



# PRODUCT CATALOG

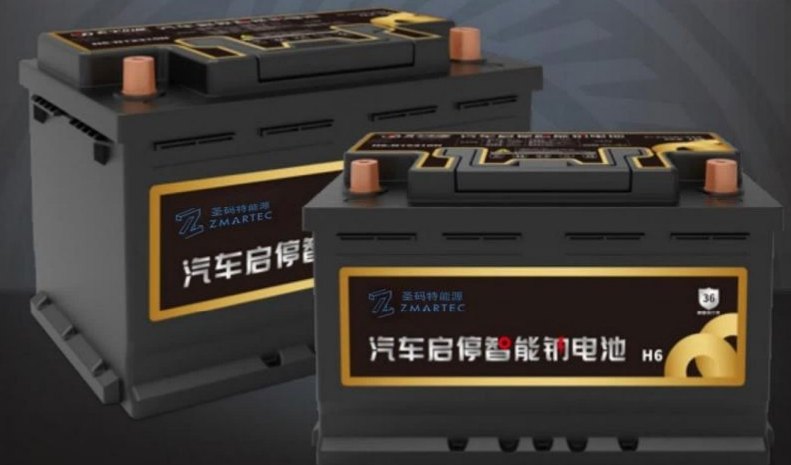
# 产品手册



Car start stop sodium ion battery

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Car start stop sodium ion battery

# PRODUCT FEATURES

## Product Features

### Wide working temperature range

Can work normally at temperatures ranging from -40°C to 80°C without affecting its performance



### Excellent low-temperature performance

The discharge capacity of the battery cell reaches over 65% at a low temperature of -40°C, meeting the requirements for winter travel in northern China



### Resistant to over discharge

The battery can be discharged to 0V without affecting subsequent use, making it safer during storage and transportation



### safety performance

A chemically stable sodium electrical material system with explosion-proof valve opening device and internal ventilation pipe design for battery cells to ensure safety

High safety performance of battery usage



### fast charging performance

Meet the requirement of 20 minute fast charging, with a charging capacity of over 80%



### Extended Warranty

36 months from self installation

Official warranty period, worry free after-sales guarantee

### green and environmentally friendly

Green and environmentally friendly,

Free of heavy metals, non-toxic and harmless



## Structure of sodium ion starting battery

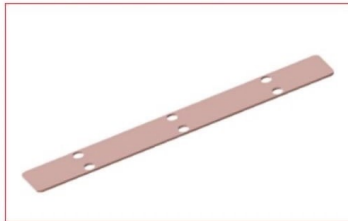
### 01. Sodium ion battery cell

- Wide range of use  $-40^{\circ}\text{C} \sim 80^{\circ}\text{C}$
- Excellent discharge performance, capable of supporting up to 20C discharge
- Long lifespan cycle, 3000 cycles, available power still  $\geq 70\%$  of initial capacity



### 02. Copper bar

- Using T1 copper sheet and screw locking structure to ensure contact resistance and create excellent conditions for high rate discharge of the battery pack.



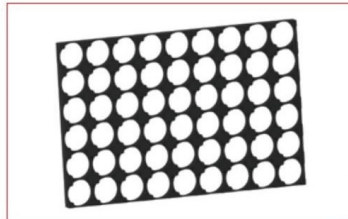
### 03. Two component silicone sealant

- Using high thermal conductivity and high bonding strength silicone gel to fill most of the space between the module and the lower shell, providing good fixation and a certain temperature equalization effect for the module.



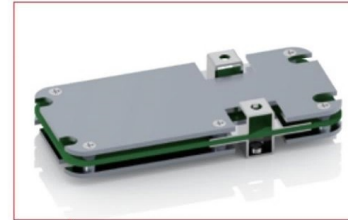
### 04. Battery cell bracket

- A single battery module uses two upper and lower cell supports to wrap the individual cells, thereby constraining the shaking and axial movement of each individual cell.



### 05. Multi functional protection board

- Low internal resistance discharge MOSFET and double-sided thickened aluminum plate for heat dissipation
- It has functions such as overcharging, overcurrent protection, and active balancing



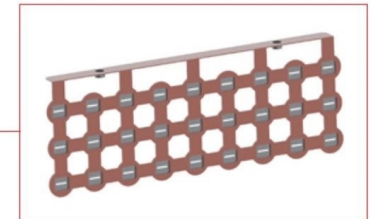
### 06. Upper cover

- PC + ABS injection molding, with good strength, high temperature resistance (up to  $100^{\circ}\text{C}$ ), good chemical corrosion resistance, and smooth surface
- Hidden handle design for aesthetic effect
- The output terminal adopts a sunken design, which can enhance the strength of the upper cover and reduce the installation space
- Adopting brass terminals that meet market specifications and are compatible with various vehicle models.



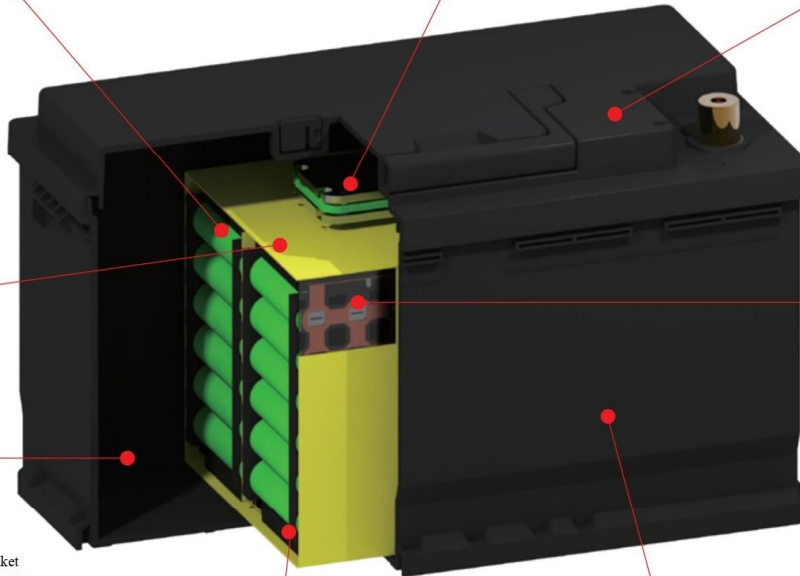
### 07. Copper nickel composite row

- Using T1 copper + N4 / N6 pure nickel sheets to create excellent conditions for high rate discharge of the battery pack.



### 08. Lower shell

- PC + ABS injection molding, with good strength, high temperature resistance (up to  $100^{\circ}\text{C}$ ), good chemical corrosion resistance, and impact resistance
- Add a base at the bottom of the shell to improve its anti-tipping performance
- The bottom of the shell adopts a retractable design, and raised ribs are added around the top to improve the deformation resistance of the shell side
- The top of the shell and the bottom of the upper cover are designed with snap fasteners, which improves the bonding between the upper cover and the lower shell



# PRODUCT SPECIFICATION

## Product specifications

model	H5-N12260N	H6-N12310N	H7-N12350N	H8-N12390N	H9-N12430N
Standard voltage ( V )	12	12	12	12	12
CCA cold start current ( A )	650	780	870	970	1070
Power capacity ( Wh )	312	374.4	421.2	468	516
Shell material	30%PC+ 70%ABS	30%PC+ 70%ABS	30%PC+ 70%ABS	30%PC+ 70%ABS	30%PC+ 70%ABS
Positive and negative polarity	Left negative, right positive (-,+)	Left negative, right positive (-,+)	Left negative, right positive (-,+)	Left negative, right positive (-,+)	Left negative, right positive (-,+)
Product dimensions: length x width x height (mm)	242x175x189	280x176x185	315x176x187	354x176x187	398x176x188
Packaging length x width x height (mm)	247x180x194	285x181x190	320x181x192	359x181x192	403x181x193
Weight (kg)	5.2	6.6	8	9.3	10.8

### Instructions for Use

#### ● To our respected supporting customers and distributors

1. Please check whether the outer packaging of the sodium battery is intact when receiving the goods, and confirm that there is no damage, leakage or other phenomena;
2. Carefully check the quantity and model of the goods to ensure they match your order;
3. Please make corresponding markings (model, quantity, receipt date) after receiving inspection; During the inventory process, please note:
  - a. The stacking layer of batteries should not exceed 5 layers, and the stacking method should ensure stability and not be subjected to any mechanical impact or heavy pressure. It is strictly prohibited to stack large batteries on top of small batteries to prevent accidental drops of batteries and personal injury;
  - b. Please ensure that the battery has at least 50% charge, store it in a dry and ventilated environment at 20-40 ° C, avoid contact with corrosive substances, and stay away from high temperature open flames; c. During storage, it is recommended to fully charge the battery every 90 days. Before charging, ensure that the open circuit voltage of the battery is  $\geq 11V$ . d. Please avoid excessively long product inventory cycles and follow the first in, first out principle for sales.

#### ● To our respected end customers of sodium batteries

1. Please choose the battery model that is suitable for your car's needs;
2. Please check the appearance of the product for any damage when purchasing;
3. The voltage of the car engine charging system is maintained between 13.8V and 14.4V; When your car's electrical appliances exceed the battery load, please choose a battery with higher energy.

#### ● You should pay attention during the charging process

1. When removing the battery from the vehicle, be sure to disconnect the negative cable first to avoid a short circuit. Before charging, it is necessary to ensure that the sodium battery casing is not cracked, the terminals are not damaged, and the charging area has good ventilation and is away from open flames.
2. This series of batteries uses constant current charging method, with a charger voltage limit of 15.8V and a current limit of 20A. Remember not to use chargers that exceed the voltage and current range for charging to avoid damaging the sodium battery.
3. The fully charged state of a sodium battery is when the open circuit voltage is measured to be  $\geq 15V$  after being charged and left to stand for 30 minutes.

#### ● Other issues you should pay attention to

1. During use, prevent direct contact between the positive and negative terminals and external metal conductors, which may cause a short circuit in the battery.
2. It is strictly prohibited to reverse the connection of the positive and negative terminals or to connect them loosely; The starting battery should not bear weight or be compressed, otherwise it may cause battery damage.
3. It is prohibited to use other unqualified or mismatched chargers to charge the starter battery.
4. Avoid placing the product near heat sources, open flames, flammable and explosive objects, which may cause product fires and explosions.
5. The nominal voltage platform of the original car generator sold must be 12V series.
6. Do not immerse the product in water or other liquids.
7. During the transportation process, it is necessary to keep the box stable and avoid stepping, squeezing, impacting, or placing it too high.
8. It is prohibited to dismantle the battery box without authorization, cut or modify the interior of the product.

### Battery testing and analysis process

#### 01 Record basic battery information

Record the battery model, code, and appearance;

#### 02 Basic battery data measurement

Measure battery weight, open circuit voltage CCA, Internal resistance value, and record it;

#### 03 Battery classification

According to the measurement data, the following situations will not be charged::

- a. There are sand holes and damages at the bottom of the battery, damage at the junction of the upper cover and lower shell, terminal melting damage, and bulging appearance;
- b. The battery casing bursts and cannot be charged;
- c. In environments below 0 ° C.

#### 04 Battery Recharge

a. When removing the battery from the vehicle, be sure to disconnect the negative cable first to avoid a short circuit. Before charging, it is necessary to ensure that the sodium battery casing is not cracked, the terminals are not damaged, the charging area has good ventilation conditions, and is away from open flames. b. This series of batteries uses constant current charging method, with a charger voltage limit of 16V and a current limit of 20A. Remember not to use chargers that exceed the voltage and current range for charging to avoid damaging the sodium battery. c. The fully charged state of a sodium battery is when the open circuit voltage is measured to be  $\geq 15V$  after being charged and left to stand for 30 minutes.

#### 05 Battery testing after recharging

After recharging the battery, measure the open circuit voltage, CCA value, and high current detection of the battery again after 24 hours of static operation.