

AST-105 12.8V LiFePO₄ Battery Specifications

Features Of Battery

✓ Active Balancing BMS

Actively balances cell voltage to improve capacity utilization and extend battery life.

✓ Stainless Steel Compression

Reinforced stainless steel straps help reduce cell swelling and improve durability.

✓ Anti-Vibration Structure

Dedicated mounting frame keeps the BMS secure during transportation and vibration.

✓ Low-Temperature Heating

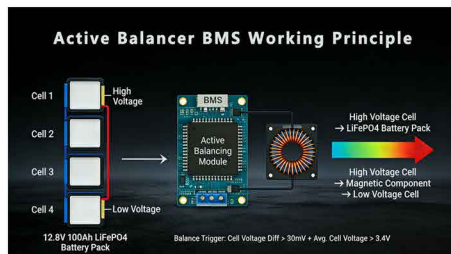
Automatically heats below 0°C and stops once a safe charging temperature is reached.

✓ Grade A LiFePO₄ Cells

Original Grade A cells with full traceability for reliable and long-lasting performance.



Battery Internal Structure



Active Balancing BMS

Balance Trigger: Voltage Difference > 30mV

Activation Voltage: Average Cell Voltage > 3.4V

Balancing Current: 1000mA Typical | 2000mA Max

Balancing Method: Active Energy Transfer

Energy Flow: High Voltage Cell → Low Voltage Cell

Protection: OVP | UVP | OCP | SCP | OTP | UTP



Stainless Steel Straps & Compression Plates

Cell Structure: 4 × Grade-A LiFePO₄ Cells

Compression Method: Stainless Steel Straps + Reinforced Compression Plates

Compression Force: Uniform Cell Compression

Function:

- Controls Cell Swelling
- Maintains Cell Alignment
- Reduces Enclosure Stress
- Improves Structural Stability



Heating

Operating Temperature: Down to -20°C (-4°F)

Heating Trigger: Battery Temperature < 0°C (32°F)

Heating Stop: Battery Temperature ≥ 0°C (32°F)

Operating Condition: Charging Only

Heating Process:

-20°C ~ 0°C → Heating ON
≥ 0°C → Heating OFF
Charging Continues



12.8V 105Ah Lithium battery

SPECS OF BATTERY AND BMS

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8V
Nominal Capacity	105Ah
Nominal Energy	1344Wh
Internal Resistance	$\leq 22\text{m}\Omega$
Control	Battery management system 120A
Self Discharge	$\leq 3\%$ /per month
Connection In Series	up to 4 units in series ($\leq 51.2\text{V}$)
Connection In Parallel	Up to 4 Units in Parallel

Discharge Current and Voltage Specifications

Max. Continuous Discharge Current	120A
Peak Discharge Current	200A(3~5s)
Recommend Low Voltage Disconnect	11.6~12V
BMS Low Voltage Cut-off	10.5V
BMS Reconnect Voltage	11.2~11.6V
Short Circuit Protection	Auto recover or charge release

Temperature Ranges

Discharge Temperature	-20~+65°C
Charge Temperature	-20~+45°C
Storage Temperature Range	-10~+45°C
BMS High Temperature Protection	70°C
Battery High Temperature Protection	60°C

MECHANICAL SPECIFICATIONS

Terminal Type	M8
Weight	10.9/11.75kg
Case Dimension(L*W*H)	303*175*169mm
Cell type / Chemistry	LiFePO4
Case type	ABS
Function	Bluetooth
BMS: low voltage, high voltage, over temperature	
over current, short-circuit protection, etc.	

Charge Current and Voltage Specifications

Max. Charge Current	120A
Recommended Max. Charge Current	52A
Recommend Charge voltage	14.4V $\pm$ 0.2V
BMS Over Charge Voltage Cut-off	14.6V
BMS Reconnect Voltage	13.8V
Balancing Voltage	13.6~13.8V

Package Information

Package	Single package
Pieces per Pallet	60Pcs
Gross Weight per Pallet	740KG
Pallet Dimensions	1200*1100*1100mm
Certifications	CE,RoHS,UN38.3,MSDS