IMPORTANT NOTICE CONCERNING WARRANTY SERVICE

Thank you for purchasing! Before using this charger, please find your verification code on the package box, and go to http://charger.nitecore.com/validation (or scan the QR code beside the verification code to visit on your mobile phone). Type in your verification code and personal information as required, and submit the page. After verification, Nitecore will send you a warranty service email. This email and your registration email address are essential to your possible warranty application. Before you complete the warranty service registration, you cannot enjoy our warranty service for your purchase.

NITECORE®

The New Benchmark in Intelligent Chargers

Superb Charger SC2

User Manual

Features

- Up to 3A charging speed in a single slot
- 0.5A, 1A, 2A and 3A manually selectable charging current options
- Charging program optimized for IMR batteries
- Automatic current selection based on battery capacity
- Capable of charging two batteries simultaneously
- Each battery slot controls and charges independently
- Automatically detects battery power status and displays charging progress
- Integrated USB port compatible with all USB devices
- Automatically stops charging upon charging completion
- Reverse polarity protection and short circuit prevention
- Li-ion battery restoration
- Overtime charging protection
- Features temperature monitoring to prevent overheating
- Made from fire retardant / flame resistant PC material
- Designed for optimal heat dissipation
- 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 0.9A（MAX) 30W
DC 12V 2.5A

Output voltage:

Battery: 4.35V±1% / 4.2V ±1% / 3.7V ±1% / 1.48V ±1%

USB: 5V 2.1A

Output current: 3A+2A MAX

Compatible with:

Li-ion/IMR/LiFePO4: 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: 6.10" × 3.16" × 1.73" (155mm×80mm×44mm)

Weight: 9.28oz (263g) (without batteries and power cord)

Operating Instructions

Connect to power source: connect the SC2 to an external power source (wall outlet, car adapter. etc.) via its power cord.

Insert batteries: The SC2 features two independently controlled charging slots. Insert batteries of supported types into each slot according to the polarity marks on the slot.

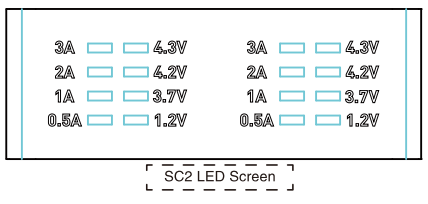
Other features: The SC2 has reverse polarity protection and anti-short circuiting incorporated.

Battery activation and inspection	Error Report
Batteries inserted with polar reversed	Eight LEDs on the screen blink to notify the user of an error.
Batteries short–circuited	
The SC2 will charge normal batteries upon inspection.	

Smart charging: The SC2 can choose charging currents based on intelligent detection about battery types and capacities. Manual charging current selection is also available. The SC2 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 charging, the current indicator LED indicates the present charging current, and the three voltage indicator LEDs indicate the batteries' status and charging percentages.



Default Settings

The default settings (not manually configured) for the SC2 are:

- 2A current, 4.2V voltage charging for large capacity Li-ion batteries (>1200mAh).
- 0.5A current, 4.2V voltage charging for small capacity Li-ion batteries (<1200mAh).
- 0.5A current, 1.48V voltage charging for Ni-MH/Ni-Cd batteries.

Note: The SC2 can automatically select charging modes for Ni-MH batteries and 3.7V Li-ion batteries. However, LiFePO4 batteries and 3.8V Li-ion batteries require manual settings on charging cut-off voltages.

Charging Voltage Settings

For LiFePO4 batteries:

Insert the batteries into the SC2's charging slots. Press the button over each slot to enter Manual Settings mode. Press and hold the V button to enter Voltage Selection. Before the button is released, three settings of charging cut-off voltages will cycle every second. When 3.7V setting is highlighted, release the V button, and press the button over the slot again to exit Manual Settings mode and begin charging.

For 3.8V Li-ion batteries:

Follow the above setting method, and select the 4.3V setting for 3.8V Li-ion batteries.

Charging Current Settings

Battery Type and Capacity		Default current	Max. charging current
Li-ion batteries	>1200 mAh	2A	3A
	<1200 mAh	0.5A	1A
Ni-MH batteries	AA/AAA	0.5A	2A
	Others	1A	2A

Press the button over each slot to enter Manual Settings mode. Press and hold the C button to enter Current Selection:

- For large capacity batteries (>1200mAh), four settings of charging currents will cycle every second (highlighted with the current indicator LED) before the C button is released;
- For small capacity batteries (<1200mAh), two settings (1A, 0.5A) will cycle every second (highlighted with the current indicator LED) before the C button is released.

When the appropriate current setting is highlighted, release the C button and press the button over the slot again to exit Manual Settings mode and begin charging.

Note:

1. If no further operation is done in 10 seconds in Manual Settings mode, the SC2 will automatically begin charging with the selected setting;
2. Large capacity batteries have four selectable current settings, small capacity batteries have two (1A and 0.5A), Ni-MH/Ni-Cd batteries (regardless of capacity) have three (2A, 1A and 0.5A).
3. While one slot is charging with 3A current, the maximum current for the other slot is 2.1A.
4. Do not charge Ni-MH/NiCd batteries at larger than 0.5C current. Doing so can cause overheat of the batteries.

Battery Activation

The SC2 is capable of activating depleted Li-ion batteries with protective circuit. After battery installation, SC2 will test and activate the battery before charging. When a battery is detected as damaged, all the LEDs over its slot will blink to urge an immediate termination of charging.

Li-ion Battery Recovery

Upon insertion of a 0V IMR battery, all eight LEDs on the SC2 will blink to indicate that it is not ready for charging. Press and hold the button over its slot until its power indicator blinks to enter the Recovery mode. Nitecore recommends abandoning this battery if it fails to be recovered after several attempts.

NOTE: When attempting to activate an IMR battery, reverse polarity protection is temporarily disabled. Take special care to ensure batteries are correctly inserted. Failing to do so may result in fire and explosion.

Overtime Charging Protection

The SC2 will separately calculate the charging time of each battery. When the overall charging time exceeds ten hours, the SC2 will automatically stop charging and display a fully charged status. This is to prevent possible overheat or even explosion due to battery quality issue.

USB Charging

1. To prioritize USB charging, do not put a depleted or partially charged battery in the CH2 slot. Otherwise the CH2 slot charging is prioritized by default. USB charging will automatically begin after the battery in the CH2 slot is fully charged or removed.
2. The CH1 slot and USB output work independently. The USB output can charge an external device with or without a battery in the CH1 slot.
3. The maximum charging current for the USB output is 2.1A.

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.

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. 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 SC2 is restricted to charging Li-ion, IMR, 3.7V LiFePO4,Ni-MH/Ni-Cd rechargeable batteries only. Never use the SC2 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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