



MPL 12-24

Rechargeable Lithium Iron Phosphate Battery



LiFePO₄

PRODUCT FEATURES



• **Super Safe** Lithium Iron Phosphate Chemistry.



• **High Performance and Durability:** Offers significantly longer cycle life compared to traditional lead-acid batteries, ensuring reliable performance in a wide temperature range from -20°C to 60°C.



• **Faster Charging and Lower Self-Discharge:** Outperforms lead-acid batteries in both areas.



• **Compact and Lightweight:** High energy density in a small, lightweight design, ideal for space and weight-sensitive applications.



• **Long Lifespan:** Over 15 years of stable, maintenance free performance.



• **Unique Built-In BMS:** Monitors and controls battery parameters, providing protection against over-charging, over-discharging, over-current, and short circuits.

FUNCTIONAL SPECIFICATIONS

Cell Chemistry :	LiFePO ₄
Cell Type :	Cylindrical
Nominal Voltage :	12.8V
Nominal Capacity :	24Ah
Stored Energy :	268.8Wh
Internal Resistance :	≤30 mΩ
Self Discharge per Month :	<3%
Cycle life @ 100% DOD :	≥2000 Cycles*
Series Connection :	≤4 Units
Parallel Connection :	≤4 Units
Combination Mode :	4S8P(3.2V, 3.3Ah)

MECHANICAL SPECIFICATIONS

Dimensions (L *W * H) :	180.5*76*166 mm
Weight :	3±0.3 Kg
Terminal Type :	F2
Case Material :	ABS
Ingress Protection Marking :	IP54

CHARGE SPECIFICATIONS

Recommended Charge Voltage :	14.6±0.1V
Recommended Charge Current :	≤12A(0.5C)**
Max. Charge Current :	30A
Over Voltage Protection :	15.2±0.1V
Reconnect Voltage :	14.4±0.1V
Primary Charge Current Protection :	35A/15s

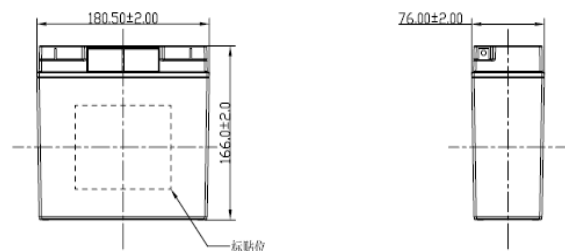
DISCHARGE SPECIFICATIONS

Recommend Discharge Current :	≤12A(0.5C)**
Max. Discharge Current :	30A
Max. Discharge Voltage :	8V
Low Voltage Protection :	8±0.32V
Reconnect Voltage :	9.2±0.4V
Primary Discharging Current Protection :	.80-110A/10-40ms
Short Circuit Protection :	110~200A/300 μs

ENVIRONMENTAL SPECIFICATIONS

Charge Temperature :	0~45°C
Discharge Temperature :	-20~60°C
Storage Temperature :	15~35°C
 Less than 3 months :-10~45°C
Optimal Operation Humidity :	5-75%RH/Non-Condense

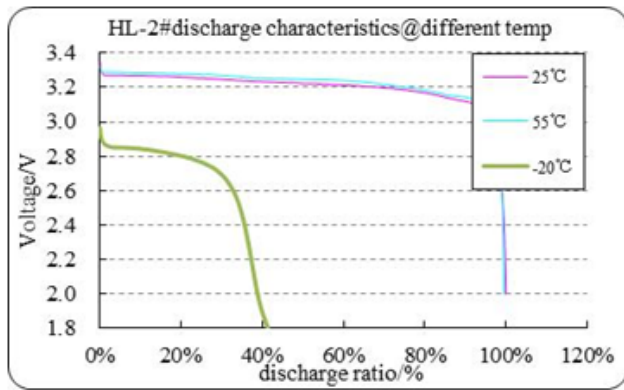
OUTLINE DIMENSION



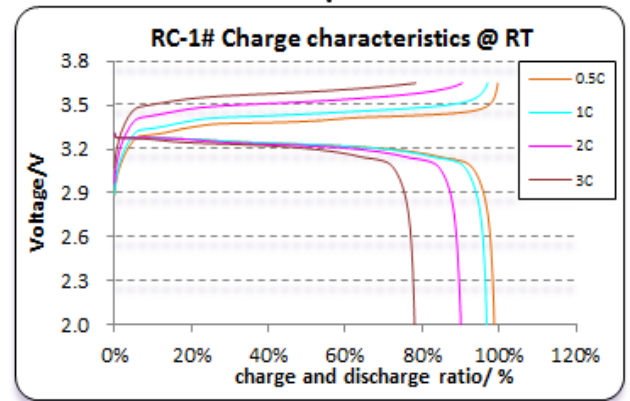
*Refer to warranty terms for cycle life performance conditions

** C=Capacity

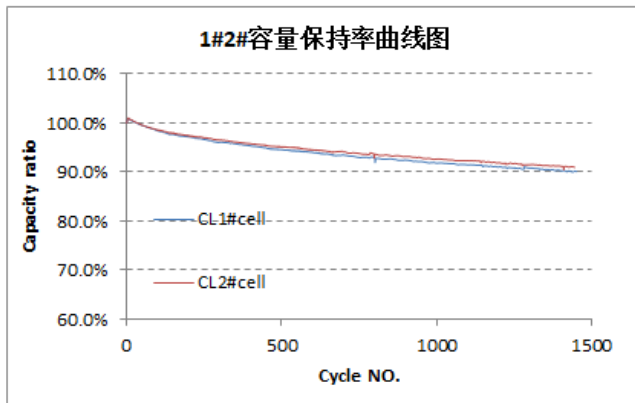
Discharge Performance at Various Temperatures (Cell)



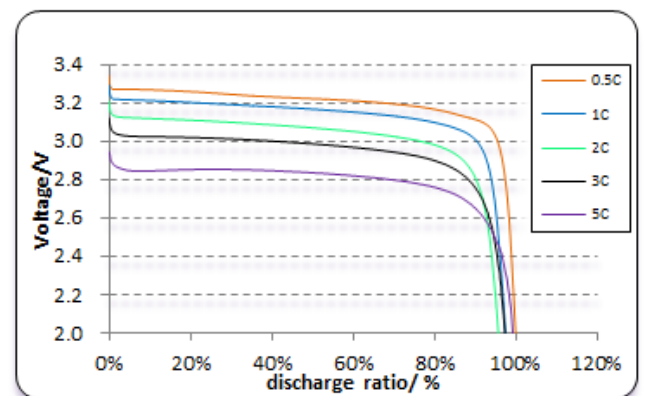
Charge Performance (Cell)



Cycle Life (Cell)



Discharge Voltage Profile at Various Rate (Cell)



APPLICATIONS



- Renewable Energy Storage
- Recreational Vehicles (RVs)
- Small Electric Vehicles (EVs)
- Backup Power Systems
- Portable Power Packs
- Emergency Lighting and Equipment
- Marine Applications
- Medical Devices
- Remote Monitoring and Telemetry

CERTIFICATIONS

- CE
- UN38.3

SHIPPING CLASSIFICATION

- UN 3480
- Class 9