

# TECHNICAL DATA SHEET

D12-20



## Applications



CYCLIC



STATIONARY



SOLAR



MARINE

## 1. Preface

This specification describes the type and size, performance, technical characteristics, warning and caution of the 12.8V20Ah LiFePO<sub>4</sub> rechargeable pack.

## 2. Product and Model

2.1 Product: Lithium-ion Battery Pack

2.2 Model: LIT/D12-20

2.3 Picture And Output Wire ( In order to prevail in kind )



Positive output	M5 terminal
Negative output	M5 terminal

### 3. Battery Pack Specifications

Items	Standard	Comments
Nominal voltage	12.8V	
Typical capacity	20±0.5Ah	At 0.2C discharge rate
Normal current	20A	
Discharge cut-off voltage	About 10V	
Charge voltage	14.4±0.1V	Charge mode: CC/CV , Use a constant current, constant voltage(CC/CV) please use special lithium charger.
Charge current	≤ 5A	
Inner resistance	≤ 50mΩ	Between positive and negative polar
Operation temperature range	Charge	0°C ~ +45°C
	Discharge	-20°C ~ +60°C
		When the environment temperature is higher than 45°C , please pay attention to ventilation and heat rejection.
Storage temperature range	0°C ~ 40°C ( Capacity 80% )	Recommended long-term storage temperature is 15~25°C
Humidity	5%≤ RH≤ 85%	
Shell material	ABS	
Weight	2.7±0.1Kg	
Size ( L*W*H )	( 180±1 ) * ( 75±1 ) * ( 170±1 ) mm	
Protection function	Over charge protection、Over discharge protection、Over current protection、Temperature protection、Balanced function	

### 4. Standard Test Conditions

Battery test must within 1 month after production.

All test in this specification should be in standard atmospheric conditions: temperature:

25± 5°C, relative humidity: 65±20%.

### 5. Characteristics

#### 5.1 Standard charge

Charge the battery with Lithium ion battery special test cabinet, supply 14.4V voltage, constant-current 0.2C(A) current until current down to 0.02C ( A ) .

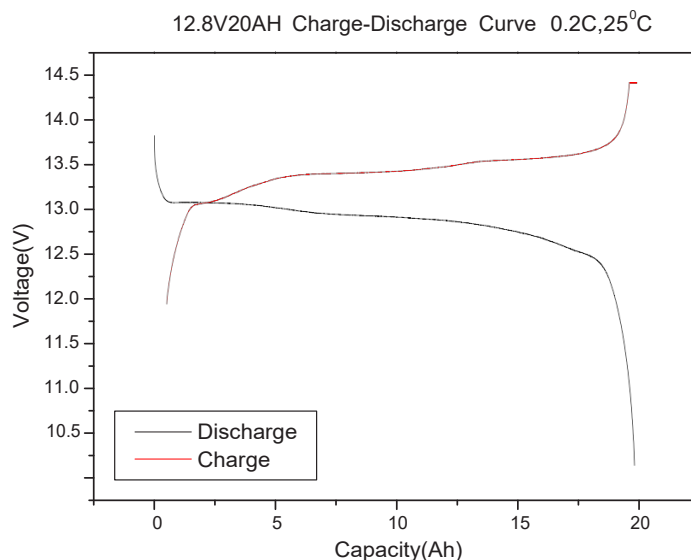
#### 5.2 standard discharge

Discharge the battery at 0.2C ( A ) to 10.0V 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) rest 0.5~1h repeat the above steps until 1500 cycles.	capacity retention rate≥ 80%

### 6. Characteristic curve



### 7. Cautions

7.1 Charging current should be less than maximum charge current specified in the Product Specification , Charging current bigger than recommended current may damage the battery;

7.2 Discharging current should be less than maximum discharge current specified in the Product Specification ; Discharging current bigger than recommended current may damage the battery;

7.3 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 ( 2month one cycle ) , Over-discharging may causes loss of cell performance, characteristics, or battery functions;

7.4 Please charge the battery within 12 hours after use;

7.5 Battery storage environment follow the above conditions and in standard atmosphere, should be

without strong magnet, no power, no static;

7.6 Do not reverse the polarity of the battery pack for any reason;

7.7 Do not short circuit the battery pack;

7.8 Do not reverse polarity charging;

7.9 Do not immerse the battery pack in water or sea water, or get it wet;

7.10 Do not disassemble battery;

7.11 Do not expose the battery to extreme heat or flame;

7.12 Please use special charger for charging;

7.13 Do not combine the battery pack in series or in parallel;

### 8. Product Liability

It is not responsible for the incident caused by not obeying the specifications. Before using the battery, you should read the specifications, usage instruction and some attentions carefully to learn its application method and areas. If the phenomenon such as error using method or wrong circuit connection, or input power data, working index are inconsistent with the specifications , cause damage to product, load and its accessories, we are not responsible for it.

Our company have the right to change the content of specification without prior notice ;

The final explanation of specification belongs to our company.