

# ML60-12.8 A

ML LFP Lead Acid Replacement Series



The lead-acid replacement series of MARVEL LiFePO<sub>4</sub> 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 (LiFePO<sub>4</sub>) cells inside. Both types provide the benefits of LiFePO<sub>4</sub> 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	60Ah
Total Energy	768 Wh
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 30A
Maximum continuous charging and discharging current (A) @10 sec	Less Than 50A

## Mechanical Performance

Gross Weight	7.5KG
Shell Material	Plastic shell
Product Size (mm)	229*138*208mm (L*W*H)
Input-Output Mode	M8 Terminals
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.