

ML 12-12.8 A

ML LFP Lead Acid Replacement Series



The lead-acid replacement series of MARVEL LiFePO₄ battery has the same standard structural specifications as of the lead-acid battery, comparatively having the advantages of high safety, good reliability, long cycle life, good high/low temperature performance, etc

ML LFP Lithium batteries are constructed with either cylindrical or prismatic lithium iron phosphate (LiFePO₄) cells inside. Both types provide the benefits of LiFePO₄ battery.

This Model Is Used Widely In The Following Applications:

computer backup, emergency lighting, security system backup, engine starting, robots, industrial equipment, RV, telecommunication, marine, small electronics, solar backup, large off grid energy storage, and other deep cycle applications.



Up to 5 to 6 Times Life:

the Life span of ML LFP Battery is 5 to 6 times longer than Lead acid battery.



60% Faster Charge:

ML LFP battery can be charged to 100% full in one hour, save Time thanks to superior charge /discharge efficiency.



High energy Density & 70% Lighter in Weight:

ML LFP battery provide more Wh/Kg ,it is one-third weight of Lead acid batteries.



Long Service Life & Reliability:

6000 cycles @0.2C 80% DoD (25°C) of original capacity, longer service life than Lead acid to reduce maintenance costs.



Built In Protection:

Built-in intelligent BMS protects battery from over-charge, over-discharge, charge/discharge over-current, short circuit, high/low temperature, off-line, delay protection, etc.



Better Shelf Life:

Storage is not a problem thanks to extremely low self discharge (LSD) and no risk of sulphation.



Safe Battery:

No potential safety hazard of explosions and fires



Function:

Supports maximum of 4 batteries in parallel or 4 in series connection.



Warranty:

3 years

Electrical Performance

Rated Voltage	12.8V
Battery Voltage Range	12-14.6V
Rated Capacity	12Ah
Total Energy	153.6Wh
Cycles	More than 6000 times (0.2C cycle, 25°C, 80%Dod, capacity retention rate: 80%) More than 4000 times (0.5C cycle, 25°C, 80%Dod, capacity retention rate: 80%) More than 2000 times (1C cycle, 25°C, 80%Dod, capacity retention rate: 80%)
Charge-discharge Capacity Efficiency	≥96%
Cells	Grade A LiFePO4 Cell
Charging Settings:	Float Voltage: 14.2V Cutoff Voltage: 12V
Standard charging and discharge current (A)	Less Than 6A
Maximum continuous charging and discharging current (A) @10 sec	Less Than 12A

Mechanical Performance

Gross Weight	1.36KG
Shell Material	ABS
Product Size (mm)	151*99*94mm (L*W*H)
Input-Output Mode	M4 stud
Enclosure Protection	IP 54

Temperature Performance

Battery System Charging And Discharging Ambient Temperature	Charge at -10°C~ 60°C and Discharge at -20°C~ 60 °C
Environmental Relative Humidity	10%-90%



WARNINGS:

- use a suitable charger for LFP battery to preserve capacity and warranty.
- Do not connect batteries in series.
- Maximum of 4 batteries in parallel.
- Parallel connection allowed only with new (zero cycle) batteries.
- Warranty void if mixing old and new batteries in parallel.
- Parallel connection extends warranty to 18 months.
- Non-Disassembling: Unauthorized dismantling is prohibited. Maintenance: Only by the Marvel Technical team.