MPL 51.2V105 HCBT

Rechargeable Lithium Iron Phosphate Battery

$LiFePO_4$

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.
- **CANBus communication:** Offers real time monitoring, diagnostics, and seamless communication with other system components.
- **Bluetooth Connectivity:** Displays the battery's state of charge (SOC) and operating status.

FUNCTIONAL SPECIFICATIONS

Cell Chemistry	$LiFePO_4$
Cell Type	Prismatic
Nominal Voltage	51.2V
Nominal Capacity	105Ah
Stored Energy	5120 Wh
Internal Resistance	≤10.5 mΩ
Self-Discharge per Month	<2%
Cycle life @ 80% Initial Capacity	4000 Cycles*
Series Connection	Single Use
Parallel Connection	2 Units
Combination Mode	16S1P(3.2V, 105Ah)
Communication Interface	CANBus/Bluetooth

MECHANICAL SPECIFICATIONS

Dimensions (L*W*H)	500*343*256mm
Weight	48±0.2Kg
Terminal Type	M8
Case Material	Metal
Ingress Protection Marking	IP67

CHARGE SPECIFICATIONS

Recommended Charge Voltage	≤55.2V
Recommended Charge Current	≤52.5A(0.5C)**
Max. Charge Current	≤105A
Over Voltage Protection	59.2V
Reconnect Voltage	58.2V
Primary Charge Current Protection	375±11A/1±0.5s

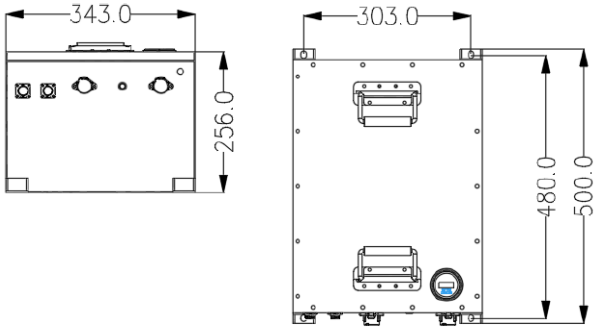
DISCHARGE SPECIFICATIONS

Recommend Discharge Current	≤ 52.5A(0.5C)**
Max. Discharge Current	105A/300A~10s
Max. Discharge Voltage	≥40V
Low Voltage Protection	39.2V
Reconnect Voltage	40.2V
Primary Discharging Current Protection	300±11A/1±0.5s
Short Circuit Protection	2000A/10~500 μs

ENVIRONMENTAL SPECIFICATIONS

Charge Temperature	-20~55°C
Discharge Temperature	-20~60°C
Storage Temperature	Less than 1 year: 0~25°C Less than 3 months :-5~35°C
Optimal Operation Humidity	60±25%RH/Non-Condense

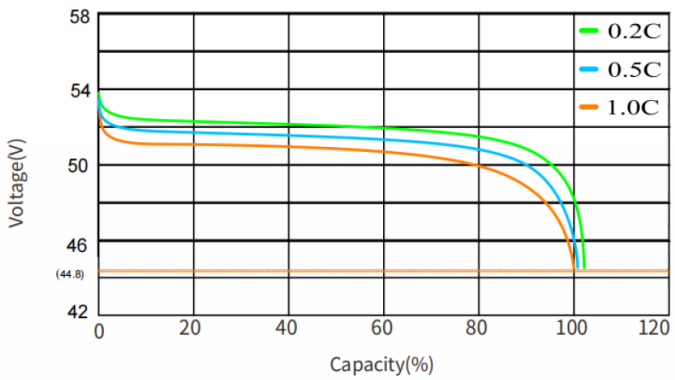
OUTLINE DIMENSION



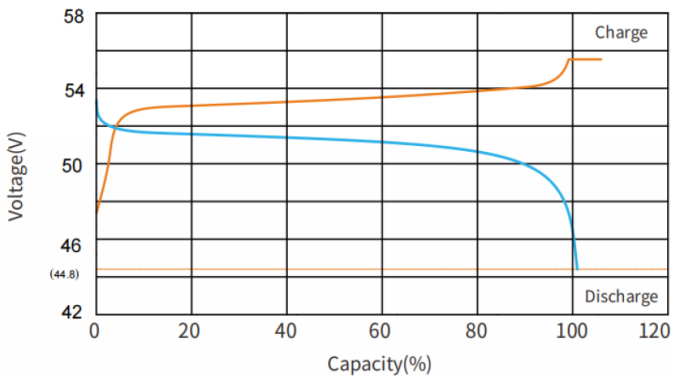
*Refer to warranty terms for cycle life performance conditions

** C=Capacity

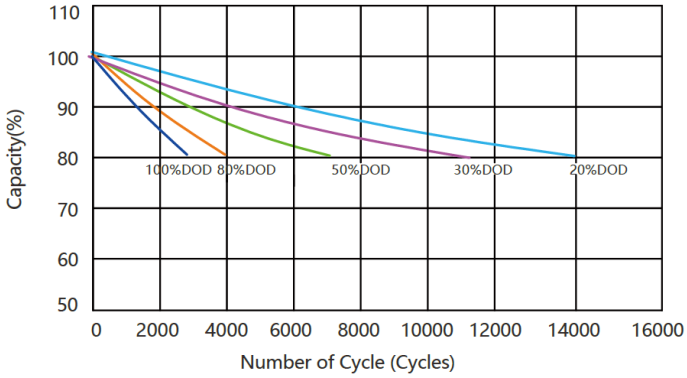
Discharge Performance @ 25˚C



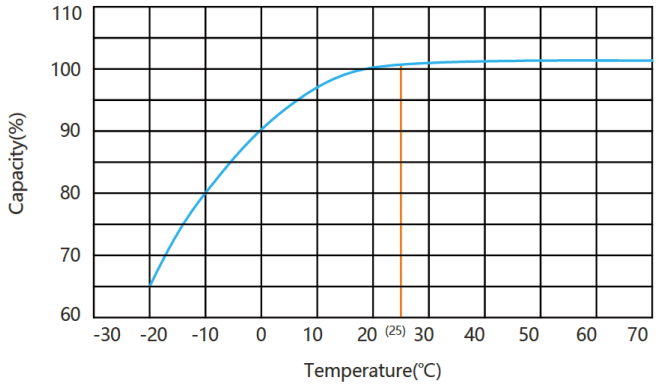
Charge & Discharge at 0.5C @ 25˚C



Cycle Life vs. Dept of Discharge (DOD) Discharge 1C/Charge 1C @ 25˚C



Discharge Voltage Profile at Various Rate @ 25˚C



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

- **UN38.3**
- **CE -EMC**
- **RoHS**
- **IEC 62619**

SHIPPING CLASSIFICATION

- **UN 3480**
- **Class 9**