



HD12.8-150(12.8V150Ah)
LiFePO4 Battery Pack Specification

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REV : A1.0
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DATE: 2024-04-18

LiFePO4 Battery Pack
Specification

Model No: HD12.8-150(12.8V150Ah)

Designed	Checked	Approved
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1. Preface

This specification describes the type and size, performance, technical characteristics, warning and caution of the HD12.8-150(12.8V150Ah) LiFePO4 rechargeable battery pack. The specification only applies to HD12.8-150(12.8V150Ah) LiFePO4 rechargeable battery pack supplied by Haidi Energy Technology Co.,Ltd.

2. Product and Model

2.1 Product: HD12.8-150(12.8V150Ah) LiFePO4 Battery Pack

2.2 System Configuration:

Standard pack:HD26650-3.2V-4500mAh-3.2V-4S33P



Charge/Discharge	Positive	M8 Terminal
	Negative	



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3.Battery Pack Specifications

Items	Standard	Comments
Nominal voltage	12.8V	4S
Typical capacity	150Ah	At 0.2C discharge rate
Max continuous discharge current	150A	
Discharge cut-off voltage	About 10V	
Charge input voltage	14.6±0.05V	Charge mode: CC/CV, Use a constant current, constant voltage(CC/CV)
Charge current	≤75A	
Inner resistance	≤10mΩ	Between positive and negative polar
Operation temperature range	Charge/ Discharge	0℃～+45℃/-20℃～+60℃
	Discharge	When the environment temperature is higher than 45℃, please pay attention to ventilation and heat rejection.
Storage temperature range	0℃～40℃ (Capacity 80%)	Recommended long-term storage temperature is 15~25℃
Humidity	5%≤RH≤85%	
Cabinet Material	ABS	
Total Weight	15.10±0.30Kg	
Size (L*W*H)	330*173*212mm±2mm	
Protection function	Over charge protection、Over discharge protection、Over current protection、Short circuit protection, Temperature protection.	

4. Standard Test Conditions

All test in this specification should be in standard atmospheric conditions: temperature:
25± 5℃, relative humidity: 65±20%.



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5. Characteristics

5.1 Standard charge

Charge the battery with the Battery special test cabinet, supply 14.6 voltage, constant-current 0.2C(A) current until current down to 0.02C (A) .

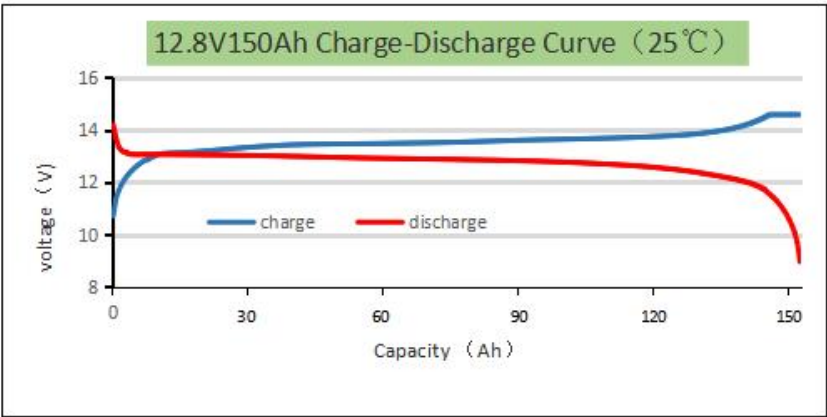
5.2 Standard discharge

Discharge the battery at 0.2C (A) to 10V or battery cut off voltage.

5.3 Electrical Performance

Test Items	Test Methods	Test Standards
Capacity retention rate	After standard charge under 5.1 specified conditions, store the cells for 28 days, then discharge at 0.2C (A) to cut-off voltage.	Capacity retention rate≥80%
Cycle Life	1) Standard charge at 0.2C (A) , 2) Rest 0.5~1 h 3) Discharge at 0.2C to cut off voltage 4) Capacity retention rate≥80%	>2000cycles @ 100% DOD; >3000cycles @ 90% DOD; >4000cycles @ 80% DOD;

6.Characteristics Curve





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7. BMS Specification

Item		Parameter			Remark
Charging voltage		14.6V			
Charging model		CC-CV			
Maximum charging current		150A			
Continuous Discharge Current		150A			
The following is the core protection function for cell:					
		Minimum value	Typical value	Maximum	
Over charge detection voltage		3.85	3.90	3.95	V
Overcharge release voltage		3.70	3.80	3.90	V
Over discharge detection voltage		1.90	2.00	2.10	V
Over discharge release voltage		2.20	2.30	2.40	V
Over discharge current value		550	600	650	A
Overcharge detection delay time		700		1500	mS
Delay time of over voltage detection		10		200	mS
Over current detection delay time		4		60	mS
Balance voltage		3.55	3.60	3.65	V
Balance current		55	60	65	mA
Self-consumption			300		uA
Temperature protection					
		Typical value	Tolerance value	Delay	Remark
Protect the temperature	Cell	65	±5		℃
recovery temperature		53	±10		℃
Protect the temperature	MOS	90	±5		℃
recovery temperature		65	±5		℃



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8.Cautions

- 8.1 Charging current should not be more than maximum charge current specified in the Product Specification, Charging current bigger than recommended current may damage the battery;
- 8.2 Discharging current should be no more than maximum discharge current specified in the Product Specification ; Discharging current bigger than recommended discharge current may damage the battery;
- 8.3 It should be noted that the cell would be possible to be at a over-discharged state by its self-discharge characteristics in case the cell is not used for long time. In order to prevent over-discharging, the cell shall be charged periodically to maintain between 13.2V and 13.6V (Recommended 3 months one cycle) .Over-discharging may causes loss of cell performance, characteristics, or battery functions;
- 8.4 Please charge the battery within 12 hours after use;
- 8.5 Battery storage environment follow the above conditions and in standard atmosphere, should be without strong magnet, no power, no static;
- 8.6 Do not reverse the polarity of the battery pack for any reason;
- 8.7 Do not short circuit the battery pack;
- 8.8 Do not reverse polarity charging;
- 8.9 Battery packs can be combined in series or in parallel according to the specification;
- 8.10 Do not immerse the battery pack in water or sea water, or get it wet;
- 8.11 Do not disassemble battery;
- 8.12 Do not expose the battery to extreme heat or flame;
- 8.13 Please use a compatible charger for charging;