



Where There is MiBoxer There is Power

User Instruction

Model No.: C2-3000



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Made in China

Product profile

C2-3000 is a fully automatic intelligent charger. It can select the most appropriate dynamic charging current by judging the characteristics of the battery. It can also detect the internal resistance, remaining charging time, the percentage of capacity, charging voltage, charging current and so on automatically, during charging period. C2-3000 is compatible with Li-ion, IMR, INR, ICR, Ni-MH, Ni-Cd and other batteries. The charger is equipped with a backlit LCD screen, that can display the charging parameters and charging process of the battery. C2-3000 can select different charging methods automatically, according to different battery types. For Li-ion, IMR, INR, ICR standard battery, the charger use normal Li-ion battery charging mode (trickle charging, constant charging, constant voltage), for Ni-MH / Ni-Cd battery, the charger apply $-\Delta V$ full charging capacity termination method.

Product features

- Compatible with Li-ion battery (4.20V), Ni-MH / Ni-Cd (1.48V) two types of battery charging.
- Applicable to different types of cylindrical rechargeable Li-ion battery charging.
- Maximum 1.5A/ channel fast charging.
- The charging current can be set manually.
- High precision reference voltage source calibration.
- Automatically stop charging when battery is full.
- With reverse-battery and short circuit protection function.
- Automatically detect the battery and display the state of charging.
- Automatically measure the internal resistance of the battery.
- Test the battery capacity during charging.
- Support 2 channels charging independently at the same time, no influence of each other.
- Support small capacity battery charging.
- Support Li-ion battery repair function.
- Support DC12V car charger mode.
- Support DC5V charging mode.
- Made of PC fire retardant material.
- Excellent heat dissipation and circuit design, with 1 year warranty.

Product Parameters

Input voltage: DC 5V-12V 2A

Output voltage: 4.20V \pm 1% / 1.48V \pm 1%

Output current: Li-ion maximum 2*1.5A Ni-MH/Ni-Cd maximum 2*1A

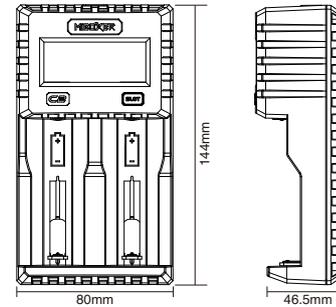
Products weight: 285g

Compatible with: 4.20V (Li-ion / IMR / INR / ICR) 10340 / 10350 / 10440 / 10500 / 12340 / 12500 12650 / 13450 / 13500 / 13650 / 14350 / 14430 14500 / 14650 / 16500 / 16340(RCR123) / 16650 17350 / 17500 / 17650 / 17670 / 18350 / 18490 18500 / 18650 / 18700 / 20700 / 21700 / 22500 22650 / 25500 / 26500 / 26650

Ni-MH / Ni-Cd (1.48V)

AAAA / AAA / AA / A / SC / C / D

Attention: the charger cannot charge the LiFePO4; otherwise the battery will be charged to damage or even exploded. For the 4.35V Li-ion battery, charger considers 4.20V as full charge in defaults.

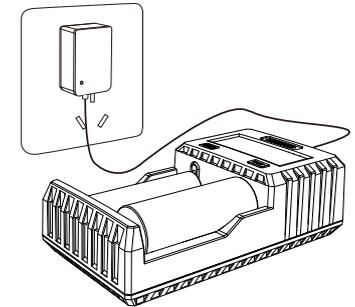


Using manual

- The charger has two charging slots, each charging slot can be independently controlled, not affecting each other, it can support single charge, mixed charge mode.
- Put the battery in any charging channel, the charger shows the current voltage and the remaining charging time, after 5 seconds charger starts charging.
- Flashing, indicates charging.
- When the battery is full, keeps lighting on, and the charger shows **FULL**.

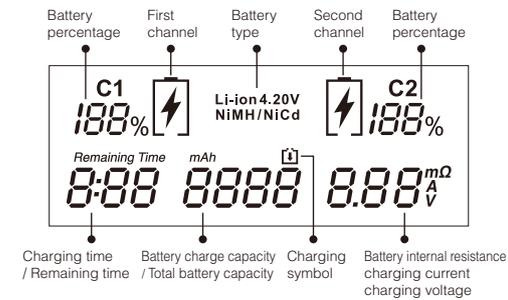
[SLT] Short press to switch C1-C2 slots infos and turns on the LCD backlight, extended press to set the slots charging current (for more details, please refer the the charging current manually)

Note: button pressing interval for 2 seconds, switching display the charging voltage, the internal resistance of the battery and charging current.



LCD display introduction

Rich user interface display, allowing you understanding the battery charge state more intuitively. Without any operation, the LCD backlight lights slowly getting dark after one minute.



Battery percentage

When the battery is placed in any channel, the charger will display the battery percentage automatically.

Charging time

For Li-ion batteries, the time is stand for remaining charge time, and it's stand for the total charging time when "FULL" mark appears. For Ni-MH/Ni-Cd, the time is only stand for charging time.

Note: Charge for Li-ion battery(18650 2600mAh), the remaining charge time is more accurate, there is some deviation for other type of the batteries.

Measure the battery internal resistance (measure on charging process)

- Put the battery in any channel, the charger will measure the internal resistance of the battery automatically.
- When the LCD screens shows " ---mA ", which means the battery is fully charged or almost fully charged, the charger cannot test the inner resistance.

Battery detection and error reporting:

Battery activation and detection	Error warning
Battery placing reversely	Current channel
Battery short circuited happened	shows "Err"
Place the battery correctly, after testing OK, the charger goes into the normal state of charge.	

Function introductions

Adapt input power supply automatically:

When the power required by the charger is larger than the maximum output power supply, the charger can adapt to the power supply automatically, and supply the charger with the maximum power of the power supply.
Note: when using the 5V power adapter, it is recommended to use the 5V/2A adapter.

Charging current:

- Default charge current:**
Put the battery in any slot, the charger will match the most suitable charging current according to the characteristics of the battery. The maximum charging current is 1.5A, and the minimum is 0.1A.
When battery voltage < 3.6V, charger enters trickle charging;
When battery voltage > 3.6V, charger enters constant charging.
- Note: The default trickle current 800mA Max.**

- Set the charging current manually:**
Extended press "SLOT" key, Charge current flashes, then to set the slots charging current; short press "SLOT" key, choosing the charge current. Total 7 current gears. After choosing, exiting the current setting mode 3 seconds later, or extended press "SLOT" key to exit the current setting mode.

Note: Current gears for Li-ion batteries:
 (default current, 0.2A, 0.3A, 0.5A, 0.8A, 1.0A, 1.5A)
Current gears for Ni-MH/Ni-Cd batteries:
 (default current, 0.1A, 0.2A, 0.3A, 0.5A, 0.8A, 1.0A)
 when the current symbol "A" flashing, means charging with default current.

Charging curve (Li-ion battery only):

- Put the battery which power less than 3%(3.40V below) into the charger and charge it, after full charged, the charger will store the battery curve automatically;
- Put the battery which power more than 3%(3.4V above) into the charger and charge it, after full charged, the charger will not store the battery curve.

Note: the charger can store up to 2 different charging curves, when needed to store the third curve, the charger will cover the first charging curve automatically.

Battery capacity measurement:

"mAh" Flickering: the data displayed indicates the accumulated capacity volume of the battery which was charged by the charger.

"mAh" Constant shining: the data displayed indicates the battery's total capacity (the total capacity of the battery which was calculated according to the cumulative capacity by charger).

Note: when the total capacity LCD displayed is different from the actual battery capacity, discharge the battery to empty, then recharge the battery, the charger will store the current battery's curve, in order to accurately measure the total capacity of the battery in the next charge time, this function only for Li-ion batteries.

Battery activation function

An automatic recognition and processing program is added to the charger. It has an activation function for the battery which has the protection circuit, after activation, the charger will charge the battery with the standard charging mode. If the charger cannot activate the battery, the battery will be considered a damaged battery, and the corresponding channel will indicate "Err" and stop the charging process.

Li-ion battery repair function

In the situation of the Li-ion battery over discharge to 0V, charger will repair the battery with trickle current to repair the battery, the battery voltage will rise slowly, after the repair processes is finished, the charger will switch to the normal charging mode. If the battery voltage is not able to rise for a long time, the charger will consider the battery as damaged, and the corresponding channel will indicate "Err", then stop charging.

Stop charging automatically when the battery is full, prevent over charge

When the battery is fully charged, the LCD display will indicate "FULL", the battery capacity percentage will show "100%" and charging current shows "000". The charger will stop charging automatically, to prevent shortening the battery using life due to the overcharge.

High sensitivity -ΔV battery charging termination (Ni-MH / Ni-Cd batteries)

A high sensitivity -ΔV battery charging termination method is in use for Ni-MH / Ni-Cd batteries. It can automatically detect when the battery has reached full capacity.

Matters needing attention

- The charger is only limited to charge the Li-ion, IMR, INR, ICR and Ni-MH / Ni-Cd rechargeable battery, charging different battery types battery may cause an explosion, splitting, battery leakage, personal injury or property damage.
- The charger cannot charge the LiFePO4, the batteries will be overcharged, damaged and may also explode. For Li-ion battery of 4.35V, when the charger raise up to 4.20V the charger will regard it as full charge in default.
- Using environment: using temperature -10~40 C, storage temperature: -20~60 C, please do not store the charger directly in the sunlight, near the heating equipment or other high temperature sources.
- The charger is suitable for adults over 18 years old; children using the charger must be under the supervision of adults.
- It is prohibited to use this charger with batteries that changed its shape, color or started leaking.
- Do not use this charger to charge disposable batteries, such as Zinc-Carbon (carbon zinc battery), disposable lithium metal batteries, CR123A batteries, CR2 batteries, and other batteries which don't support charging, otherwise it may cause the risk of fire or explosion.
- Do not charge the defective IMR battery, or it may cause a short circuit and cause an explosion.
- When the charger starts working, it should not be placed unattended. If charging process suddenly stopped, you should not use the charger, and read the instructions carefully.
- Do not disassemble, assemble or repack the charger, which may cause damage to the charger or even explosion.

- The charger should be used in a well ventilated area. Do not use or put the charger in a damp environment. Do not place inflammable and explosive substances in the operating area.
- When the charger is not used, battery should be removed, and the power cable should be pulled out.
- Do not insert conductive materials or metal objects into the charger, in order to avoid the short circuit or explosion.
- Avoid mechanical vibration and shock to prevent damage to the charger.
- Please carefully read the label on the charger to ensure that the battery is placed correctly when charging.
- Please do not overcharge or over discharge battery, please charge the battery as soon as possible when it is used up.
- Do not expose the charger to rain or snow.
- Do not touch the heating surface, when the charger full power, high power charge and discharge, rechargeable batteries or charger will give out heat.

Warranty service

MIBOXER After-sale warranty service is only for the products purchased from authorized sources, this rule is compliant to all.
MIBOXER Any DOA / defective product can be exchanged for a replacement through a local distributor / dealer within the 15 days of purchase. After 15 days, all defective / malfunctioning products can be repaired free of charge for a period of 12 months (1 year) from the date of purchase. Beyond 12 months (1 year), a limited warranty applies, covering the cost of labor and maintenance, but not the cost of accessories or replacement parts.

Free warranty does not apply to the following conditions:

- Broken down, Reconstructed and / or Modified by unauthorized parties.
- Damaged from wrong operations (i.e. Reserve polarity installation, Installation of non-rechargeable batteries, or Violation warning operation).
- Damaged by batteries leakage.

For the latest information on **MIBOXER** products and services, please contact a local **MIBOXER** distributor or send an email to sales@miboxer.com.