

FW-12

LITHIUM IRON PHOSPHATE

7.5Ah ~ 200Ah



HmT
electrical

freedom
WON

Features

Freedom Won 12V DC Lithium Iron Phosphate (LiFePO₄) Battery Range

The obvious lead-acid replacement solution - a new world of longevity and performance awaits you in the possibilities offered by Freedom Won's range of 12V DC LifePO₄ batteries. Capacity ranging from 7.5Ah to 200Ah for wide ranging applications from alarm and gate motors to high end boat and camper energy storage. Also suitable for small solar integrated and backup systems.

Operating Configuration

The Freedom Won 12V DC LiFePO₄ General Purpose Battery range is primarily intended for use in a standalone configuration only i.e. where only one battery is connected in any one system (parallel and series operation is permissible).

Application Notes

The General Purpose Battery range is suitable for low to medium current (power) applications only such as for the following:

1. Auxiliary batteries in holiday vehicles and caravans
2. Auxiliary batteries in boats (not for starting boat motors)
3. Bass fishing trolling motors and small boat electric motors
4. Gate motor, alarm back-up batteries and electric fences
5. Small residential back-up systems
6. Mobile power supplies
7. Golf Caddies and other small traction applications

Operating Environment and Orientation

The 12V DC General Purpose Batteries are equipped in the following environments:

- **Vibration:** Vibration experienced on vehicles driving on poor dirt roads will not damage the battery, provided it is securely fastened to the vehicle.
- **Temperature:** The batteries are designed for operation up to a maximum of 60 degrees Celsius and a minimum of minus 20 degrees Celsius.
- **Orientation:** All the batteries covered in this manual may be orientated on their sides.

Benefits

Freedom Won 12V DC LiFePO4 Battery Range

A very high cycle life and long shelf life make these batteries far superior to any other technology. Standing unused for months or years will not result in degradation or loss in performance provided that one discharge recharge cycle is performed per year at least, or preferable every 6 months.

The **LiFePO4** battery can deliver sustained high power without excessive heat generation. There are no gases released and LiFePO4 cells are also thermally stable. They can be charged repeatedly to full capacity in less than 60 minutes with no appreciable loss in performance.

LiFePO4 Battery Advantages:

- Safety - LifePO4 batteries will not catch fire or explode during rapid charge/discharge. They are virtually incombustible due to chemical stability.
- Build in Protection: Over charge/discharge protection
Over current protection
Short circuit protection
Temperature protection
- Long cycle life - can be discharged and recharged many times with minimal performance degradation
- Drop-in replacement for Lead-Acid batteries
- Smaller dimensions and lighter for comparable Lead-Acid capacity
- 80% effective power compared to 20% for Lead-Acid batteries

Specifications

Model	FW-12-7.5	FW-12-10	FW-12-20	FW-12-40	FW-12-100	FW-12-200
Max Energy [Wh]	96	128	256	512	1280	2560
Current Capacity [Ah]	7.5	10	20	40	100	200
Standard Charge Current [A]	1.5	2	4	9	20	40
Max Charge Current [A]	7.5	10	20	20	50	50
Max Pulse Discharge Current [A]	15A (<3s)	20A (<3s)	40A (<3s)	80A (<3s)	150A (<3s)	150A (<3s)
Max Continuous Discharge Current [A]	7.5	10	20	40	80	80
Nominal Voltage [V]	12,8V (suitable for 12V alternators)					
Charge Voltage [V]	13,8V to 14,4V					
Weight [kg]	1,1	1,6	2,75	5,75	13,6	29,6
Dimensions Length x Width x Height [mm]	151x65x99	151x98x101	181x77x167	197x165x170	342x173x220	484x170x211
Enclosure	Plastic					
Terminals	T2 Spade Female	T2 Spade Female	M5	M6	M6	M8
Protection	Internal Overcurrent, Overtemperature, Overvoltage and Undervoltage protection with cell balancing					
Warranty	5 years unlimited usage					
Service Life	>15 years (or 5 500 cycles) expected life at 70% DoD, 20 years (>7 000 cycles) at 50% DoD (for 70% End of Life capacity). 0.3Capacity discharge and charge current.					

