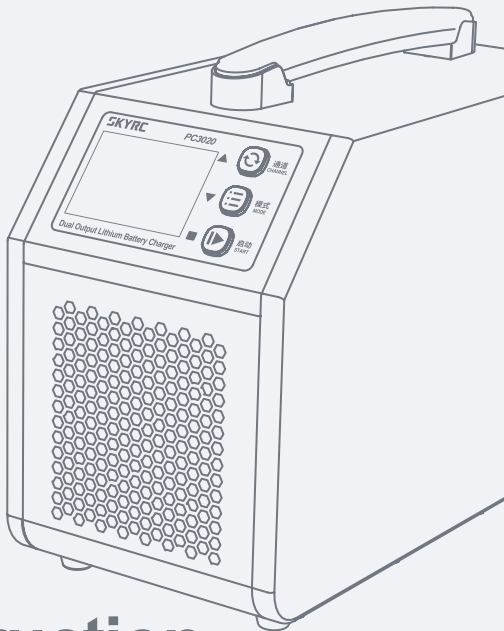


PC3020 Series

v. 75

Dual-Output Lithium Battery Charger



Instruction Manual

SKYRC

Introduction

The PC3020 Series is a dual-channel smart charger specifically designed for high-cell-count lithium batteries. With a maximum output power of up to 3000W, it supports three charging modes: Fast Charge, Standard Charge, and Storage. Equipped with a CAN communication interface and balance ports, it is compatible with both mainstream smart batteries and standard lithium batteries—offering safe, reliable, and efficient charging performance.

This series includes two models:

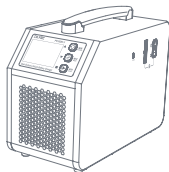
- **PC3020-1: Supports dual-channel charging for 12–22 cell LiPo / LiHV batteries**
- **PC3020-2: Supports dual-channel charging for 12–24 cell LiPo / LiHV batteries**

Be sure to read the user manual and safety guidelines before operating the device.

Features

- Customizable CAN communication protocol;
- Supports two 12–24S LiPo / LiHV batteries (range depends on model);
PC3020-1: 12–22S;
PC3020-2: 12–24S;
- Maximum output power: 3000W;
- Three charging modes: Fast Charge, Standard Charge, and Storage;
- Dual-language (Chinese/English);
- Adjustable charge cut-off voltage;
- Battery voltage monitoring;
- Firmware upgradable via Type-C port;

In the Box



PC3020 charger *1

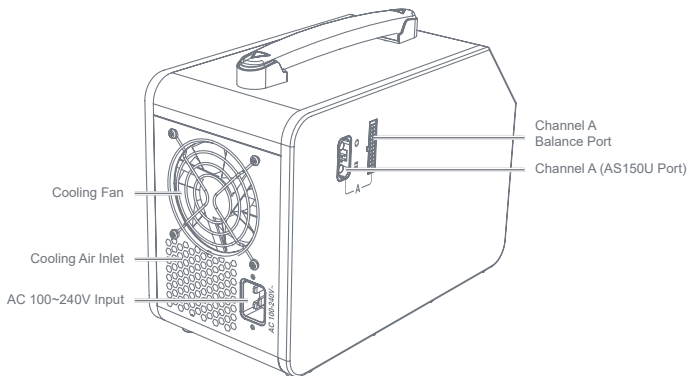
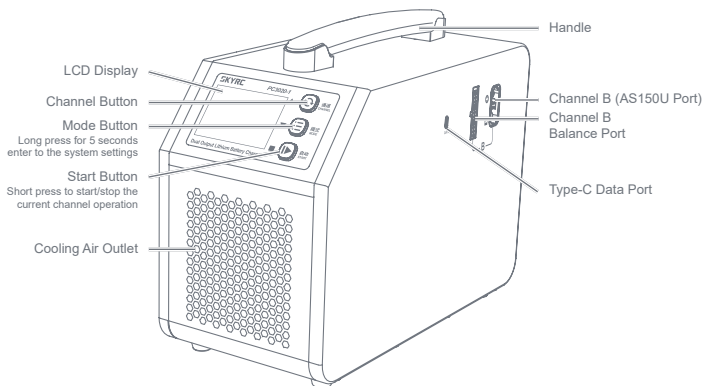


AC power cord *1



Instruction Manual*1

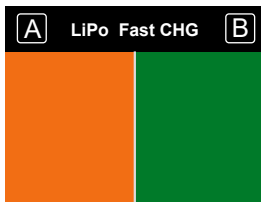
Get PC3020



Operating Instructions

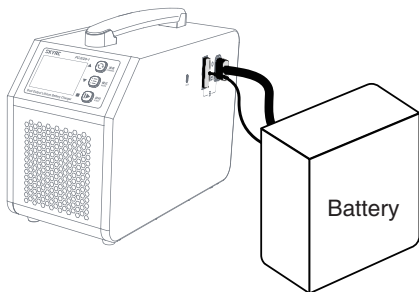
1. Power On

Connect to AC power and the LCD screen will display the following interface:



2. Connect the Battery

Connect the battery to the charger as shown below:



3. Select Charging Mode

Short press the Mode button to choose the desired mode:

Fast Charge; Standard Charge; Storage Mode

Fast CHG

Charges the channel with higher battery voltage first, followed by the lower one.

STD CHG

Charges the lower-voltage channel until it nearly matches the higher one, then both charge simultaneously.

STO CHG

Both channels charge/discharge simultaneously, following the same logic as the Standard Charge.

LiPo Fast CHG											
A				B							
1 3.81V	7 3.81V	1 3.81V	7 3.81V	2 3.89V	8 3.89V	2 3.89V	8 3.89V	3 3.79V	9 3.79V	3 3.79V	9 3.79V
2 3.89V	8 3.89V	4 3.77V	10 3.77V	4 3.77V	10 3.77V	5 3.75V	11 3.75V	5 3.75V	11 3.75V	6 3.80V	12 3.80V
3 3.79V	9 3.79V	6 3.80V	12 3.80V	6 3.80V	12 3.80V						



Warning: Ensure the correct battery type (LiPo or LiHV) is selected before charging. Incorrect settings may damage the battery and could cause fire or explosion.

Battery Type Switching

Press and hold both the Mode and Start buttons for 3 seconds to switch between LiPo and LiHV battery types.

[A] LiPo Fast CHG [B]												[A] LiHV Fast CHG [B]											
1 3.81V	7 3.81V	1 3.81V	7 3.81V		>	1 3.81V	7 3.81V	1 3.81V	7 3.81V			1 3.81V	7 3.81V	1 3.81V	7 3.81V		>	1 3.81V	7 3.81V	1 3.81V	7 3.81V		
2 3.89V	8 3.89V	2 3.89V	8 3.89V			2 3.89V	8 3.89V	2 3.89V	8 3.89V			2 3.89V	8 3.89V	2 3.89V	8 3.89V			2 3.89V	8 3.89V	2 3.89V	8 3.89V		
3 3.79V	9 3.79V	3 3.79V	9 3.79V			3 3.79V	9 3.79V	3 3.79V	9 3.79V			3 3.79V	9 3.79V	3 3.79V	9 3.79V			3 3.79V	9 3.79V	3 3.79V	9 3.79V		
4 3.77V	10 3.77V	4 3.77V	10 3.77V			4 3.77V	10 3.77V	4 3.77V	10 3.77V			4 3.77V	10 3.77V	4 3.77V	10 3.77V			4 3.77V	10 3.77V	4 3.77V	10 3.77V		
5 3.75V	11 3.75V	5 3.75V	11 3.75V			5 3.75V	11 3.75V	5 3.75V	11 3.75V			5 3.75V	11 3.75V	5 3.75V	11 3.75V			5 3.75V	11 3.75V	5 3.75V	11 3.75V		
6 3.80V	12 3.80V	6 3.80V	12 3.80V			6 3.80V	12 3.80V	6 3.80V	12 3.80V			6 3.80V	12 3.80V	6 3.80V	12 3.80V			6 3.80V	12 3.80V	6 3.80V	12 3.80V		

Battery Storage Mode

If the lithium battery will not be used for an extended period, it is recommended to use Storage Mode and adjust it to the appropriate voltage range for storage based on the battery type, in order to extend battery lifespan.

[A] LiPo STO CHG [B]												[A] LiHV STO CHG [B]											
1 3.81V	7 3.81V	1 3.81V	7 3.81V		>	1 3.81V	7 3.81V	1 3.81V	7 3.81V			1 3.81V	7 3.81V	1 3.81V	7 3.81V		>	1 3.81V	7 3.81V	1 3.81V	7 3.81V		
2 3.89V	8 3.89V	2 3.89V	8 3.89V			2 3.89V	8 3.89V	2 3.89V	8 3.89V			2 3.89V	8 3.89V	2 3.89V	8 3.89V			2 3.89V	8 3.89V	2 3.89V	8 3.89V		
3 3.79V	9 3.79V	3 3.79V	9 3.79V			3 3.79V	9 3.79V	3 3.79V	9 3.79V			3 3.79V	9 3.79V	3 3.79V	9 3.79V			3 3.79V	9 3.79V	3 3.79V	9 3.79V		
4 3.77V	10 3.77V	4 3.77V	10 3.77V			4 3.77V	10 3.77V	4 3.77V	10 3.77V			4 3.77V	10 3.77V	4 3.77V	10 3.77V			4 3.77V	10 3.77V	4 3.77V	10 3.77V		
5 3.75V	11 3.75V	5 3.75V	11 3.75V			5 3.75V	11 3.75V	5 3.75V	11 3.75V			5 3.75V	11 3.75V	5 3.75V	11 3.75V			5 3.75V	11 3.75V	5 3.75V	11 3.75V		
6 3.80V	12 3.80V	6 3.80V	12 3.80V			6 3.80V	12 3.80V	6 3.80V	12 3.80V			6 3.80V	12 3.80V	6 3.80V	12 3.80V			6 3.80V	12 3.80V	6 3.80V	12 3.80V		

Cut-Off Voltage Setting

Long press the Mode button for 5 seconds to enter the System Settings menu.

Under Task Parameters, you can set and save the desired voltages.

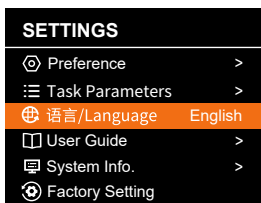
The following voltages are customizable:

- LiHV Cut-off
- LiPo Cut-off
- LiHV Sto. Volt
- LiPo Sto. Volt

> Task Parameters	
 Max Output Power	3.82 V
 LiHV Cut-off	3.83 V
 LiPo Cut-off	3.84 V
 LiHV Sto. Volt	3.85 V
 LiPo Sto. Volt	3.86 V
 Safety Timer	3.87 V

Language Setting

PC3020 supports two languages: Chinese/English. To change the language, long-press the Mode button for 5 seconds to enter System Settings, then navigate to Language and select your preferred option. Return to save the settings.

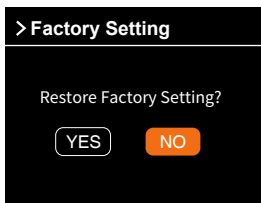


Factory Setting

Press and hold the Mode button for 5 seconds to enter the System Settings menu.

Select Factory Setting, then confirm by choosing YES.

The charger will restore factory settings and restart automatically.



Error Messages Explained

Error Message	Explanation
MAIN PORT BROKEN!	No valid battery voltage detected!
BAT COMM ERR!	Battery protocol does not match charger protocol!
AC INPUT ERROR!	Invalid AC input voltage
HI POWER TEMP!	Internal power over-temperature protection
HI DC VOLT!	Internal power over-voltage protection
BAT TEMP PROT!	Battery over-temperature protection
OPEN-CIRCUIT PROT!	Open-circuit protection (output)
CELL VOLT DIFF!	Excessive cell voltage difference detected
BAL PORT ERROR!	Balance circuit voltage error!
BAL PORT VOLT HIGH!	Balance voltage out of range!

POWER COMM BROKEN!	No power output!
UNCALIBRATED!	Factory calibration data lost!
POWER SHORT PROT!	Short-circuit protection (output)!
BAL PORT MISMATCH!	Balance port voltage doesn't match charge mode.
REVERSED POLARITY!	Reverse polarity detected
INNER COMM ERROR!	Dual-channel communication error
INNER TEMP ERROR!	The internal temperature is high!
TIME LIMIT!	The program has timed out!
CAPACITY LIMIT!	Charging has reached the set limit.

Specifications

Operating Voltage	AC Input	100V-240V~ 50/60HZ
Max. Output Power		90-110V 1300W 110-175V 1500W 176-290V 3000W
Battery Types and Cell Count	LiPo/LiHV	12-24S
Charge Termination Voltage	LiPo	4.20V (4.15-4.25V Adjustable)
	LiHV(Default 4.35V)	4.35V (4.25-4.50V Adjustable)
Storage Cut-off Voltage	LiPo	3.85V (3.75-3.90V Adjustable)
	LiHV	3.90V (3.85-3.90V Adjustable))
Charge Current (AC220V)	Standard Charge	Single Channel 25A Max Dual Channel 45A Max
	Fast Charge	45A Max
	Storage	Single Channel 20A Max Dual Channel 40A Max
Charge Current (AC120V)	Standard Charge	Single Channel 20A Max Dual Channel 20A Max
	Fast Charge	20A Max
	Storage	Single Channel 20A Max Dual Channel 20A Max
Storage Discharge Power		Main+Balance ports 200W Max Main port 95W Max
Balance Current	LiPo/LiHV	600~1400mA
Dimensions		305x148x240mm
Weight		Approximately 6.94 kg



Warnings and Safety Instructions

This section contains important information. Please follow all instructions in this manual strictly to ensure safe operation. Improper use may result in damage to the charger and battery, and in severe cases may cause fire or explosion.

General Safety Requirements

Do not operate the charger unattended. If any abnormal condition occurs, stop charging immediately and refer to this manual for troubleshooting.

Keep the charger away from dust, moisture, rain, and high temperatures. Avoid direct sunlight and strong vibrations. Do not drop or subject the charger to impact.

The charger supports an AC input voltage range of 100–240V.

Place the charger on a heat-resistant, non-flammable, and insulated surface. Do not place it on car seats, carpets, or similar surfaces. Ensure the operating area is clear of flammable and explosive materials.

Pre-Charge Checklist (Must Confirm)

Before starting charging, ensure that:

- The correct charging program is selected
- The charging current is properly set
- All connections are secure with no poor contact

Incorrect settings or improper connections may cause damage to the charger or battery, and may lead to fire or explosion.

Charging Instructions

During charging, the amount of energy delivered to the battery can be calculated by multiplying the charging current by the charging time. Due to differences in battery types and performance, the allowable charging current varies. Always refer to the battery manufacturer's specifications.

If high-rate charging is not explicitly supported, use the standard charging rate.

When connecting the battery, ensure correct polarity: red is positive (+), black is negative (–).

Due to resistance differences in wires and connectors, the charger cannot accurately detect the internal resistance of the battery pack. Use cables with sufficient conductor cross-section and high-quality gold-plated connectors to ensure proper operation.

Special Notes for Lithium Batteries

Lithium batteries must be charged strictly in accordance with the manufacturer's instructions.

Ensure correct wiring and never reverse the polarity.

Do not disassemble the battery pack.

Lithium battery packs can be connected in series or parallel:

- In parallel, voltage remains the same, and total capacity equals single-cell capacity multiplied by the number of cells
- Voltage imbalance may cause fire or explosion

Therefore, series charging is recommended.



Warnings and Safety Instructions

Batteries Not Allowed for Charging

Do NOT charge or store the following types of batteries:

- Battery packs composed of different models or brands
- Fully charged or only slightly discharged batteries
- Non-rechargeable batteries
- Batteries requiring special charging methods
- Damaged or defective batteries
- Batteries with built-in circuits or protection modules (unless confirmed compatible)
- Batteries installed in or connected to other devices
- Batteries not confirmed by the manufacturer to be compatible with this charger's current

User Restrictions

This charger is intended for users aged 14 and above.

Individuals with physical, sensory, or mental impairments, or lack of experience, must use the charger under supervision or guidance.

Do not allow children to play with the charger. Cleaning and maintenance must not be performed by children without supervision.

Power Safety

If the power cord is damaged, it must be replaced by the manufacturer, supplier, or qualified personnel to avoid hazards.

Power-Off Sequence (Important)

When stopping operation or disconnecting power, always disconnect the battery first, then disconnect the AC power supply to ensure the safety of both the device and the user.

Liability Exclusion

This charger is designed and approved exclusively for use with the types of the 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 which 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 that 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 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

The warranty service is valid in China only.

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 cost, complicated custom clearance procedures to send back to China. Please understand SkyRC can't provide warranty service to overseas end users directly. If you have any questions which are not mentioned in the manual, please feel free to send email to info@skyr.com

Declaration of Conformity

SkyRC PC3020 complies with all applicable and mandatory CE directives, as well as FCC Part 15 Subpart B requirements.

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



<https://www.skyrc.com>

If you have any questions about this document, please contact SkyRC by sending a message to **support@skyr.com**

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