

Sodium-ion Truck Start-stop Battery

User Manual



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Sodium-ion battery

- Longer Cycle Life: 5 times longer lifespan, with a cycle life that is 20 times that of lead-acid batteries, reducing user costs;
- Lighter Weight: 40% lighter than comparable lead-acid batteries;
- Higher Power: Provides over 500 amps of starting power, supports more than 50,000 engine starts, and withstands over 2,000 charge cycles. This means: Twice the capacity and ten times the number of starts
- Wider Temperature Range: -40°C to +80°C;
- Superior Safety: Equipped with an internal BMS for automatic protection, including overcharge protection to prevent combustion and explosion risks caused by overvoltage charging.

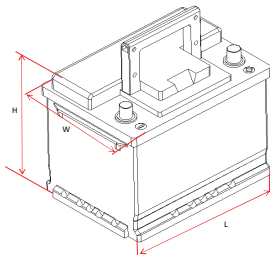
Application scenario:

Large trucks , large vans , off-road vehicles , etc.

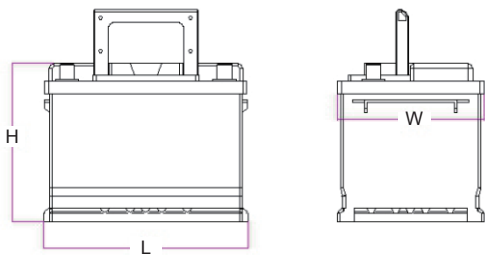


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Battery size:



Size specification:



L*W*H=242*175*189mm/9.53*6.89*7.44 in	PN30-20Ah(400CCA)
L*W*H=398*175*188mm/15.67*6.89*7.40 in	PN31-40Ah(800CCA)



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Installation Instructions

Installation prerequisite:
The battery size or model must be the same.

Installation steps:

- Step 1:** After unpacking, check the battery voltage. The voltage should be greater than 24 V.
- Step 2:** After confirming the battery voltage is normal, attach the terminal of the red cable to the positive (+) post and the terminal of the black cable to the negative (-) post.
- Step 3:** After the vehicle starts normally, secure the battery in place.



Warnings and Precautions:

1. After starting the vehicle, monitor the engine's output voltage; it should be $\geq 27V$, $\leq 31V$.
2. Do not use batteries in series. During vehicle rescue, lead-acid batteries can be used in parallel.
3. Do not connect the positive and negative terminals of the battery in reverse. Reversely connecting will cause a short circuit.
4. Do not install electronic equipment without authorization. This will affect the battery life. Do not disassemble or modify the battery.
5. If the vehicle will not be used for an extended period under normal conditions, start the engine every 15 days and let it run for at least 15 minutes. For long-term storage, it is recommended to disconnect the negative terminal of the battery.
6. Never immerse the battery in seawater or expose it to fire. Do not use chargers that do not meet the specified charging requirements.



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Battery specifications

Model	24V20Ah	24V40Ah
Rated Voltage	24V	
Rated Capacity	20Ah	40Ah
Rated Energy	480Wh	960Wh
Standard Charge Voltage	31.6V (Max)	
Discharge Cut-off Voltage	16V	
Maximum Allowable Charge Current	60A	120A
Maximum Continuous Discharge Current	60A	120A
Operating Temperature Range	Charging: -20℃~50℃/ Discharging: -40℃~80℃	
Number of starting	> 50000times	

BMS - Battery Management System

Items	Parameters
Overcharge Detection Voltage	3.95*8 (Delay3~5s)
Overcharge Release Voltage	3.7*8 (Delay3~5s)
Maximum Charge Current	120A
Maximum Discharge Current	120A
Peak Current	400~800A



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How to activate the battery

- If the BMS has disconnected the battery, then the load on the battery needs to be disconnected and the battery should be left for 30 minutes. After that, the battery will automatically restore to its normal voltage and can be fully charged and used. If the battery cannot restore itself and the voltage is too low to maintain charging, you can activate it in two ways:
1. Use a charger with a 0V charging function (which can charge the battery from 0V) to charge the battery. After it is fully charged, the battery can be used normally.
 2. Use another 24V lithium battery in parallel with the battery to activate the battery for one minute or use a lead-acid battery with voltage of $\geq 24V$ and $\leq 29.2V$ in parallel to activate the battery. Finally, after fully charging the battery, it can be used normally.



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