

ML36-12.8

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

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|---|--|
| Rated Voltage | 12.8V, 4 string |
| Battery Voltage Range | 10-14.6V, According to the single cell is 2.5V-3.65V |
| Rated Capacity | 36 Ah |
| Total Energy | 460.8 Wh |
| Soc Range | 10%-100% |
| Cycles | 6000 times, 0.2C 80% dod 25°C |
| Charge-discharge Capacity Efficiency | ≥96% |
| Cells | DEYA Grade A 38910-12Ah LifePo4 Cell |
| Standard Charging Current (A) | ≤21, 0.6C and below are recommended |
| Standard Discharge Current (A) | ≤28.8, 0.8C and below are recommended |
| Maximum Continuous Charging And Discharging Current (A) | 36 A |

Mechanical Performance

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|----------------------------------|--|
| Gross Weight | 4KG (Estimated Value) |
| Shell Material | Abs Rubber Shell |
| Product Size (mm) | 198*166*170(mm L*W*H) |
| Input-Output Mode | M8 Terminal |
| Enclosure Protection | IP 54 |
| Composition Mode of Battery Pack | 4 strings 3 in parallel, a total of 1 battery pack |

Temperature Performance

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

BMS Performance

Charging Protection

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|---|---------------------|
| Recommended Charge Voltage | 14.2V |
| BMS Charge Cut-Off Voltage | <15.2V (0.5 ~ 1.5s) |
| Overcharge Protection Voltage Per Cell | 15V ±25 (mv) |
| Overcharge Protection Delay | 1000 (ms) ±500 |
| Overcharge Protection Recovery Voltage Per Cell | 14.2V ±50 (mv) |
| Charging Overcurrent Delay | 1000 ±500 (ms) |

Balanced

| | |
|--------------------------|------------|
| Balanced Turn-On Voltage | 14V |
| Balanced Current | 40±10 (mA) |

Discharge Protection

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|--|------------------|
| Overdischarge Protection Voltage Per Cell | 8.8 V ±80 (mv) |
| Overdischarge Protection Delay | 1000 ±500 (ms) |
| Overdischarge Protection Recovery Voltage Per Cell | 10.8 V ±100 (mv) |
| Delay Of Discharge Overcurrent Protection | 200 ±100 (ms) |
| Short Circuit Protection Delay | 100-800 (us) |

Max Batteries Connection

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|-------------------------------|---|
| Maximum Batteries in Series | 4 |
| Maximum Batteries in Parallel | 4 |

WARNINGS

- Do not misconnect or reverse the positive and negative terminals of the battery, as this may result in permanent damage to the built-in BMS.
- Please follow the design parameters and conditions of use. Do not exceed over the shown figures in data sheet, otherwise the internal BMS protection board may be damaged.
- Recommended Discharge Current is 0.5C
- Please use Sutabile litiume Battery Charger , Recommended Charge Current is 0.5C, Max charge current is 1C.
- Follow instructions of how to connect and maximum number of batteries allowed before connecting batteries in parallel or in series, otherwise the voltage or current will exceed the limit of the BMS and cause permanent damage to the built-in BMS.
- The product is non-disassembling, no unauthorized dismantling and maintenance only by Marvel Technical team.

Cells:

DEYA Grade A 38910-12Ah
LifePo4 Cell

