ML100-12.8

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 (LiFePO) 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

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Electrical Performance

Rated Voltage	12.8V, 4 string
Battery Voltage Range	10-14.6V, According to the single cell is 2.5V-3.65V
Rated Capacity	100 Ah
Total Energy	1280 Wh
Soc Range	10%-100%
Cycles	6000 times, 0.2C 80% dod 25℃
Charge-discharge Capacity Efficiency	≥96%
Cells	Grade A 3.2V/105A
Cells Resistance	0.5mΩ
Standard Charging Current (A)	≤60, 0.6C and below are recommended
Standard Discharge Current (A)	≤80, 0.8C and below are recommended
Maximum Continuous Charging And Discharging Current (A)	100 A

Mechanical Performance

Gross Weight	10KG
Shell Material	Abs Rubber Shell
Product Size (mm)	260*168*209(mm L*W*H)
Input-Output Mode	M8 Terminal
Enclosure Protection	IP 54
Composition Mode of Battery Pack	4 strings and 1 in parallel, a total of 1 battery pack

Temprature Performance

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

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

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

Maximum Batteries in Series	4
Maximum Batteries in Parallel	4

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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:

Grade A 3.2V, 105Ah