

Product Specification

Li-ion Battery Pack 14.4V45Ah


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1 Product Specification

Product Name	Li-ion battery pack
Product Model	14.4V45Ah
Specifications	4IFR14.4-45-Y
Composition	26650-3.6V-4S10P
Nominal Voltage	14.4V
Rated Capacity	45 ± 2Ah
Energy	0.65kwh
Size	(240 ± 2) mm * (100 ± 2) mm * (157 ± 2) mm
weight	5.8 ± 0.2kg
Voltage	Charging voltage: 16.8 ± 0.15V Discharge cut-off voltage: 12V
Charger Current	25A ≤
Discharge Current	Max continuous current: 60A (≤ 5min)
Picture	

2 User's manual

2.1 Charge

The battery pack charging port is connected to the charger. Charging voltage: $16.8 \pm 0.15V$, Do not reverse.

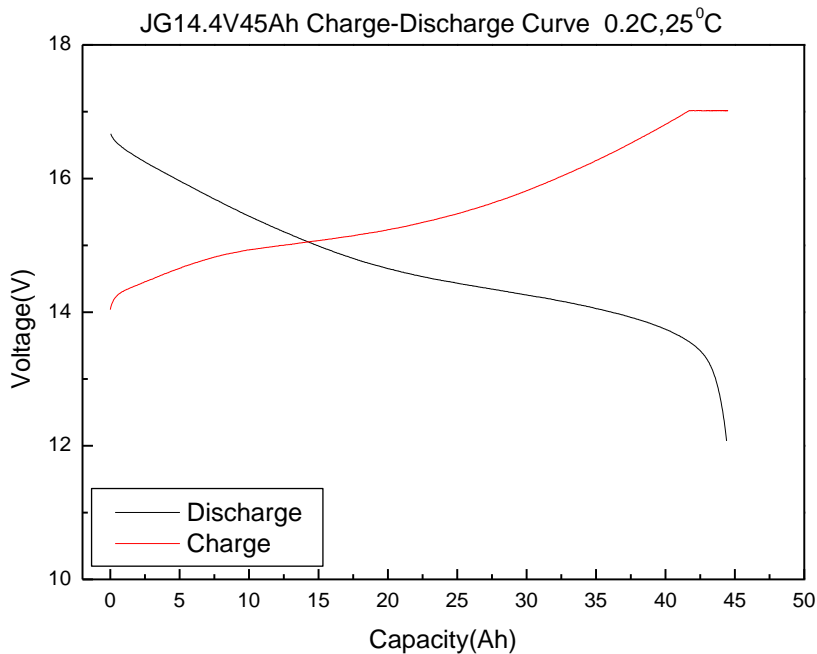
2.2 Discharge

Terminal of battery pack is connected to load, and then discharge. Do not reverse. When not in use, please turn off the main switch, so as not to cause self power consumption.

2.3 Battery components

Discharge/ Charge	Positive	One red wire with 8AWG	Length: $300 \pm 20mm$
	Negative	One black wire with 8AWG	Length: $300 \pm 20mm$

2.4 Charge discharge curve



3 . Battery using and maintenance

- Charging current should be less than maximum charge current specified in the Product Specification, charging current bigger than recommended current may damage the battery.
- Discharging current should be less than maximum discharge current specified in the Product Specification; discharging current bigger than recommended current

- may damage the battery.
- Discharge temperature: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$. Humidity: $\text{RH} \leq 85\%$. When the temperature is higher than 45°C , please note ventilation. When the environment humidity is higher than 85%, please pay attention to protection. Charging temperature: $0^{\circ}\text{C} \sim +45^{\circ}\text{C}$. Humidity: $\text{RH} \leq 85\%$, When the environment humidity is higher than 85%, please pay attention to protection; storage temperature: $0^{\circ}\text{C} \sim 40^{\circ}\text{C}$ (Best temperature is $15^{\circ}\text{C} \sim 25^{\circ}\text{C}$ in dry environment). Temperature affects the capacity of battery obviously, it's normal.
 - When the battery power is low, please charge it in time. This could ensure longer cycle life. If the battery can't be charged in time and let it under power shortage condition, it may affect the cycle life.
 - The lithium-ion battery charge discharge shallow is beneficial to improve the cycle life, proposal user each discharge is put to the nominal capacity of 80%.
 - 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 a certain voltage range: 15.6V~16V, 2month one cycle, over-discharging may causes loss of cell performance, characteristics, or battery functions.
 - Don't use organic solvents to clean the battery case. If for battery fire accident, please use dry powder fire extinguisher or sand.
 - Battery is a consumable product with limited cycle life. Please charge it in time when the capacity can't reach the requirement to avoid any loss of the user.

4. Standard Test Requirements

4.1 Standard Test Requirements

Battery test must be within 1 month after production.

All tests in this specification should be at standard atmospheric conditions. (Temperature: $25 \pm 2^{\circ}\text{C}$, Relative Humidity: $65 \pm 20\%$)
Charge voltage is $16.8 \pm 0.15\text{V}$, Standard cutoff voltage is about 12V;
Standard current is I_5 (A).

4.2 Standard Charge

Charge the battery with Lithium ion battery special test cabinet, supply standard voltage, standard current until current down to $0.05I_5$ (A).

4.3 Standard Discharge

Discharge the battery at standard current with special detection device, constant discharging to standard discharge cutoff voltage or until the battery stop.

5. Cautions



Please pay attention to followings in case of battery will have leakage, heat etc.

- Do not immerse the battery in water or seawater, and keep the battery in a cool dry surrounding if it stands by.
- Do not use or leave the battery at high temperature as fire or heater. Otherwise, it can overheat or fire or its performance will be degenerate and its service life will be decreased.
- Do not reverse the positive and negative terminals.
- Do not reverse polarity charging.
- Do not connect the battery electrodes to an electrical outlet.
- Do not short circuit. Otherwise it will cause serious damage of the battery.
- Do not transport or store the battery together with metal objects such as hairpins, necklaces, etc.
- Do not strike, trample, throw, fall and shock the battery.
- Do not directly solder the battery and pierce the battery with a nail or other sharp objects.
- Do not use the battery in the location where static electricity and magnetic field is great, otherwise, the safety devices may be damaged, causing hidden trouble of safety.
- Do not combine the battery pack in series or in parallel.
- Do not overload with battery
- Please use special charger for charging.
- Please charge the battery within 12 hours after use.
- If the battery leaks and the electrolyte gets into the eyes, do not rub the eyes, instead, rinse the eyes with clean water, and immediately seek medical attention. Otherwise, it may injure eyes.
- If the battery gives off strange odor, generates heat, becomes discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately stop charging, using, and remove it

from the device.

- In case the battery terminals are dirty or oxidation, clean the terminals with a dry cloth before use. Otherwise poor performance may occur due to the poor connection with the instrument.
- Tape the discarded battery terminals to insulate them.

6. Products Liability

Our company is not responsible for the incident caused by not obeying the Manual. 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 incorrect using method or wrong circuit connection, or input power data, working index are inconsistent with the Manual, cause damage to product, load and its accessories, we are not responsible for it.

Our company has the right to change the content of specification without prior notice. The final explanation of specification belongs to our company.

