

OPERATING INSTRUCTIONS

Battery Charger



Operation Instructions

1pcs



3. Safety Instructions

We do not assume liability for resulting damages to property or personal injury if the product has been abused in any way or damaged by improper use or failure to observe these operating instructions. The warranty will then expire!

3.1 Product Safety

- The product must not be exposed to substantial mechanical strain or strong vibrations.
- The product must be protected against electromagnetic fields, static electrical fields, extreme temperatures, direct sunlight and moisture
- The manufacturer's instruction for the respective batteries must be observed, before they are charged.
- The product should not be connected immediately after it has been brought from an area of cold temperature to an area of warm temperature. Condensed water might destroy the product. Wait until the product adapts to the new ambient temperature before use.

Sufficient ventilation is essential when operating the charger. Never cover the ventilating slots of the charger. Please take cautions especially when ambient temperature is over 35 degrees Celsius, when the device is more easily entering protection mode and thus longer charging time will be needed.

3.2 Battery Safety

- Correct polarity must be observed while inserting the batteries.
- Non-rechargeable batteries, rechargeable alkaline batteries (RAM), lead acid batteries and lithium batteries must not be charged with this product. There is danger of explosion!
- Batteries should be removed from the device if it is not used for a long period of time to avoid damage through leaking. Leaking or damaged batteries might cause acid burns when in contact with skin, therefore use suitable protective gloves to handle corrupted batteries.
- Batteries must be kept out of reach of children. Do not leave the battery lying around, as there is risk, that children or pets swallow it.

Batteries must not be dismantled, short-circuited or thrown

into fire. Never recharge non-rechargeable batteries. There is a risk of explosion!

3.3 Miscellaneous

- Repair works must only be carried out by a specialist/specialist workshop.
- If you have queries about handling the device, which are not answered in this operating instruction, please check with the distributor for further help.

4. Operating Elements

5. Power Supply

Only the shipped power adapter is allowed to be used for this charger!

When the charger is powered up, all LCD segments will light up momentarily. The "null" icon will be shown until any batteries are inserted.

6. Operation

Once a rechargeable battery is inserted, its present voltage(for example, "1.12v") will be displayed for 4 seconds, then "200mA Charge" will be shown on display for another 4 seconds as the default charging current. If **MODE** or **CURRENT** button is not pressed during these 8 seconds, the charging process will start. Afterwards, the charging current can no longer be changed without re-inserting the rechargeable batteries or re-power up the charger.

If completely empty or defective batteries are inserted into the charger, the "null" icon will be displayed on the display and the charger will refuse to charge them. Sometimes those completely empty batteries are still usable because they are not used for a long time and the internal leakage current emptied the battery by itself. To avoid this refusal by the charger, we suggest charging them with a normal 3v battery pack for a few seconds before insert into the charger.

6.1 Mode Selection

- Press and hold the "MODE" button for 2 seconds to change the operating mode for all charging slots.
- Press the "MODE" button subsequently to toggle among the "Charge", "Discharge", "Test" and "Refresh" mode

6.2 Current Selection

Within the first 8 seconds after insert the battery, press the

"CURRENT" button to select desired charge current of 200, 500, 700 or 1000mA for slots inserted with batteries. The current can not be altered once the setting has been confirmed in the initial stage. If one wants to change the applied current afterwards, the rechargeable battery must be taken out and inserted again. The maximum charging current is restricted by the current setting of the first inserted battery current. Discharge current is automatically set to half of the selected charge current.

If two or less batteries are inserted in slot 1 and/or 4, the charging current can further be selected for 1500 or 1800mA. Maximum discharge current is limited to 500mA when 1500mA or 1800mA selected.

6.3 Display Selection

During or after the work mode complete, press the "DISPLAY" button to toggle among the display mode for voltage, current, capacity and work time.

7. Overheat Protection

When overheating occurs, either batteries temperature over 55 degrees Celsius or charger controller board temperature over 70 degrees Celsius, the charging or discharging process will be paused immediately and the charging or discharging current display will show "000mA". The charging/discharging process will only resume once the temperature of the rechargeable batteries drops below 40 degrees and charger controller board drops below 50 degrees. This feature is extremely important in protecting the batteries or charger itself from over heating.

8. Operation Modes and Display

8.1 Operation Modes:

- Charge Mode: The rechargeable battery is charged up to its maximum capacity.
- Discharge Mode: It is used to reduce the memory effect. The rechargeable battery is discharged to a preset battery voltage (0.9v). Once discharge is finished, the battery will be charged at the pre-selected charging current. Discharge current is always half of the selected charge current.
- Refresh Mode: Refresh function is typically used to eliminate battery memory effect. Press MODE key for 3S when the charger is under normal conditions , selecting Refresh (REFRESH)

function. Then the charger discharging the battery in the charging slot. The charger automatically begins charging till it is fully charged. When the discharge voltages is less than 1V.

- **Repair Mode:** The rechargeable battery is charged and discharged repeatedly to optimize to its maximum capacity. Old rechargeable batteries or rechargeable batteries that have not been used for a long period of time can be restored to their rated capacity. Depends on the selected charge current, it can take tens hours or even days time before complete. Repair function is for the battery voltage is zero and/or, nickel-cadmium, nickel-metal hydride batteries can not be charged. It divided into four categories of reasons: ① severe discharge; ② the long-term storage; ③ battery self-discharge is too large; ④ positive and negative electrode short circuit inside the battery. With the expectation of a few battery damaged badly, others can be repaired, activated, Recovered capacity or Recycling used to a certain degree. Press MODE key for 3S when the charger is under normal conditions, selecting repair (REPAIR) function. The charger will automatically detect the battery situation, small ammeter repeatedly charge and discharge of battery pulse (0.1C) or with a high current charge and discharge (2C~5C). ("C" indicates the battery capacity). The battery capacity can not be kept very well if the battery self-discharging too serious, on this condition, used when charging is recommended.
- **Timer Mode:** Timed charger function. Press MODE key for 3S when the charger is under normal conditions, select the timed charge (TIMER) function, the parameters area displays the length of time to charge, in hours (h). Select confirm by pressing CURRENT and length of time you want to charge. Chargers will be timed using fixed current on the battery charge, the battery can be placed or removed at any time. Rechargeable battery compartment display corresponds to the time, when stop showing FULL. At the same time with temperature protection function.

- **Test mode:** Checks the present capacity of a rechargeable battery. The maximum capacity is determined by discharging the rechargeable battery after it was fully charged. If the maximum capacity is much lower than the rated capacity then it may reach the end of its lifetime.
- **Determine the non-rechargeable batteries and bad battery function:** When a battery is placed into the battery slot, the smart charger can automatically determine whether the battery is a rechargeable battery or a bad battery. If placed into a non-charging battery, the charger will normally works one minute, detection voltage will immediately rose for 1.5V above, at this time corresponds to flashing displayed ERR each 1S flashing a times. The charger stop charging when it has been flashing displayed ERR for a long time; If placed into a bad battery, the charger detects the voltage of the battery for 15 minutes, if the voltage is less than nickel cadmium, nickel hydrogen minimum discharge voltage or no voltage output the charger will stop charging and display ERR. Users can adjust to fix the battery to the repair function (REPAIR).
- **Backlight function:** The backlight will not open under default condition. When any key is pressed the blue backlight turned on. The blue backlight automatically turns off while no continued to press in 15S.

8.2 Display

- **Charge/Discharge Current:** the instantaneous current is displayed.
- **Time Elapsed:** The charging/discharging time of the last cycle is displayed.
- **Accumulated Capacity:** The accumulated battery capacity is displayed in mAh or Ah.
- **Charge Voltage:** The instantaneous battery voltage is displayed.
- **Full:** After the rechargeable battery is fully charged in any of the operation modes, trickle charging will be started automatically. Trickle charging prevents the rechargeable batteries from being overcharged and compensates for self-discharging of the batteries

***The Timer will resume and count from 0:00 again after**

the time elapsed is longer than 20 hours. For example: 1:45 will be shown if the time elapsed is 21 hours and 45 minutes.

9. Maintenance

The device is maintenance-free but should be cleaned occasionally. When cleaning, the device must be removed from any power source. Only use dry and soft cloth to clear the housing of the charger. Do not use abrasive or solvents.

10. Disposal

10.1 Disposal of waste electrical and electronic equipment
In order to preserve, protect and improve the quality of environment, protect human health and utilize natural resources prudently and rationally, the user should return unserviceable product to relevant facilities in accordance with statutory regulations.

The crossed-out wheeled bin indicates the product needs to be disposed separately and not as municipal waste.



10.2 Used batteries/rechargeable batteries disposal

The user is legally obliged (battery regulation) to return used batteries and rechargeable batteries. Disposing used batteries in the household waste is prohibited!

Batteries/rechargeable batteries containing hazardous

Operating Voltage	3V DC	
Power Adapter	Input:	100~240V~, 50/60Hz
	Output:	3.0V DC, 4.0A
Charging Current range	200 ~ 1800 mA	
Discharging Current range	100 ~ 500 mA	
Max. Charging Capacity	3500mAh	
Operating Temperature	0 to 40 °C	

substances are marked with the crossed-out wheeled bin. The symbol indicates that the product is forbidden to be disposed via the domestic refuse. The chemical symbols for the respective hazardous substances are Cd= Cadmium, Hg = Mercury, Pb = Lead.

You can return used batteries/rechargeable batteries free of charge to any collecting point of your local authority.



11. Technical Data