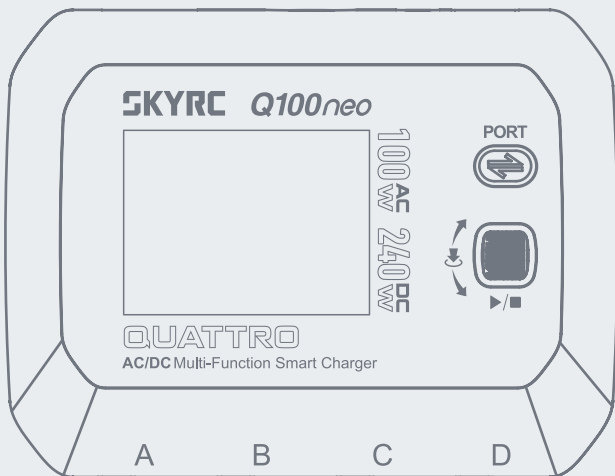


# SKYRC



# Instruction Manual

v. 20



## ***Q100neo***

AC/DC Multi-Function Smart Charger

# Contents

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# Introduction

Thank you for choosing SkyRC Q100neo AC/DC Multi-Function Smart Charger!

SkyRC Q100neo is a high-performance, four-channel charger designed for RC hobbyists who demand flexibility, power, and precision. Supporting a wide range of battery chemistries—including LiPo, LiFe, Li-ion, LiHV, NiMH, NiCd, and Pb—it offers multiple charge modes, advanced safety protections, and user-customizable settings. With dual power input (up to 100W total on AC and 240W on DC), each port delivers up to 6A of charging current. Its intuitive scroll wheel interface, compact form factor, and support for firmware updates make Q100neo a reliable and versatile charging solution for a wide range of RC applications.














Please BE SURE to read these INSTRUCTIONS, WARNINGS, and SAFETY NOTES prior to using for the first time.

## Warning

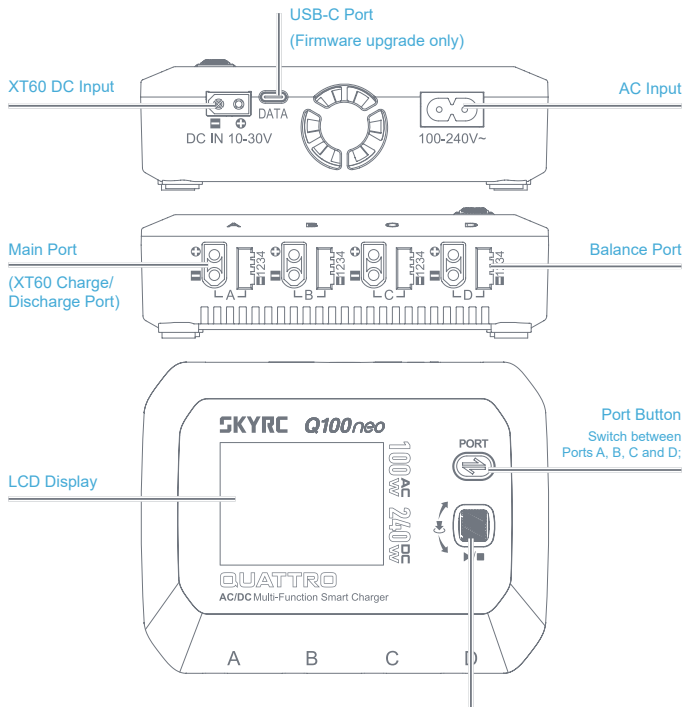
Q100neo is not intended for use by persons with reduced physical, sensory or mental capabilities,

or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the charger by a person responsible for their safety.

Failure to exercise caution while using this product and comply with the following warnings could result in a product malfunction, electrical issues, excessive heat, FIRE, and ultimately injury and property damage.

-  Never leave charging batteries unattended during use.
-  Never charge batteries overnight.
-  Never attempt to charge dead, damaged, or wet battery packs.
-  Never attempt to charge a battery pack containing different types of batteries.
-  Never charge batteries in extremely hot or cold places or place in direct sunlight.
-  Never charge a battery if the cable has been pinched or shorted.
-  Never connect the charger if the power cord has been pinched or shorted.
-  Never attempt to dismantle the charger or use a damaged charger.
-  Never attach your charger to both an AC and a DC power source at the same time.
-  Always use the charger with the correct charging and discharging program.
-  Always use only rechargeable batteries designed for use with this type of charger.
-  Never use the charger on car seats, carpets, or similar surfaces.
-  Always operate the charger away from flammable and explosive materials.

# Meet Q100neo



## Scroll Button

- Confirm or terminate the current program, enter Charge Settings, and perform other actions.
- Navigate through Ports A, B, C & D in the main interface;
- Short-press to enter the menu or confirm a setting;
- Scroll to select a menu or set parameters;
- Hold for seconds on the main interface to access System Settings;

# Specifications

Input Voltage	AC Input	100V~240V
	DC Input	10V~30V
Battery Types	LiPo/LiFe/Li-ion/LiHV	1S~4S
	NiMH/NiCd	1S~8S
	Pb	1S~8S
Working Modes	LiPo/LiFe/Li-ion/LiHV	Balance CHG, Charge, Discharge, Storage
	NiMH/NiCd	Normal, Discharge, Repeak, CYCLE_D_C, CYCLE_C_D
	Pb	Normal, AGM Charge, Cold Charge, Discharge
Charge Current <i>When power is less than 25W, power will not be distributed.</i>	AC Input	100W(±10%) 1 port: 60W (Max) 2 ports: 50W + 50W 3 ports: 33W + 33W + 33W (Total power divided by 3) 4 ports: 25W × 4
	DC Input	240W(±10%) 1 port: 60W (Max)
Discharge Power	Main Port	5W (±20%)
	Balance Port	10W Max (LiPo/4S)
Cycle (NiMH/NiCd)	Counts	1-3 Default: 2
	Rest Time	10Min-120Min Default: 10Min
Balance Current	LiPo/LiFe/Li-ion/LiHV	600mA (Max)
Trickle Current	NiMH/NiCd	50-300mA & OFF
Protection	Time	1Min-720Min & OFF (Default: 240Min)
	Capacity	100mAh-5000mAh & OFF (Default: 12000mAh)
	Temperature	Charging: Power reduced when ≥75°C; stops at 100°C Discharging: Power reduced when ≥60°C
	Low-voltage DC	9V-24V (±0.5V)
	Over-voltage (DC)	32V (±1)
	Reverse Polarity (Output)	Supported
	Reverse Polarity (DC Input)	Supported

# Specifications

DC Power	Voltage	1V-30V ( $\pm 0.2V$ )
	Current	0.1A-6A ( $\pm 0.1A$ )
Backlight Brightness		Low / Medium / High (Default: Medium)
System Volume		Off / Low / Medium / High (Default: Low)
Key Beep Volume		Off / Low / Medium / High (Default: Low)
Completion Beep		Single / Repeated (Default: Single)
Warning Alerts		On / Off (Default: On)
Restore Factory Settings		Supported
Default Parameters After Factory Reset	LiPo/Li-ion/LiFe/LiHV	Mode: Bal. CHG Cell Count: 4S Charge: 3A Discharge: 2A
	NiMH/NiCd	Mode: Charge Cell Count: 6S Charge: 3A Discharge: 2A Delta Peak: - $\Delta$ 6mV
	PB	Mode: Normal Cell Count: 6S Charge: 3A Discharge: 2A
Type-C		Firmware upgrades only
Language		简体中文 /English/Deutsch/Español/Français/ 日本語
Weight		491g
Size		140x108x43.5mm
Operating Environment	Temperature	0°C~40°C
	Humidity	5%-75%RH (Non-condensing)
Storage Environment	Temperature	-10°C~70°C
	Humidity	5%-75%RH (Non-condensing)



# Standard Battery Parameters

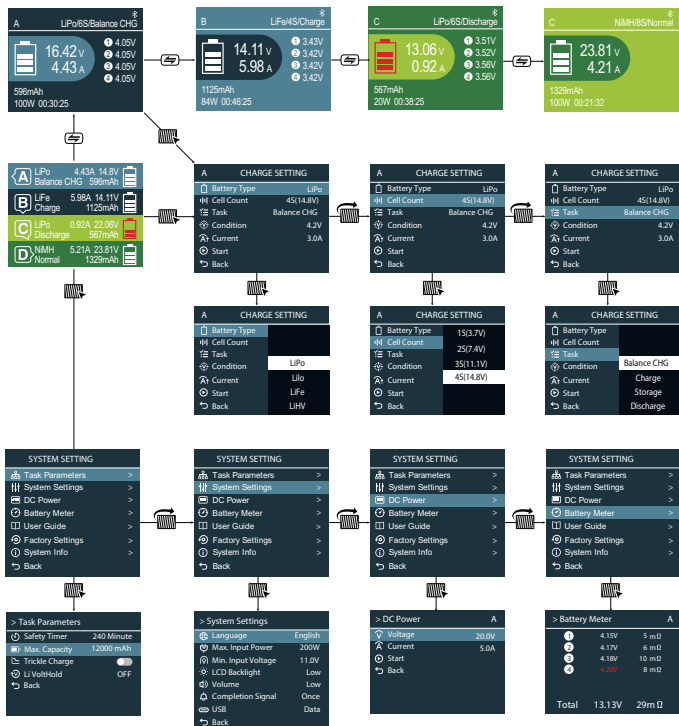
	LiPo	Li-ion	LiFe	LiHV	NiMH	NiCd	Pb
<b>Nominal Voltage</b>	3.7V/cell	3.6V/cell	3.3V/cell	3.8V/cell	1.2V/cell	1.2V/cell	2.0V/cell
<b>Charge Voltage</b>	4.15V~ 4.25V/cell	4.05V~ 4.25V/cell	3.58V~ 3.70V/cell	4.25V~ 4.50V/cell	N/A	N/A	2.30V~ 2.75V/cell
<b>Storage Voltage</b>	3.75V~ 3.90V/cell	3.70V~ 3.85V/cell	3.25V~ 3.40V/cell	3.85V~ 3.95V/cell	N/A	N/A	N/A
<b>Allowable fast charge current</b>	≤ 1C	≤ 1C	≤ 1C	≤ 1C	≤ 1C	≤ 1C	≤ 0.4C
<b>Discharge Voltage</b>	3.0~ 3.4V/cell	2.9~ 3.3V/cell	2.6~ 3.0V/cell	3.1~ 3.5V/cell	0.6~ 1.0V/cell	0.6~ 1.0V/cell	1.8V~ 2.0V/cell

Please ensure the charging settings match the battery specifications exactly.

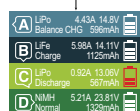
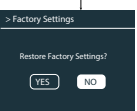
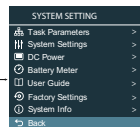
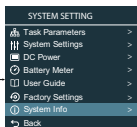
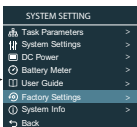
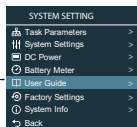
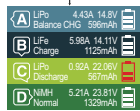
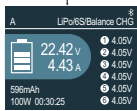
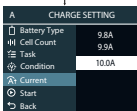
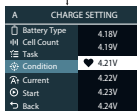
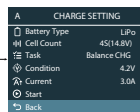
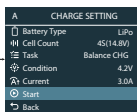
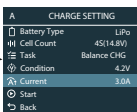
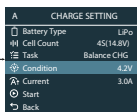
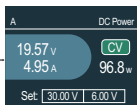
Incorrect parameters may lead to battery damage, fire, or even explosion.

# Program Flow Chart

Note: The flowchart illustrates the process using a single port as an example, as the procedures for Ports A, B, C, and D are identical.



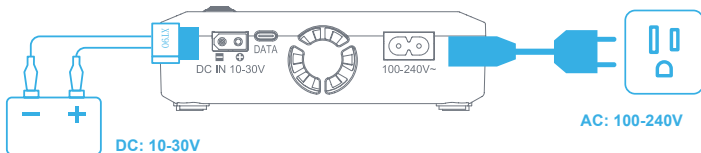




# Power and Battery Connection

## 1. Connecting to Power Source

Q100neo supports AC and DC dual input. The input voltages are:



## 2. Connecting the battery

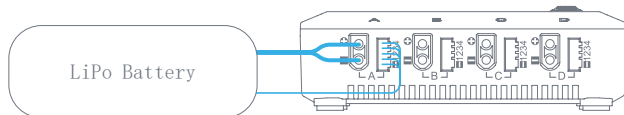


### WARNING!

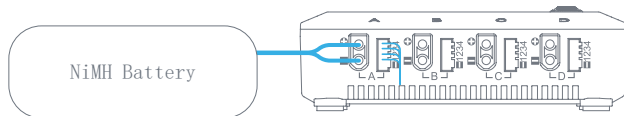
To avoid short circuits, always power the charger first through the DC or AC port at the back, then connect the battery to the Charge Port at the front. When disconnecting, reverse the sequence.

### Lithium Battery Connection with Balance Adapter

- For safety reasons, it is highly recommended to charge Lithium batteries (LiPo, Li-ion, LiFe, and LiHV) using Balance CHG mode, unless the battery lacks a balance wire.
- Ensure that the balance wire is connected to the charger, with the black wire aligned with the negative marking. Check the polarity to ensure the correct connection!



### NiMH/NiCd or Pb Battery Connection



# Battery Operations Matrix

This table lists all the operations that Q100neo can perform based on the battery type.

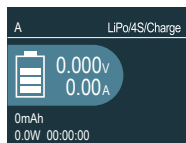
Battery Type	Working Mode	Description
LiPo Li-ion LiFe LiHV	Balance CHG	Charges lithium batteries while balancing the voltage of each cell to ensure optimal performance and safety. The charging rate is user-defined.
	Charge	Charges lithium batteries based on the selected charging rate.
	Storage	Charges or discharges lithium batteries to reach a storage voltage level, ideal for long-term storage.
	Discharge	Discharges lithium batteries according to the selected discharging rate
NiMH NiCd	Charge	Charges NiMH/NiCd batteries using the specified charging rate.
	Discharge	Discharges NiMH/NiCd batteries according to the selected discharging rate.
	Repeak	Automatically peaks NiMH/NiCd batteries twice to ensure a full charge.
	Cycle_D_C	Performs 1 to 3 discharging→charging cycles to rejuvenate and improve the performance of NiMH/NiCd batteries.
	Cycle_C_D	Performs 1 to 3 charging→discharging cycles to enhance and refresh NiMH/NiCd battery performance.
Pb	Normal	Charges Pb batteries based on the user-defined charging rate.
	AGM Charge	Charges AGM (Absorbent Glass Mat) batteries using the selected charging rate.
	Cold Charge	Charges Pb batteries in low-temperature conditions at the selected charging rate.
	Discharge	Discharges Pb batteries according to the selected discharging rate.

# Lithium Battery Program

The following operations are illustrated using Li-ion batteries as an example.

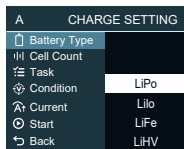


Scan or Click to Watch



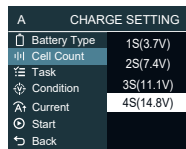
## Enter Charge Setting

Press the Scroll button to enter Charge Setting.



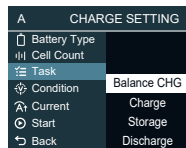
## Select Battery Type

Press the Scroll button to open the Battery Type menu, then scroll to choose your preferred lithium battery type.



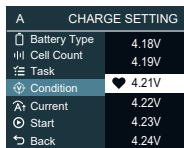
## Select Battery Cell

Scroll to Cell Count, and select the correct number of cells.



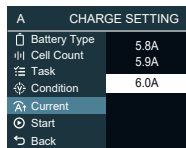
## Select Task

Scroll to Task, and choose the desired working mode.



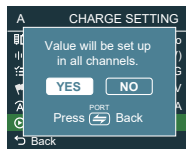
## Set Cut-off Condition

Scroll to Condition, open the menu, and set the cut-off voltage.



## Select Charge Current

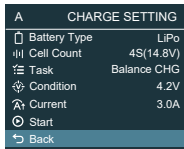
Scroll to Charge Current, open the menu, and set the desired working current.



## Start

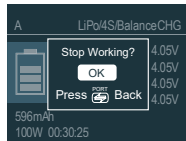
Press the Scroll button to confirm and start the program.

Before starting, a pop-up will appear asking whether to apply the selection: "Value will be set in all channels!"



## Back

Press to return to the main interface.



## Stop

Press the Scroll button to stop the program. If confirm to stop, press the Scroll button again to confirm. If not stop, short-press the Port button to back.

# DC Power

1. On the main interface, hold the Scroll button for five seconds to enter System Settings.
2. Select DC Power and adjust the output voltage and current.
3. Press the Scroll button to activate the power function after setting.
4. Connect your desired DC device.



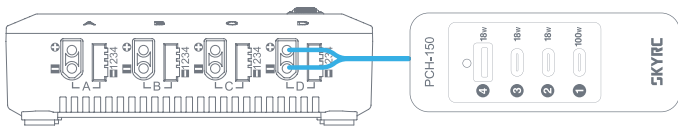
Scan or Click to Watch

When acting as a digital power supply, Q200neo can regulate its output voltage or output current at a constant level. Constant Current(CC) Mode and Constant Voltage(CV) Mode can switch automatically as follows:

If  $R \text{ load} > (V_{\text{out}} / I_{\text{out}})$  then power supply is in CV mode

If  $R \text{ load} < (V_{\text{out}} / I_{\text{out}})$  then power supply is in CC mode

This is essential and vital for efficient and precise power delivery in various applications for our RC professionals!



## \*Benefits of using a CC/CV mode DC power supply explained:

1. **Versatility:** CC/CV power supplies are versatile because they can switch between constant current and constant voltage modes. This makes them suitable for a wide range of applications, from powering delicate electronics to driving high-power devices.
2. **Protection:** The CC mode can prevent overcurrent situations, which could damage electronic devices or create hazardous situations. By setting a maximum current limit, the power supply ensures that it won't deliver more current than the device can safely handle.
3. **Battery Charging:** CC/CV power supplies are particularly useful for charging lithium-ion batteries, which require a precise charging protocol. Initially, the charger works in CC mode to restore most of the battery's capacity, then switches to CV mode to top off the charge while preventing overcharging.
4. **Optimized for Various Loads:** Some loads require a specific voltage to operate correctly, while others need a particular current. A CC/CV power supply can adapt to these needs, providing a stable and suitable power output under various load conditions.
5. **Improved Efficiency:** By dynamically switching between modes depending on the load, a CC/CV power supply can often operate more efficiently than a power supply using only one mode.
6. **Safe for LED driving:** LEDs are current-driven devices, and a slight increase in voltage can lead to a high current, causing damage to LEDs. CC mode allows safe driving of LEDs. CV mode can be useful when LEDs are configured in parallel strings.

**Note:**

- In the DC Power interface, short press the Port button to switch between ports A/B/C/D.
- From the main interface, press the Scroll button to exit the DC Power function.








# Voltage Calibration

## (For expert user only)

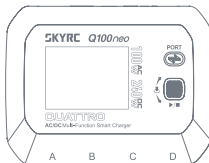
You can calibrate the voltage directly on the charger with a 4S LiPo battery. For more information, please contact us at [info@skycrc.com](mailto:info@skycrc.com).

# Charge Settings

On the main interface, press the Scroll button to enter Charge Settings, where you can switch between Ports A, B, C and D by pressing the Port button.

Menu	Definition
 Battery Type	Select the desired battery type. (LiPo, Li-ion, LiFe, LiHV, NiMH, NiCd, Pb)
 Cell Count	Select the number of battery cells corresponding to the battery type. (Li-xx: 1-6S, Ni-xx: 1-15S, Pb: 3S/6S/12S)
 Task	Select the program to be performed. (Balance CHG, Charge, Storage, Discharge, etc.)
 Condition	Set the cut-off voltage as per the task
 Charge/Discharge Current	Set the charge or discharge current.
 Start	Start the current program.
 Back	Return to the single-channel main page.

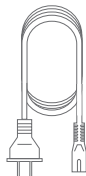
# In The Box



1\*SKYRC MC5000 Charger



1\*Instruction Manual



1\*AC Power Cord

# System Settings

On the main interface, hold the Start button for five seconds to enter the System Settings.

Menu	Option	Definition
Task Parameters	Safety Timer	Customize a period for program protection.
	Max.Capacity	Customize the maximum capacity.
	Trickle Charge	Enable/disable trickle charge.
	Keep Voltage	Enable/disable holding voltage. If the difference great than 0.02V between each cells detected, a small current will be applied to keep the battery voltage.
	Back	Back to the previous interface.
Preference	Language	Select your desired system language.
	Max. Input Power	The maximum charge power: AC Input: 100W DC Input: max. 240W
	Min. Input Voltage	In DC Input, set the minimum voltage for input protection.
	LCD Backlight	Performs 1 to 3 charging→discharging cycles to enhance and refresh NiMH/NiCd battery performance.
	Keypress Beep	Charges Pb batteries based on the user-defined charging rate.
	Notify Beep	Charges AGM (Absorbent Glass Mat) batteries using the selected charging rate.
	Completion Tone	Charges Pb batteries in low-temperature conditions at the selected charging rate.
	Warning	Discharges Pb batteries according to the selected discharging rate.
	Back	Back to the previous interface.
DC Power (Press the Port button to switch between ports A, B, C, and D)	Voltage	Set the output voltage. (1-30V)
	Current	Set the output current. (0.1-6.0A)
	Start	Enable DC power output and return to the main interface.
	Back	Back to the previous interface.
Battery Meter	N/A	Measure the battery voltage and internal resistance. (switch between ports A, B, C, and D by pressing the Port button. )
User Guide	N/A	Scan to view the user guide online.
Factory Setting	N/A	Restore to the factory settings.
System Info	N/A	Check the current system status.
Regulatory	N/A	Check regulatory information.
Back	N/A	Back to the previous interface.

# Conformity Declaration

Q100neo satisfies all relevant and mandatory CE directives and FCC Part 15 Subpart B.

Test Standards	Title	Result
EN 60335-1	Household and similar electrical appliances - Safety - Part 1: General requirements	Conform
EN 60335-2-29	Household and similar electrical appliances – Safety – Part 2-29: Particular requirements for battery chargers.	Conform
EN 55014-1	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission	Conform
EN 55014-2	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity Product Family Standard	Conform
EN 61000-3-2	Electromagnetic compatibility (EMC) – Part 3-2: – Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)	Conform
EN 61000-3-3	Electromagnetic compatibility (EMC) - Part 3-3: Limitation of voltage supply systems for equipment with rated current $\leq 16$ A.	Conform
FCC Part Subpart 15B	Title 47 Telecommunication PART 15 - RADIO FREQUENCY DEVICES Subpart B - Unintentional Radiators	Conform
EN 301489-1 EN 301489-17	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements. Part 17: Specific conditions for Broadband Data Transmission Systems.	Conform
EN 50663: 2017	Generic standard for assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10 MHz - 300 GHz)	Conform



# Liability Exclusion

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This charger is designed and approved exclusively for use with the types of battery stated in this Instruction Manual. SkyRC accepts no liability of any kind if the charger is used for any purpose other than that stated. We are unable to ensure that you follow the instructions supplied with the charger, and we have no control over the methods you employ for using, operating, and maintaining the device.

For this reason, we are obliged to deny all liability for loss, damage, or costs that are incurred due to the incompetent or incorrect use and operation of our products, or which are connected with such operation in any way. Unless otherwise prescribed by law, our obligation to pay compensation, regardless of the legal argument employed, is limited to the invoice value of those SkyRC products which were immediately and directly involved in the event in which the damage occurred.

# Warranty and Service

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We guarantee this product to be free of manufacturing and assembly defects for a period of one year from the time of purchase. The warranty only applies to material or operational defects, which are present at the time of purchase. During that period, we will repair or replace free of service charge for products deemed defective due to those causes.

This warranty is not valid for any damage or subsequent damage arising as a result of misuse, modification, or as a result of failure to observe the procedures outlined in this manual.

## Note:

1. The warranty service is valid in China only.
2. If you need warranty service overseas, please contact your dealer in the first instance, who is responsible for processing guarantee claims overseas. Due to high shipping costs, and complicated custom clearance procedures to send back to China, please understand that SkyRC can't provide warranty service to overseas end users directly.
3. If you have any questions which are not mentioned in the manual, please feel free to send an email to [info@skyrc.com](mailto:info@skyrc.com)

# SKYRC

The manual is subject to change without notice;  
please refer to our website for the latest version!

**Manufactured by**  
**SKYRC TECHNOLOGY CO., LTD.**

Floors 4, 5, & 8, Building 4, Meitai Technology Park, Guanguang  
South Road, Guanlan, Longhua District, Shenzhen 518110, China

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