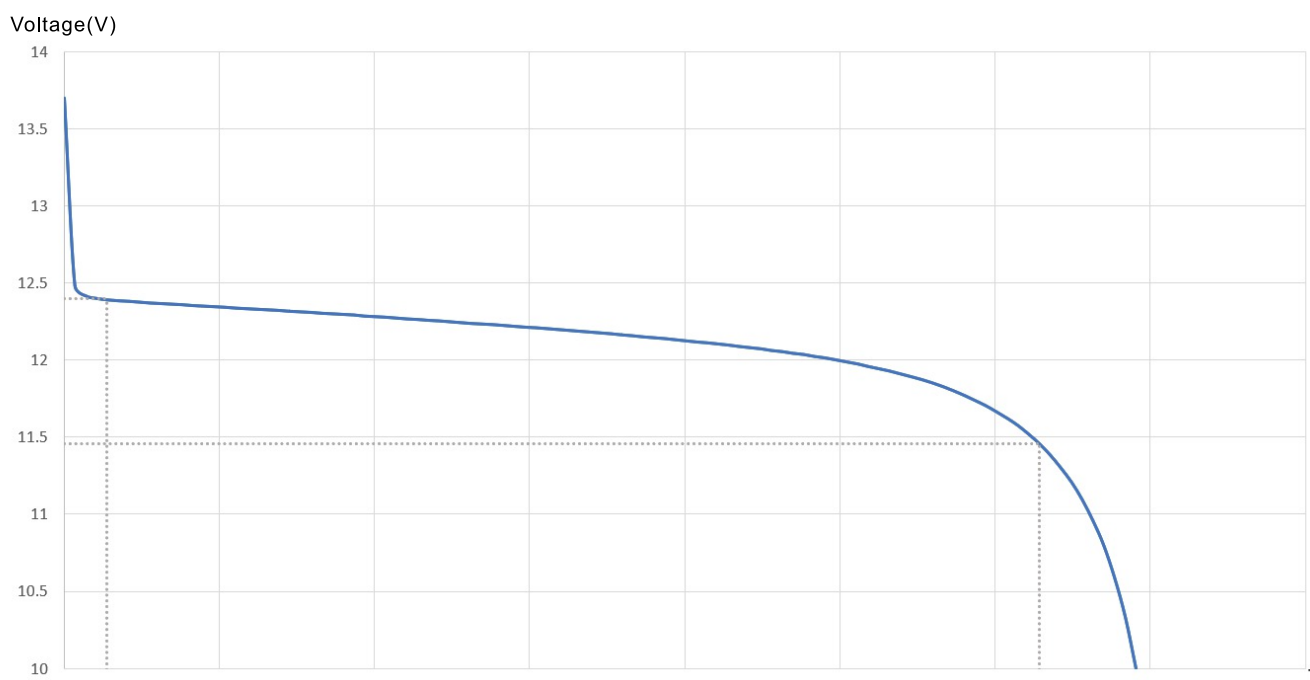
Figure 4.

- When installing the ATEM POWER slimline battery, exercise extreme caution to avoid unintentionally drilling or penetrating into the electronic components or wires of your vehicle, as this can pose potential safety hazards. Utilize only the existing mounting holes in the battery and ensure that the screw lengths are appropriate for a secure installation.
- Furthermore, it is imperative that the battery is not mounted loosely but rather firmly secured in place.

PARAMETERS

Model	AP100LFP-MP	AP200LFP-MP
Cycle Life	2,000 Cycles	
Nominal Capacity	100Ah	200Ah
Internal Impedance	≤10mΩ	
Self-discharge Rate(per month)	2%	
Nominal Voltage	12.8V	
Max. Charge Current	50A	75A
Max. Discharge Current	200A(≤7S)	300A(≤7S)
Charge Voltage	10V-14.6V	
Max. Modules in Series/Parallel	2S/2P	
Charge Temperature	0°C~60°C	
Discharge Temperature	-20°C~70°C	
Standard Operation Temperature	-20°C~70°C	
Max. Continuous Charge Current (25°C)	50A	75A
Max. Continuous Discharge Current (25°C)	100A	150A
Recommended Charge Current	50A	75A

DISCHARGE CURVE



TROUBLESHOOTING

If any problems occur during battery operation, please refer to the following instructions or contact us for professional help.

PROBLEM	SUGGESTED SOLUTION
Overcharge	Disconnect your battery from charging, and allow it to recover.
Over-current /short circuit protection	Disconnect your battery, if it recovers abnormally, please use LiFePO4 battery charger to activate it.
Over-discharge	Built-in BMS will automatically cut off its output, and in this circumstance, you are recommended to use LiFePO4 battery charger to activate your battery.
Temperature beyond normal ranges	Built-in BMS will automatically disconnect the battery from the load, and allow it to cool down or warm up to room temperatures. If your battery recovers abnormally, please use LiFePO4 battery charger to activate it.

Note: It is highly likely that your battery is damaged if it cannot be activated by the charger.

BATTERY MAINTENANCE & STORAGE

- Regular inspections are crucial for maintaining optimal battery performance. It is essential to keep the battery clean, dry, and free of corrosion.
- Prior to cleaning the top of the battery and its connections, ensure that it is disconnected from the charging load or source. Use a damp cloth or non-metallic brush for cleaning. Remember to thoroughly dry the battery before reactivating it.
- When storing the battery, choose an open, well-ventilated, and dry area with temperatures ranging from -20°C to 70°C. Avoid subjecting the battery to sharp impacts or extreme pressure.
- Before using the battery after storage, ensure it receives a full charge. Additionally, to prevent over-discharge, it is recommended to charge the battery at least once every three months.
- To eliminate potential parasitic loads that may discharge the battery, do not forget to disconnect it from any equipment.



WARRANTY



ATEM POWER ("Manufacturer") provides a warranty to the original purchaser ("User") of this slimline lithium iron phosphate ("Battery(ies)") for a duration of 3 years from the date of purchase. This warranty covers defects in material and workmanship when the battery is used in a deep-cycle application and purchased from the manufacturer or an authorized distributor/dealer. Within the Warranty Period, the Manufacturer will replace or repair, if feasible, any defective components due to material or workmanship issues. If repair is not possible, a new, similar battery will be offered. This Limited Warranty is non-transferable.

Exclusions:

This warranty does not cover defects resulting from normal wear and tear, insufficient maintenance, inadequate ventilation, transportation, storage, faulty repairs, neglect, accidents, failure to follow operating instructions and parameters, or improper installation.

The user must adhere to recommendations for series and parallel installations, and it is recommended to have qualified technicians perform the battery installation; failure to do so will void the warranty. Additionally, the warranty is void in the following circumstances:

- Destruction or alteration of manufacturing date codes, safety certification numbers, serial numbers, or tracking numbers.
- Disassembly, alteration, or repair by unauthorized individuals.
- Damage caused by force majeure events (e.g., lightning, overvoltage, storm, fire).
- Damage due to improper installation, loose connections, undersized cabling, incorrect series/parallel connections, reverse polarity connections, or inappropriate storage conditions such as extreme temperatures or water exposure.
- Excessive vibration caused by imbalance or improperly operated floor burnishing machines.
- Failure to maintain the battery as per the user manual.
- Misuse, abuse, physical damage, or modification not approved by ATEM POWER.
- Operating the battery outside the specified temperature range.
- Selection of an incorrect battery size, design, or capacity for the intended application.
- Usage in life support systems or medical equipment, or applications where failure could result in injury, loss of life, or catastrophic property damage.
- Usage in applications not intended or designed for.
- Usage with an unsuitable charger.

Claims:

To initiate a return, authorization must be requested. No returns will be credited without proper authorization. Returned products must be packed securely to prevent damage during transit. The Manufacturer's liability for breaching the battery warranty is limited to replacement within the warranty period. The manufacturer shall not be liable for any other types of losses or damages, including direct, incidental, consequential (including lost profits), exemplary, special, or removal, shipping, or installation expenses.

For more information, please visit: www.atempower.com