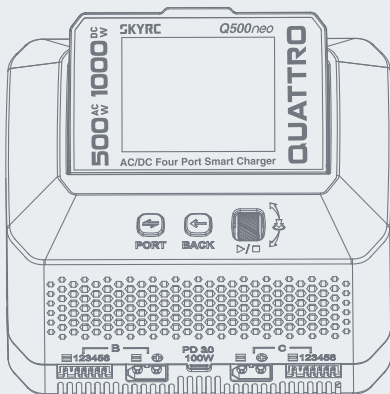


Instruction Manual

v. 11

SKYRC



Q500neo

AC/DC Four Port Smart Charger

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Introduction

Congratulations on choosing SkyRC Q500neo Multi-Function Smart Charger!

Q500neo features four independent channels and is compatible with a wide range of RC batteries. Its dual-input design adapts seamlessly to various charging scenarios, delivering up to 500W with AC input and 1000W with DC input. To meet different battery requirements, the current distribution is optimized: channels A and D deliver up to 15A and 250W per port, while channels B and C provide up to 25A and 500W per port.

With its ultra-compact design and 90° tilt screen, Q500neo delivers excellent portability and easy, intuitive operation.

Before first use, carefully read the manual, warnings, and safety instructions. Incorrect use of the charger or charging batteries improperly can be extremely dangerous, potentially leading to fires or even explosions.

Warning

Q500neo is not intended for use by individuals with reduced physical, sensory, or cognitive abilities, or by those lacking experience and knowledge with batteries, unless under the supervision or guidance of a responsible person.

Failure to use this product properly or comply with the following warnings may result in malfunction, electrical issues, overheating, fire, or even personal injury or property damage.

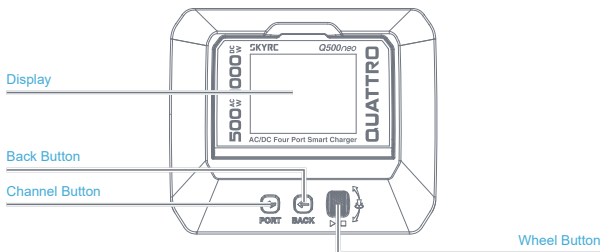
This charge used for Audio/Video, information and communication technology equipment.

The AC inlet is used as disconnect device, the socket-outlet should be near the charger and it should be easily accessible. The charger should connect to a socket-outlet with earthing connection.

-  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 a AC and a DC power source at the same time.
-  Always use the charger with the correct charging and discharging program.
-  Always inspect the battery before charging and ensure it is a rechargeable battery.
-  Never use the charger on car seats, carpets, or similar surfaces.
-  Always operate the charger away from flammable and explosive materials.

SkyRC Technology Co., Ltd. accepts no liability in such cases.

Getting to know Q500neo

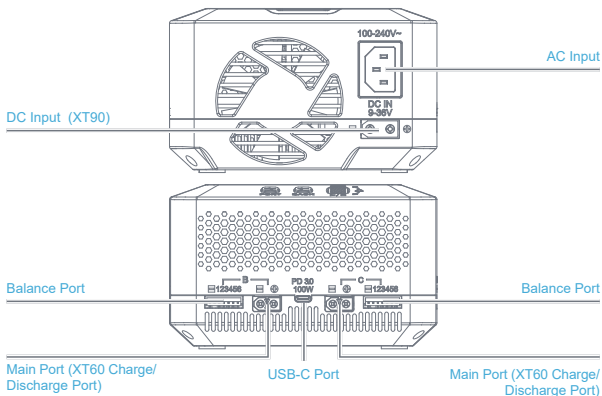


Channel Button: Press to select the channel or navigate through charging screens.

Back Button: Back to the previous interface.

Wheel Button:

- Short-press to enter the menu or confirm settings;
- Scroll to select a menu or set parameters;
- Short-press to terminate the current program or confirm the pop-up;
- Hold for seconds on the main interface to access System Settings.



Specification

Item	Option	Specification
Input Voltage	AC	100V~240V (50/60Hz)
	DC	9V~36V
Input Current	AC	7A Max
	DC	50A MAX
Battery Type	LiPo/Li-ion/LiFe/LiHV	1S~6S
	NiMH/NiCd	1S~15S
	Pb	3S/6S/12S
Working Modes	LiPo/LiFe/Li-ion/LiHV	Balance CHG, Charge, Discharge, Storage
	NiMH/NiCd	Charge, Repeak, CYCLE_C_D, CYCLE_D_C, Discharge,
	Pb	Normal, AGM Charge, Cold Charge, Discharge
Charge Current	LiPo/LiFe/Li-ion/LiHV	A/D Channels 0.1A~0.5A ($\pm 0.1A$) 0.6A~15A ($\pm 10\%$) B/C Channels 0.1A~0.5A ($\pm 0.1A$) 0.6A~25A ($\pm 10\%$)
	NiMH/NiCd	0.1A~0.5A ($\pm 0.1A$) 0.6A~10A ($\pm 10\%$)
	Pb	0.1A~0.5A ($\pm 0.1A$) 0.6A~15A ($\pm 10\%$)
Discharge Current		0.1A ($\pm 0.05A$) 0.2A~2A ($\pm 10\%$)
Charging Power ($\pm 10\%$)	AC Input	Four Channels: 500W
	DC Input	Four Channels: 1000W (Input Voltage $\geq 22V$, 1000W Max) A+B+C+D=1000W B+C=1000W, A/D 250W Max, B/C 500W Max
Discharge Power	Main Port	10W ($\pm 2W$)
	Balance Port	24W Max
DC Power Supply	Voltage	1.0V~30V
	Current	A/D 0.1A~15A B/C 0.1A~25A
	Power	A+B+C+D+typeC=1000W typeC 100W Max B+C=1000W Max, A/D 250W Max, B/C 500W Max

Specifications

Trickle Charge Current	NiMH/NiCd	100mA~500mA/OFF, 10mA per step, Default OFF
Type-C Output		Protocol: PD3.0 100W 5V/3A 9V/3A 12V/3A 15V/3A 20V/5A
App	IOS/Android	SkyCharger
Language		English/ 简体中文 / 日本語 /Deutsch/Français/ Español Default: English
Balance Current	LiPo/LiFe/Li-ion/LiHV	900mA~1500mA
Password		Default: 5793
Dimensions		146X123X88mm
Weight		1206g
Working 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)

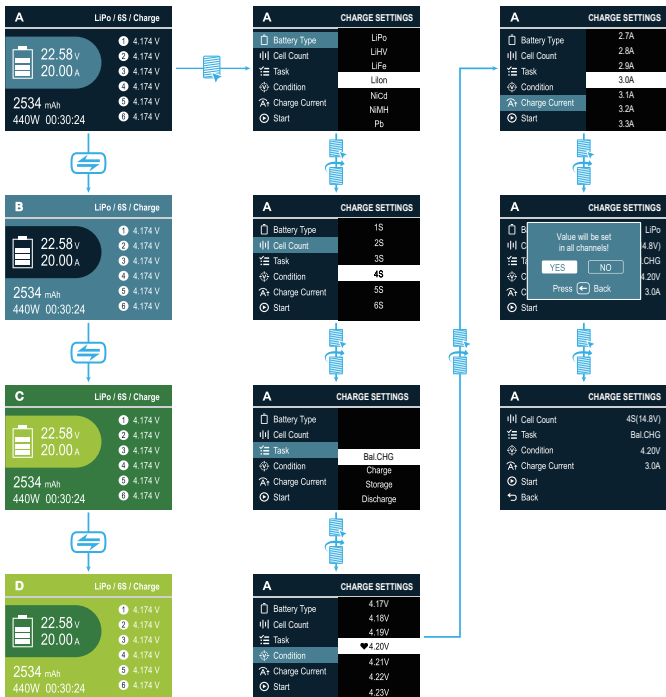


Standard Battery Parameters

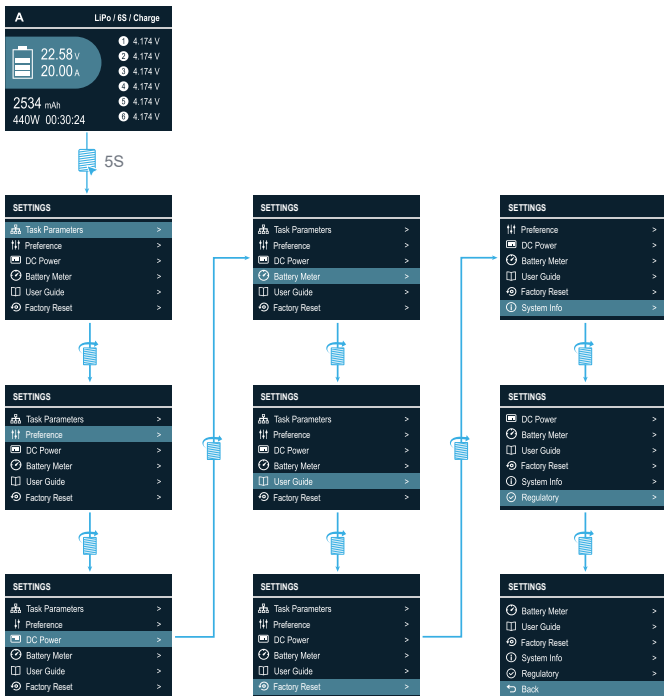
	LiPo	Li-ion	LiFe	LiHV	NiMH	NiCd	Pb
Nominal Voltage	3.7V/cell	3.6V/cell	3.3V/cell	3.8V/cell	1.2V/cell	1.2V/cell	2.0V/cell
Charge Voltage	4.15V~ 4.25V/cell	4.05V~ 4.25V/cell	3.58V~ 3.70V/cell	4.25V~ 4.50V/cell	N/A	N/A	2.30V~ 2.75V/cell
Storage Voltage	3.75V~ 3.90V/cell	3.70V~ 3.85V/cell	3.25V~ 3.40V/cell	3.85V~ 3.95V/cell	N/A	N/A	N/A
Allowable fast charge current	≤ 1C	≤ 1C	≤ 1C	≤ 1C	≤ 1C	≤ 1C	≤ 0.4C
Discharge Voltage	3.00~ 3.40V/cell	2.60~ 3.70V/cell	2.60~ 3.00V/cell	3.10~ 3.50V/cell	0.60~ 1.00V/cell	0.60~ 1.00V/cell	1.80V~ 2.00V/cell

Select the correct operating procedure based on the battery parameters.
Incorrect settings could lead to battery damage, fire, or even explosion.

Program Flow Chart



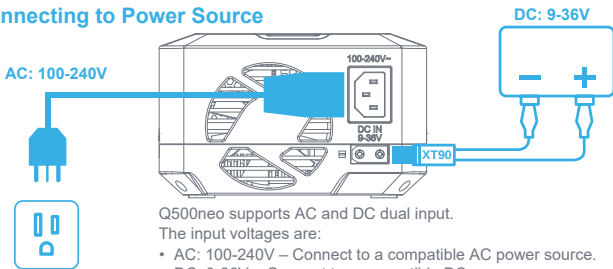
Program Flow Chart



Note: • The flow chart uses one port as an example, as the process for Ports A,B,C and D is identical.

Power and Battery Connection

1. Connecting to Power Source



2. Connecting the battery



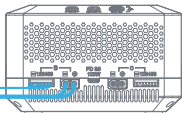
WARNING!

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

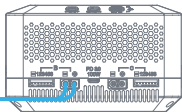
- For safety reasons, it is highly recommended to charge Lithium batteries (LiPo, Li-ion, LiFe, and LiHV) using Balance CHG mode, unless the battery lacks a balance wire.
- Ensure that the balance wire is connected to the charger, with the leftmost wire (the negative electrode) aligned with the negative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

LiPo Battery



NiMH/NiCd or Pb Battery Connection

NiMH Battery



Battery Operations Matrix

This table lists all the operations that Q500neo can perform based on the battery type.

Battery Type	Working Mode	Description
LiPo Li-ion LiFe LiHV	Balance CHG	This mode is to balance charge the lithium battery according to the user-defined charging rate. It ensures each cell of the battery is balanced.
	Charge	This mode charges the lithium battery based on the selected charging rate.
	Storage	This mode stores the battery via charging or discharging its voltage to a specific storage value.
	Discharge	This mode is to discharge the lithium battery based on the selected discharging rate.
NiMH NiCd	Charge	This mode charges the NiMH/NiCd battery based on the selected charging rate.
	Discharge	This mode is to discharge the NiMH/NiCd battery based on the discharging rate selected.
	Repeak	In Repeak mode, the charger automatically peaks the battery twice in a row. This helps ensure the NiMH/NiCd battery is fully charged.
	Cycle_D_C	A cyclic and continuous process of 1 to 3 discharge > charge cycles can be used to refresh and restore the performance of NiMH/NiCd batteries.
	Cycle_C_D	A cyclic and continuous process of 1 to 3 charge > discharge cycles can be used to refresh and restore the performance of NiMH/NiCd batteries.
Pb	Normal	This mode charges the Pb battery based on the selected charging rate.
	AGM Charge	This mode charges the AGM battery based on the selected charging rate.
	Cold Charge	This mode charges the Pb battery under a low temperature based on the selected charging rate.
	Discharge	This mode is to discharge the Pb battery based on the selected discharging rate.

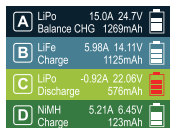
**1S LiPo/LiFe/Li-ion/LiHV and NiMH/NiCd cannot be used in Parallel Charge and Reverse Discharge modes*

Lithium Battery Program

(LiPo/LiFe/Li-ion/LiHV)

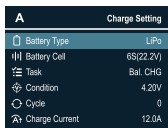


Scan or Click to Watch



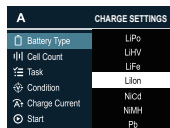
Select Port

Scroll to select the port and press to confirm.



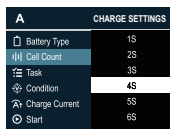
Enter Charge Setting

Press the Scroll button to enter Charge Setting.



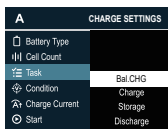
Select Battery Type

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



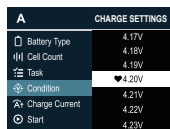
Set Battery Cell

Scroll to Battery Cell, call out the menu and scroll to select the correct battery cells.



Select Task

Scroll to Task, call out the menu and scroll to select the working mode.



Set Cut-off Condition

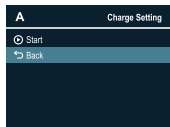
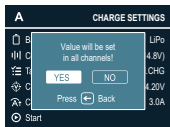
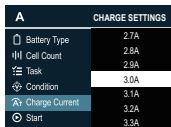
Scroll to Condition, open the menu, and set the cut-off voltage.

Lithium Battery Program

(LiPo/LiFe/Li-ion/LiHV)



Scan or Click to Watch



Select Charge Current

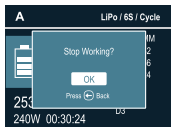
Scroll to Charge Current, press to open the menu, and set the desired working current.

Start

Press the Scroll button to confirm and start the program.

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.

- Note:**
- Ensure that AC and DC power are not connected simultaneously.
 - Do not connect the battery before powering on the charger.

App Control with SkyCharger

This charger comes equipped with a built-in Bluetooth 5.0 module, enabling users to easily control the charger via the SkyCharger app. Firmware upgrades are also supported through the SkyCharger app.



SkyCharger

Firmware Upgrade

1. Open the SkyCharger app.
2. Tap "+" to add the device, verify the corresponding Bluetooth number, and connect to Q500neo.
3. Enter the Settings page, when the SkyCharger app detects a new firmware, choose to upgrade.
4. Wait for the progress bar to reach 100%.

Note:

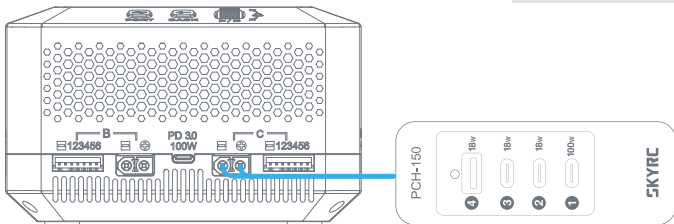
- The Bluetooth number can be viewed on the Port A, B, C and D.
- Once the Bluetooth is connected, the Bluetooth number will disappear.

DC Power

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



[Scan or Click to Watch](#)



Disclaimer:

The DC power supply function is intended as a supplementary output for RC accessories (e.g., SkyRC Pit Light, Tire Warmer, Tire Sander).

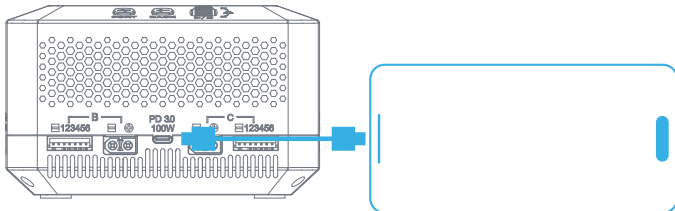
It is not designed to support Capacitive Loads such as RC chargers or power supplies.

Improper use may result in product damage or reduced service life.

- Note:**
- On the DC Power interface, press the Port button to switch between Port A, B, C and D.
 - Do NOT use DC mode to charge the battery.

PD3.0 Output with USB Type-C

In addition to charging RC batteries, the charger can also charge mobile devices through the USB Type-C PD3.0 output with a charging power of up to 100W.



**When the DC input is greater than $36V \pm 1V$, PD will not operate.*

Voltage Calibration

For expert user only)

You can calibrate the voltage directly on the charger with a 6S LiPo battery. For more information, please contact us at support@skyr.com.

Errors Explained

In the event of a fault, Q500neo will display an error message indicating issues such as connection problems or battery mismatches. Refer to the table below for troubleshooting solutions based on the error code.

Output Volt Too Low!	Output Volt Too Low!
Input Volt Too High!	Input Volt Too High!
Int. Temp.Too High!	The internal temperature is high!
Over Load!	The charger is overloaded!
Connection Break!	The battery connection is broken!
Cell Count Error!	Cell Count Error!
Battery Type Error!	The battery type is wrong!
Reversed Polarity!	The battery connection is reversed!
Balance Connection Error!	Balance Connection Error!
Cell Volt Diff!	The voltage difference between each cell is high!
Capacity Limit!	Charge/Discharge capacity exceeds the MAX. Capacity limits set in the system setting.
Time Limit!	Charge/Discharge capacity exceeds the Safety Timer limits set in the system setting.
Output Overload!	Output Overload!
Uncalibrated!	The charger calibration file missing or damaged!
No Available Power Output!	No Available Power Output!

System Settings

On the main interface, hold the Scroll button for five seconds to enter the system settings.

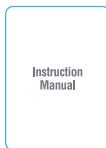
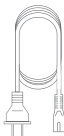
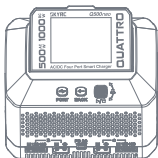
Menu	Option	Definition
Task Parameters	Safety Timer	Customize a period for program protection.
	Max.Capacity	Customize the maximum capacity.
	Trickle Charge	Enable/disable trickle charge.
	Keep Voltage	Enable/disable holding voltage. If the difference great than 0.02V between each cells detected, a small current will be applied to keep the battery voltage.
	Float	Start/Stop the float charging of Pb battery.
	Back	Back to the previous interface.
Preference	Language	Select your desired system language.
	Max.Input Power	The maximum charge power: AC Input: 500W DC Input: 1000W
	Min.Input Voltage	8-34.5V adjustable, default: 8V
	LCD Backlight	Adjust the brightness of the screen.
	Screen Timeout	Adjust/Turn off the screen time of the display
	Keypress Beep	Adjust/Turn off the volume of the keypress beep.
	Notify Beep	Adjust/Turn off the volume of the notify beep.
	Completion Tone	Choose the way you'd like to be reminded when the program is completed. If Repeat is chosen, the charger will play the completion signal every half an hour.
	Warning	Enable/disable boot warning.
	Back	Back to the previous interface.
DC Power (Press the Port button to switch between Port A, B, C and D)	Voltage	Set the output voltage. (1-30.0V)
	Current	Set the output current: A/D 0.1A-15A B/C 0.1A-25A
	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 A/B ports or recheck by pressing the Port button)
Factory Setting	N/A	Restore to the factory setting.
User Guide	N/A	Scan the QR code to access the user manual.
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

Q500neo(CH004) satisfies all relevant and mandatory CE directives and FCC Part 15 Subpart B.

Test Standards	Title	Result
EN 62368-1	Audio/Video, Information and communication technology equipment part 1: Safety requirement	Conform
EN-55032	Electromagnetic compatibility of multimedia equipment - Emission requirements	Conform
EN-55035	Electromagnetic compatibility of multimedia equipment - Immunity requirements	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 ≤ 16 A.	Conform
EN 300328	Wideband transmission systems;Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum	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	Generic standard for assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10 MHz - 300 GHz)	Conform
EN 62479	Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)	Conform
FCC Part Subpart 15B	Title 47 Telecommunication PART 15 - RADIO FREQUENCY DEVICES Subpart B - Unintentional Radiators	Conform

In The Box



SkyRC Q500neo Charger*1

AC Power Cord*1

Instruction Manual*1

QR Code Sticker*12

Liability Exclusion

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

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 support@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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