

Neuton Power Golf Cart Battery

Operation and Maintenance Instruction

Welcome to use Camel electric vehicle battery. In order to ensure you have a better experience in using the product, please read this Instruction carefully and follow the instructions. This Instruction only applies to the batteries listed below.

Battery parameters: Table 1

Battery Model	Voltage (V)	Rated Capacity (Ah)		Overall Dimensions (mm)			Reference Weight (kg)
		C ₅	C ₂₀	L	W	H	Wet Battery
N-105	6	180	225	261	182	280	28
N-875	8	140	170	260	183	276	29
N-1275	12	120	150	330	182	283	37

1. Product Introduction

The product is produced by advanced materials, technology, and equipment, with stable discharge voltage, good consistency, good low temperature performance, low self-discharge, good charge acceptance and long service life etc. It can be used as power source for electric vehicles such as golf cart and sightseeing bus. Do not allow using this product in special industries (such as mines with extremely bumpy roads). Please consult the manufacturer for special occasions.

2. Operation

1. The wet battery is charged in factory. Check the battery terminal voltage before using: if the voltage $\geq 6.3V$ for 6V

battery, $\geq 8.4V$ for 8V battery, $\geq 12.6V$ for 12V battery, then the battery can be mounted and used without re-charging; if the battery is more than 2 months old or single battery's voltage is lower than the above values, recharge the battery for 3~5 hours with the phase 2 current listed in the following table.

2. Connection: The battery group is marked with “+” “-” which should be connected to the positive and negative cables of the electric equipment respectively. Please connect the positive end firstly. The cables should be firmly and reliably connected. Not allow reverse connection or directly connection between positive and negative terminals, otherwise it will cause spark, explosion or terminal damage. Do not knock on the terminals, in order to avoid terminal looseness even acid leakage. The connected area between battery terminal and wiring nose must be polished and firmly mounted to ensure good conductivity. Pay attention to the placing order for nuts and washers showing below.

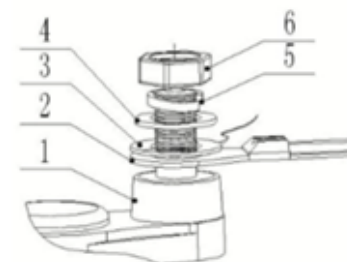


Fig. 1

1. Terminal
2. Connecting cable
3. Signal wire
4. Washer
5. Spring washer
6. Nut

3. Normal charging (charging after the battery is mounted and used on the vehicle):
When battery capacity is less than 30% or total mileage is over 70%, the battery should be recharged. For output

current of the charger, refer to the phase 1 current listed in the following table. When the full-charge indicator lights up, continue to charge for 2~4 hours or until the charger shuts down automatically before using the battery.

Battery Model	Normal Charging			
	Phase 1		Phase 2	
	Initial Current (A)	Duration (h)	Current (A)	Duration (h)
N-105	26-28	5-7	5	2-4
N-875	18-20		4	
N-1275	17-19		4	

Note: Actual charging duration varies with the discharged capacity and charging current. Total charging capacity should be 107%-120% of the used capacity. Charging process voltage for single battery $\leq 2.7V \times \text{cell number}$ (1st number of the battery model represents the cell number).

a. Charging voltage in summer: $\geq 7.8V$ for 6V battery, $\geq 10.4V$ for 8V battery, $\geq 15.6V$ for 12V battery

Charging voltage in winter: $\geq 7.95V$ for 6V battery, $\geq 10.6V$ for 8V battery, $\geq 15.9V$ for 12V battery

b. Specific gravity of electrolyte should be up to 1.275-1.285g/ml;

c. Electrolyte reacts violently. A large number of bubbles are generated in the battery.

- The electrolyte temperature should not exceed 50°C in charging process. When the electrolyte temperature is close to 50°C, reduce the charging current or stop charging and cool down the battery; when the temperature drops below 35°C, continue to charge the battery and extend the charging duration accordingly to

ensure the battery is fully charged.

3. Use and Maintenance

- The battery group should be used according to vehicle running standard. When the on-board power indicator shows the battery group needs to be recharged (the pointer is in the red area or the indicator light alarms), recharge the battery in timely. Do not over discharge the battery (The discharge voltages of 6V, 8V and 12V batteries are lower than 5.25V, 7V and 10.5V, respectively).
- If the battery is not charged enough, the battery capacity will decrease and the mileage will be reduced. If the battery is not charged for a long time, it will decrease the battery's service life, even cause early scrapping of the battery. If the battery is seriously overcharged, it will consume a lot of energy, accelerate the water loss of the battery, accelerate the grid corrosion and fall-off of active material, and reduce the battery's service life.
- When the vehicle is not in use for more than a week, the battery cable must be disconnected from the vehicle.
- The battery cover must be kept clean and dry during the use of the battery, in order to avoid increasing self-discharge or short circuit. The connected area between battery terminal and wiring nose must be polished and firmly mounted to ensure good conductivity, then apply Vaseline or other protective agents which can prevent terminal corrosion around the terminal and the connection between the wiring nose and the terminal, so as not to

burn the terminal in the process of use.

5. During the use of the battery, the electrolyte level should be strictly controlled, which is not lower than the upper edge of the separator, and not higher than the bottom edge of the water-filling well. Check the electrolyte level regularly (once per 15 days, after half a year's usage, once per 10 days).
6. Follow the below rules when filling water to the battery: If the electrolyte level is lower than the upper edge of the plates, firstly add a small amount of water into the battery to make the electrolyte level just flood the upper edge of the plates, and then charge the battery. When the battery is fully charged, then add water to the battery until 3-4 mm below the bottom edge of the water-filling well; If the electrolyte level is higher than the upper edge of the plates, charge the battery first and then refill the water according to the above method. Distilled water or pure water can be added. Do not add water with high impurity content such as river water, lake water, tap water or mineral water into the battery. Also do not add sulfuric acid to the battery.

4. Matters need Attention

1. Before using, the battery should be stored in dry and ventilated environment under 5~35°C. Avoid direct sunlight and radiation from other heat sources. If the shelf life is more than 2 months, recharge the battery for 3~5h with phase 2 normal charging current. Untimely recharge will affect the battery performance.
2. The battery shall not contact with substances and organic solvents that emit corrosive gases (acetic acid, hydrochloric acid, etc.).
3. Tighten the terminal screw according to correct instructions. If the torque is too low, the connection between wiring nose and terminal is not firm, which is likely to cause terminal burn due to high current in the using process. If the torque is too high, it will damage the terminals. The correct torque range of the terminals is 5-7Nm. More than 7Nm may cause terminal damage.
4. Select suitable charger which is compatible with the battery capacity. Too high and too low charging current will affect the battery performance.
5. Strictly prevent short circuit, metal and other impurities mix into the battery, otherwise it will cause short circuit or self-discharge.
6. The wet battery shall not be inclined for more than 30° or upside down in transportation, to prevent electrolyte leakage causing corrosion of the vehicle or other equipment.
7. The electrolyte used for batteries contains sulfuric acid, which is corrosive to skin, eyes, clothing, etc., so prevent electrolyte overflow in using process. In case of any accident, the following measures can be taken:
 - a. Wash with water immediately when external contact with electrolyte
 - b. If electrolyte enters the mouth, rinse and drink plenty of water before seeking medical treatment.
 - c. Splash into eyes should be immediately flushed with water and seek medical treatment.

8. Batteries made by different manufacturers, with different capacities or performances cannot be mixed in using.

5. Quality Commitment

During the warranty period, the quality problems caused by raw materials or manufacturing defects will be repaired or replaced by our company. The quality problems caused by users' improper use (such as not using or maintaining in accordance with the product instructions of our company) are not covered by the warranty, but we can provide users with technical consultation or services.