



# KING TONY

## BATTERY CHARGER

No.9D521



WARNING



Please wear proper safety gear while working.

*Enjoy your work*



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customer service e-mail : [service@kingtony.com](mailto:service@kingtony.com)

<http://www.kingtony.com>

89xxxxx-KT

297x210mm



## Operation Instruction

- Please read this instruction carefully before making use of the charger.
- It is designed and manufactured according to EN60335-2-29
- For its start-up function ,this charger is applied to recharge lead-acid cell and accumulators in a motorcycle ,car ,tractor ,and boat for starting.
- With input and output fuse ,and earth production Line on the supply cable,it is very safe and reliable.
- There installed control switch for recharging current, start-up, so current is adjustable, function is completing.
- It is expediently to move and apply because there installed two wheels and a handle.

## Technical Parameters

Model	9DS21-10	9DS21-20
Input voltage	230V	230V
Frequency	50/60Hz	50/60Hz
Charge	12-24V	12-24V
Input Power	0.8KVA	2.0KVA
Effective current12-24V	30A	90A
Average current12-24V	20A	60A
Effective current12-24V	180A	600A
Average current12-24V	120A	500A
Protection class	IP21S	IP21S
Weight	17 Kg	27 Kg
Dimension	630 x 330 x 290 mm	705 x 400 x 315 mm

## Warning

- A: When recharging a cell in the car, please connect the chassis after the terminal without connection of the chassis. Please leave the junction points far away from the cell and fuel pipe.
- B: For starting automobile, connect arbitrary terminal of the charger to non-chassis connector of the motor, (the same polarity, viz. anode with anode; cathode with cathode),the other polarity connects the chassis connector of the motor. Learn carefully about manufacturer's instruction of engine starting.

## Maintenance and Repair

- Periodical maintenance and repair is requirement for normal service and safety of the machine. Any improper or wrong operation will lead to machine fault and damage.
- Warranty for the machine is 1 year for date of purchasing. Users can repair the machine in the dealer's or appointed service centers in the name of its invoice.
- Please disconnect power supply of the switchboard and the machine before maintenance.
- Clean inside and outside of the machine periodically with air or cotton yarn. Examine and repair power switch, earth device, current adjustor, fuse,inner cable, clip and bolts periodically. Screw down the loosened bolts and clear rust.
- Periodically check insulation resistance of the welder with insulating-resistance meter. Insulation resistance between primary winding and secondary winding, each winding and earth should be not less than 1 MO. Let technicians replace the failure parts. Check inlet and outlet fuses if there is no current output.
- If the current is too high during course of charging that causes the transformer overheat and there is no current. The reason is the working of inside overheat protector has been started. The charging will resume automatically when the transformer cool down.

- Connect the cell: Connect anode ramp (red) with anode of the cell, and connect the corresponding wire holder (6V or 12V) on the charger. Otherwise connect cathode (black) ramp with the wire holder of cathode in the cell. When recharging a cell in the car, please connect the chassis after the terminal without connection of the chassis. Please leave the junction points far away from the cell and fuel pipe.
- Plug in and turn the switch to ON", start-up" to charging" position, there is current display on the ammeter. Adjust the charging current into the right range (according to DIN 41774 to choose.) Set charging time (long time or timing) In course of charging, temperature of electrolyte should not higher than 45°C. If it is higher than 45°C before finishing, please reduce charging current to prolong charging time to keep temperature of electrolyte till finishing.
- Phenomena about finishing of charging: electrolyte specific gravity approaches 1.28Kg/L; and the terminal voltage of the cell exceeds 1.2 times of the rated voltage-There are exquisite bubbles in electrolyte.
- Please close power supply before disconnection clips with the cell when charging has been finished.

### 3. Complementary charging for under filling cells

- Utility time (receptivity for charging current is different.) and remaining quantity of electric charge will affect consistency of charging finishing time. So please select the underfilling one to make complementarity.

### 4. Operation guide for Assistant Start-up


Quick charging for 10-15 minutes. It must according to duty cycle of the certain product


- Connect arbitrary terminal of the charger to non-chassis connector of the motor, (the same polarity, viz. anode with anode), the other polarity connects the chassis connector of the motor.
- Learn carefully about manufacturer's instruction of engine starting.
- Plug in and turn the power switch to ON 'and turn switch of Cell, Startup" to start-up", start the engine.
- Special notice: Starting time is 3 seconds for each time, wait for 120 seconds before the second start-up. Only allow 5 continuous start-ups. If need starting yet, then the two periods should have 10 minutes interval in order to cool the transformer inside the machine.




### Definition of symbols

EN60335-2-29: Standards for household appliances

 :Single phase transformer-rectifier

 :Symbol of secondary battery  
:Please read the instruction carefully before application.

 :Housesupply

IP20 :Degree of Protection

## Safety regulations

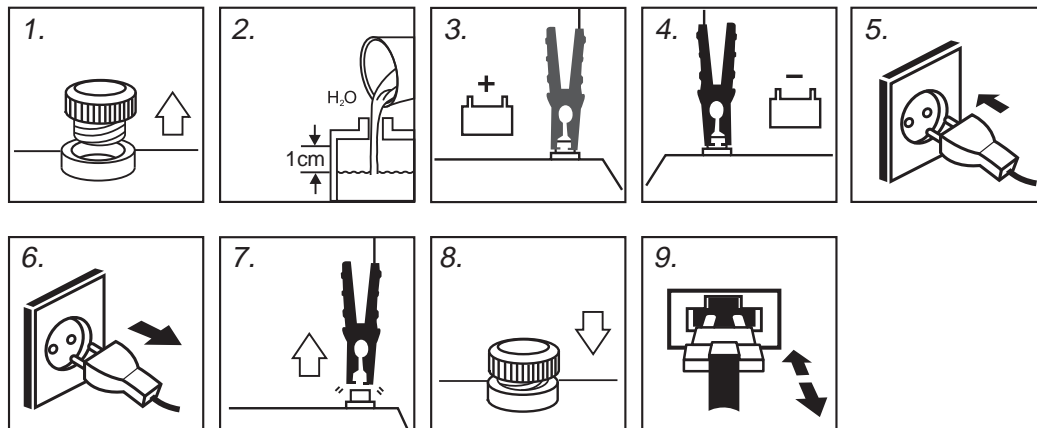
**For personal safety and property safety, please comply with the following safety regulations.**

There may produce combustible gas in course of recharging so please make use in door with ventilation. Avoid flame and spark, no smoking. Shell protection degree is Ip20, apply out door with rain and snow is forbidden.

Earth wire must be installed in the socket in order to earth well.

- Put the charger flatly when recharging, incline and convert are forbidden.
- Don't blot the vent for heat abstraction.
- Please recharging according instructions of the accumulator and vehicles.
- Load and unload of the accumulator should be carried out after break power supply.
- Maintenance and repair to the charger should be operated by technicians.
- Replace the fuse and cable with the same specifications.
- There may produce causticity acidity gas, hydrogen and oxygen in course of recharging ,so please make use in door with good ventilation. Avoid flame and spark, no smoking.
- There should install with earth wire, to make sure of well earth of the earth terminal in the cable.

Load and unload the accumulator after power dump.



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## Series Of Battery Charger

- Open the cell! cover when charging.
- No connection between electrodes of the cell when electrify.
- Don't connect the cell ramps contrarily.(Namely anode ramp "red" Connects the cathode of the cell, and cathode ramp black connects the anode of the cell.)
- Non-rechargeable cells cannot be charged.
- The replaced fuse must have the same specification with the Original one.  
Do not replace it with other electric conducting material. Replacement for power cable should by carried out by technicians.

## Application Regulation for charger and cell

In order to protect the machine, please operate comply with the following regulations.

### 1.Notice for application of the cell

- When the electrical charge is insufficiency, terminal voltage of the cell will displays the normal voltage, that the terminal voltage of 6V cell is 6V,otherwise the terminal voltage of 12V is 12V. Moreover, the main physical phenomenon for judging the quantity of electric charge is battery electrolyte specific gravity. Generally speaking, when the specific gravity of battery electrolyte is 1.28Kg/L, the electric charge is full; if it is lower than 1. 1 6Kg/L, that cell is empty. Voltage of the cell will be departure the normal level only when charging. It will be lower than normal terminal voltage and higher when charging. If the load has been stopped for period of time(about 10-30 minutes),but the terminal voltage is still lower than normal, the main possibility is bad quality of the cell.
- Open the cell cover to observe if the electrolyte is enough, add some to make it amply.
- Electrolyte in the cell is dilute sulfuric acid. It is caustic. If it splash to skin and clothes, please rinse with clear water immediately and go to the hospital in time.

### 2. Charging Correctly

- Cells with same capability parallel connection or in series to charge are allowed. The terminal voltage after parallel connection or in series must match the output voltage of the charger. Generally charging in series in order to make the current through every cell is same.

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