IMPORTANT WARRANTY NOTICE

Thank you for purchasing NITECORE. Our product warranty gives all eligible customers complete peace of mind, therefore, it is important to register you NITECORE product to enroll in our warranty programme. Please register your product at http://charger.nitecore.com/validation with the validation code that comes with the product on its packaging, alternatively, scan the QR code on the validation code sticker and enter all required information on the page, after which you will be sent a confirmation email and you are automatically enrolled.

NITECORE®

The New Benchmark in Intelligent Chargers

Intellicharger NEW i4

User Manual

Features

- Twice the charging speed of the i4 charger
- Active Current Distribution (ACD) Technology
- Compatible with 1.2V, 3.7V, 4.2V, 4.35V batteries
- Charging program optimized for IMR batteries
- Automatic current selection based on battery capacity
- Automatic identification of non-rechargeable Lithium batteries (1)
- Capable of charging four batteries simultaneously
- Terminating threshold for battery voltages and charging current can be set independently for each individual slot (2)
- Automatic adoption between three charging modes (CC, CV and dV/dt)
- Automatically detects battery power status and displays charging progress
- Automatically stops charging upon charging completion
- Reverse polarity protection and short circuit prevention
- Over-discharged battery activation
- Overcharging timeout protection
- Designed for optimal heat dissipation
- Made from fire resistant, flame retardant PC materials
- Certified by RoHS, CE, FCC and CEC
- Insured worldwide by Ping An Insurance (Group) Company of China, Ltd.

Specifications

Input Voltage: AC 100~240V 50/60Hz 0.25A(max) 10W
DC 9~12V 1A
Output voltage: 4.35V±1%/4.2V±1%/ 3.7V±1%/1.48V±1%
Output current: 1500mA x 1 / 750mA x 2 / 500mA x 2 / 375mA x 4
Compatible with:
Li-ion/IMR/LiFePO4:
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(NiCd): AA,AAA,AAAA,C,D
Dimensions: 5.51"×3.73"×1.45" (140mm×94.8mm×37mm)
Weight: 7.12oz(202g, without batteries and power cord)

Operating Instructions

Power on: Connect the NEW i4 to an external power source (such as vehicle adaptor, power socket) with its charging cord.
Battery placement: Put one batteries in each independently-controlled slot according to the polar mark on the charger.
Battery identification: All Four LEDs indicators will be lit when Lithium batteries are placed in, two lower LEDs will be lit when Ni-MH batteries are placed in. Charging begins in two seconds.
Battery inspection and error reporting: The NEW i4 automatically distinguishes rechargeable batteries from non-rechargeable batteries. It automatically reports errors when non-rechargeable Lithium batteries are inserted, or batteries are short-circuited or inserted backward, all four LED indicators will blink, and the charging process will be halted.

Note:

(1) The non-rechargeable Lithium battery detection is an ancillary function.

a. The main purpose of this function is to identify completely discharged CR123 batteries in case that such batteries are inserted for charging, which could lead to explosion.

b. Due to the diversity of battery chemicals, the charger cannot detect all non-rechargeable batteries. Please do not insert any batteries known as non-rechargeable in the charger.

Smart charging: The NEW i4 adopts the appropriate charging currents based on battery types and capacities. Whilst the option to adjust the current is also available. The NEW i4 is compatible with:
1) 3.7V Li-ion rechargeable batteries
2) 3.8V Li-ion rechargeable batteries
3) 1.2V Ni-MH/Ni-Cd rechargeable batteries
4) 3.2V LiFePO4 batteries
During the charging process, the three indicator LEDs indicate the batteries' status.

Default Charging Parameters

In the context of this user manual, batteries of more than 1200mAh and equal or longer than 65mm in length will be defined as large capacity, batteries of less than 1200mAh and shorter than 65mm in length will be defined as small capacity. The default charging current allocation for the NEW i4 is shown in the table below:

Types and capacities		Default power allocation to each slot				Manual adjustment to current
		One battery	Two batteries	Three batteries	Four batteries	
Lithium batteries	Large capacities	1.5A	0.75A	0.75A/0.75A Average current*1	0.375A	Yes
	Small capacities	0.5A	0.5A	0.5A/0.75A Average current*2	0.375A	No
NI-MH		0.5A	0.5A	0.5A/0.75A Average current*2	0.375A	No

***1** When charging three batteries of large capacities, the battery in the second slot will be charged at 0.75A, whilst the other two batteries will be charged at 0.375A each.

***2** When charging three batteries of small capacities, the battery in the second slot will be charged at 0.5A, whilst the other two batteries will be charged at 0.375A each.

Settings

After battery placement, press the C button to select a slot or press the button repeatedly to select a specific slot from left to right order, when a desired slot is selected, holding down the C button allows for manual adjustment to charging current, and holding down the V button allows for manual adjustment to voltage.

・Current setting

This option allows the charging current to be set at 1.5A for batteries of large capacities. The red light on top will turn on when the charging current to set at 1.5A.

・Voltage setting

This option allows the charging termination voltage to be set at 4.35V/4.2V/3.7V

Note: (2) Charging current allocation can be manually adjusted when more than one batteries of large capacities are placed in the charger.

Trickle Charge Mode

The New i4 will charge batteries of small capacities at 0.5A.

Active Current Distribution (ACD)

The ACD technology allows the NEW i4 to actively distribute all its power between all slots in an orderly manner, for instance: When one or more batteries are set to be charged at accelerated rate of 1.5A

1. The charger will charge the batteries that are set to be charged at 1.5A from left to right
2. When the first battery charging at 1.5A is almost fully charged and enters CV charging, the charger will divert a portion of its current to charge other batteries that are to be charged at default setting, then proceed to charge the second battery that are set to be charged at 1.5A when the first one gets fully charged.
3. When all batteries that are set to charge at 1.5A are fully charged, the charger will begin to charge the other remaining batteries at its default setting.

Note: When only one battery of large capacity is placed in the charger, the charger will charge it at 1.5A by default.

Battery Recovery Mode

The NEW i4 has a revival function designed specifically to revive over-discharged IMR batteries, an over-discharged IMR battery is indicated by the four flashing LED indicators above the particular slot the battery is placed in, holding down both C and V buttons until the bottom indicator starts flashing to enable the battery recovery process. IMR batteries that have been severely over-discharged may not be recovered successfully.
Caution: Do NOT enter battery recovery mode when battery is inserted backward, it may cause fire and explosion.

Overcharging Timeout Protection

The NEW i4 monitors each slot individually and keeps records for the charging duration for each battery. The charger automatically terminates the charging process for any particular battery that has been in the charging process for 20 hours but is not fully charged, and the charging indicators will show a full power status. This is designed to eliminate overcharge, overheating and explosion concerns arising from battery quality issues.

Precautions

1. The charger is restricted to charging Li-ion, IMR, LiFePO4, Ni-MH/Ni-Cd rechargeable batteries only. Never use the charger with other types of batteries as this could result in battery explosion, cracking or leaking, causing property damage and/or personal injury.
2. The safe operation temperature for the charger is between -10-40°C, and the safe storage temperature is -20-60°C.
3. Please charge batteries in accordance with the specifications on the back. Do not charge a battery pack with the charger.
4. Observe polarity diagrams located on the charger. Always place the battery cells with positive tip facing the top.
5. Do not leave a working charger unattended. If any malfunction is found, please terminate operation immediately, and turn to user manual for instruction.
6. The charger is for use of adults above 18 years old. Children under this age must be supervised by an adult when using the charger.
7. Please make sure the correct program and settings are chosen and set. Incorrect program or setting may damage the charger, or cause fire or explosion.
8. Never attempt to charge primary cells such as Alkaline, Zinc-Carbon, Lithium, CR123A, CR2, or any other unsupported chemistry due to risk of explosion and fire.
9. Do not charge a damaged IMR battery as doing so may lead to charger short-circuit or even explosion.
10. Never charge or discharge any battery having evidence of leakage, expansion/swelling, damaged outer wrapper or case, color-change or distortion.
11. Use the original adapter and cord for power supply. To reduce the risk of damage to the power cord, always pull by connector rather than the cord. Do not operate the charger if it appears damaged in any way.
12. Do not expose the device to direct sunlight, heating devices, open flames; avoid extreme high or extreme low ambient temperatures and sudden temperature changes.
13. Please operate the charger in a well-ventilated area. Do not operate or store it in damp area. Keep all the inflammable volatile substances away from operating area.
14. Avoid mechanical vibration or shock as these may cause damage to the device.
15. Do not short-circuit slots or other parts of the device. Do not allow metal wires or other conductive material into the charger.
16. Do not touch hot surfaces. The rechargeable batteries or the device may become hot at full load or high power charging/discharging.
17. Do not overcharge or over discharge batteries. Recharge drained batteries as soon as possible.
18. Remove all batteries and unplug the charging unit from the power source when not in use.
19. Opening, disassembling, modifying, tampering with the unit may invalidate its guarantee, check warranty terms.
20. Do not misuse in any way! Use for intended purpose and function only.

Disclaimer

This product is globally insured by Ping An Insurance (Group) Company of China, Ltd. Nitecore shall not be held responsible or liable for any loss, damage or claim of any kind incurred as a result of the failure to obey the instructions provided in this user manual.

Warranty Details

Our authorized dealers and distributors are responsible for warranty service. Should any problem covered under warranty occurs, customers can contact their dealers or distributors in regards to their warranty claims, as long as the product was purchased from an authorized dealer or distributor. NITECORE's Warranty is provided only for products purchased from an authorized source. This applies to all NITECORE products. To be qualified for warranty, please refer to the **"IMPORTANT WARRANTY NOTICE"** section on top to register your product.

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 NITECORE® 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.

The warranty is nullified if the product(s) is/are

1. broken down, reconstructed and/or modified by unauthorized parties
2. damaged from wrong operations (i.e. reserve polarity installation, installation of non-rechargeable batteries), or
3. damaged by batteries leakage.

For the latest information on NITECORE® products and services, please contact a local NITECORE® distributor or send an email to service@nitecore.com.

※All images, text and statements specified herein this user manual are for reference purpose only. Should any discrepancy occurs between this manual and information specified on www.nitecore.com, information on our official website shall prevail. Sysmax Industry Co., Ltd. reserves the rights to interpret and amend the content of this document at any time without prior notice.

Safety Instruction for Lithium-ion Batteries

1. Charging Voltage

Lithium-ion (Li-ion) batteries have strict requirement on voltage control. Charging Li-ion batteries with electric voltage beyond safety standard can lead to battery damage and explosion.

(1) 4.2V Li-ion Batteries/ IMR Batteries

4.2V Li-ion batteries are the most common rechargeable Lithium batteries. The skins of these batteries are often marked with 3.6V/3.7V signs. If our chargers judge that an inserted battery is a Li-ion battery, the battery will be automatically charged in 4.2V standard charging mode. You do not need extra voltage settings for these types of batteries.

(2)4.35V Li-ion Batteries

4.35V Li-ion batteries are comparatively rare. It usually has a 3.7V mark on its skin. Normally its seller will inform its buyer that it needs to be charged with 4.35V power. When charging this type of battery, please manually set the charging voltage to 4.35V, otherwise the charger will charge at 4.2V by default, and cannot provide adequate charging voltage.

(3) 3.7V LiFePO4 Batteries

3.7V LiFePO4 batteries have LiFePO4 and/or 3.2V marks on the skin. Be careful with this type of batteries. Without manual setting, our chargers will charge this type of batteries with 4.2V voltage, and will damage or even explode the battery with excessive charging voltage. You need to manually set the charging voltage to 3.7V for safe charging.

2. Charging Current

For all rechargeable Lithium batteries (including Li-ion, IMR and LiFePO4 batteries), we suggest not using current larger than 1C* for charging. For small capacity batteries, the charging current must be smaller than 1C.

*C=Capacity of a battery. For example, 1C in a 2600mAh rechargeable Lithium battery is 2.6A. 1C in a 3400mAh rechargeable Lithium battery is 3.4A.

Excessively large charging current will lead to great amount of heat, and consequently battery damage and explosion.

Warning: Our chargers automatically judge and select charging current by the batteries' length. For some long but small capacity batteries (i.e. 12650, 13650, 14650, 16650), please manually set appropriate charging current (smaller than 1C).

3. Precautions

(1) Do not short circuit the battery in any way.
(2) Do not use a 4.2V/4.3V Lithium battery when its voltage is lower than 2.8V, otherwise it can be over-discharged, and/or prone to explosion at next charging.
(3) We strongly recommend batteries with protective circuit. For batteries without protective circuit (such as IMR batteries), please stay alert for over-discharge and short circuit.
(4) Do not discharge a battery with a discharging current larger than its maximum rated current.

4. Long-term Storage

The best storage voltage for 4.2V/4.35V rechargeable Lithium batteries is 3.7V. Voltage too low or too high can damage your battery during storage. You can discharge a battery to 3.7V, or charge it to 3.7V in a charger before you keep it in long-term storage.

Validation code and QR code on package can be verified on Nitecore website.

1. The charger must be used with Nitecore's official cords. Official cords are identified with clearly printed Nitecore on the plug. During charging, third party cords can cause malfunction, overheat and even fire on the charger. Damages from using unofficial cords cannot be covered by official warranty.

2. The NEW i4 is restricted to charging Li-ion, IMR, 3.7V LiFePO4,Ni-MH/Ni-Cd rechargeable batteries only. Never use the NEW i2 with other types of batteries as this could result in battery explosion, cracking or leaking, causing property damage and/or personal injury.

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