Instruction Manual

Battery Discharger & Analyzer
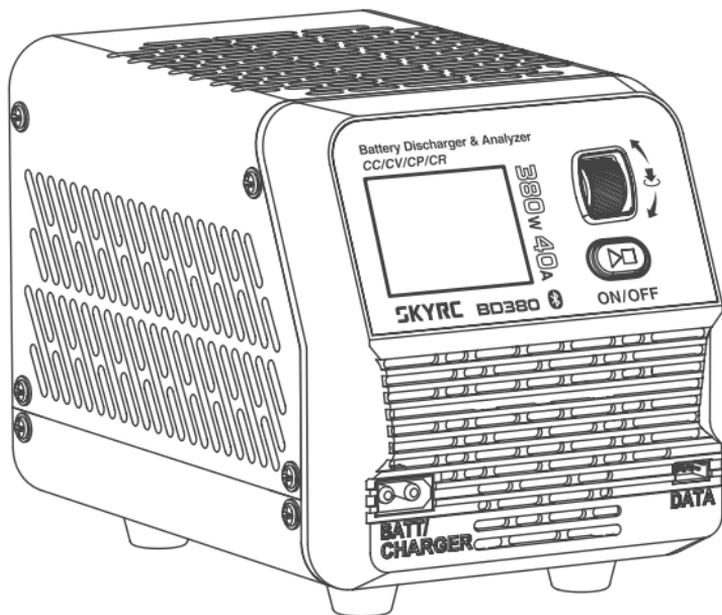CC/CV/CP/CR

380W 40A

SKYRC BD380

ON/OFF

BATT/CHARGER

DATA

BD380
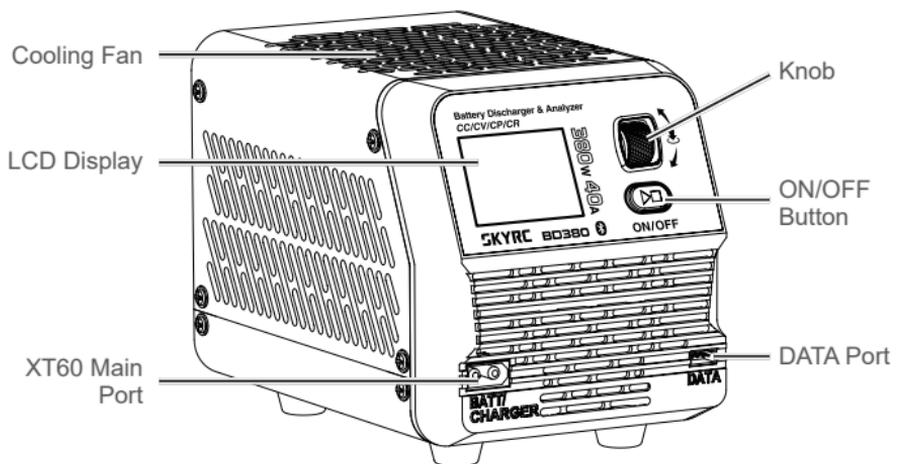
Battery Discharger & Analyzer

SK-600153 V1.0

SKYRC

Thank you for choosing SkyRC BD380 Battery Discharger & Analyzer. BD380 is a powerful discharging device that allows the user to discharge a battery at up to 40 amps or 380 watts and also measures and compares the battery performance. BD380 allows for the precise measurement of battery capacity and takes the guesswork out of choosing the best battery for your application.

BD380 is much more than a simple battery discharger or a battery load tester. It will test virtually any type or size of battery, any chemistry or number of cells, up to 30 volts.

BD380 is ruggedly built and uses XT60 connector for battery connection. It is small with a high-performance cooling system. The display indicates battery voltage, discharged capacity and dicharge current.
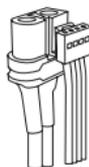
Cooling Fan

Knob

LCD Display

ON/OFF Button

XT60 Main Port

DATA Port

Type-C Port

WHAT'S INSIDE THE BOX

BD380 Discharger*1   Instruction Manual*1   Cable*1

FEATURES

- It displays real-time battery voltage, discharged capacity, and discharge current.
- It can test battery capacity that helps select batteries with the desired capacity.
- It saves time when users wish to store their large-capacity batteries.
- It helps activate the best performance of your batteries for competition.
- It supports Android & iOS free of charge for download.
- It detects the quality of the DC-stabilized power supply.

SAFETY NOTE

- Improper usage may lead to fire, property damage, and physical injury.
- Never discharge a battery below its recommended cutoff voltage. Over-discharge may damage the battery and cause FIRE or EXPLOSION.
- Never discharge a battery at a higher discharge rate than it is designed for.
- Never leave the discharger unattended when it is connected to the battery. If any malfunction is found, TERMINATE THE PROCESS AT ONCE.
- Place the discharger and battery on a non-flammable surface, and keep away from inflammables.
- Never discharge swollen, leaky, or damaged batteries.
- Batteries shall be discharged within a room temperature range of 10-40°C.
- Disconnect the battery and discharger once discharging has finished.
- Recharge batteries immediately with an appropriate battery charger after the discharge process is completed.
- Some battery types do not like to remain discharged for extended periods.

SPECIFICATION

| Item	Option	Description
Operating Voltage	DC	3.0V-30.0V
Discharge Voltage Range	When connected to external power supply	3.0V-30.0V
	Main port only	5.9V-30.0V
Error Thresholds	Low voltage	Less than 3.0V
	High voltage	Higher than 30.5V
Discharge Power		Max. 380W
Discharge Current		0.3A-40.0A
Connector Interface		XT60
Operating Modes	CC Constant Current	0.3-40.0A
	CR Constant Resistance	1-100Ω
	CP Constant Power	1-380W
	CV Constant Voltage *Note: Do not connect the battery in this mode*	Maximum power is 180W. Note: Set the maximum current allowed for the current input voltage.
Cooling		Heatsink & Fan
Overtemperature Protection		Supported
Communication	Bluetooth	Supported
APP	iOS/Android	Supported
Language		Chinese/Japanese/German/English/French/Spanish Default: English
Working Environment	Temperature	0°C~40°C
	Humidity	5%~75%
Stortage Environment	Temperature	-10°C~70°C
	Humidit	5%~75%
Size	L*W*H	159.69*121.6*110 mm
Weight		Approximately 1100g

MAXIMUM DISCHARGE POWER CHART

Battery Type	No. of Cell	Min. Cut-off Voltage	Voltage	Min. Discharge Current (A) Discharging power: 350W	Max. Discharge Current (A) Discharging power: 350W
LiPo	2S	6.0	8.40	40.00	40.00
	3S	9.0	12.60	27.77	38.88
	4S	12.0	16.80	20.83	29.16
	5S	15.0	21.00	16.66	23.33
	6S	18.0	25.20	13.88	19.44
	7S	21.0	29.40	11.90	16.66
	8S	24.0	33.60	10.41	14.58
LiHV	2S	6.2	8.70	40.00	40.00
	3S	9.3	13.05	26.81	37.63
	4S	12.4	17.40	20.11	28.22
	5S	15.5	21.75	16.09	22.58
	6S	18.6	26.10	13.40	18.81
	7S	21.7	30.45	11.49	16.12
	8S	24.8	34.80	10.05	14.11
NiMH	6S	5.4	9.00	38.88	40.00
	7S	6.3	10.50	33.33	40.00
	8S	7.2	12.00	29.16	40.00
	9S	8.1	13.50	25.92	40.00
	10S	9.0	15.00	23.33	38.88
	11S	9.9	16.50	21.21	35.35
	12S	10.8	18.00	19.44	32.40
	13S	11.7	19.50	17.94	29.91
	14S	12.6	21.00	16.66	27.77
	15S	13.5	22.50	15.55	25.92
	16S	14.4	24.00	14.58	24.30
	17S	15.3	25.50	13.72	22.87
	18S	16.2	27.00	12.96	21.60
	19S	17.1	28.50	12.28	20.46
	20S	18.0	30.00	11.66	19.44

OPERATING MODES

BD380 has four operating modes, and each operating mode has distinct use cases.

Constant Current (CC) Mode

In this mode, the BD380 maintains a constant current output regardless of changes in resistance or voltage. This mode emphasizes the constant current flow for predictable energy depletion, ideal for precise capacity testing and battery health assessment.

CC Discharge Curve
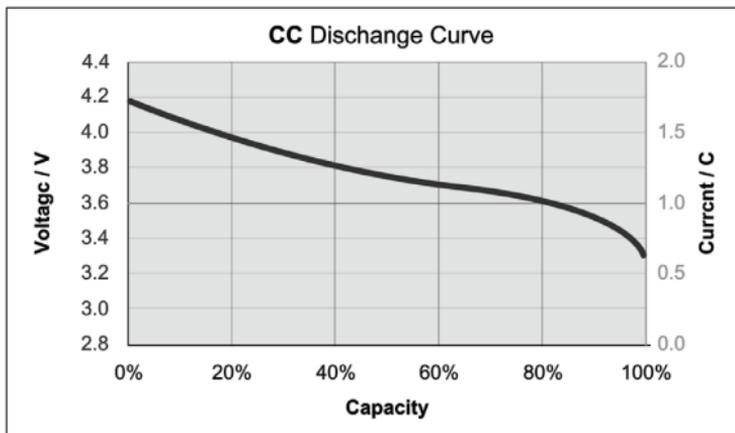
Constant Resistance (CR) Mode

In CR mode, the BD380 maintains a constant resistance load, simulating devices with fixed resistance characteristics. This mode is useful for capturing the simulation of a constant resistive load, offering a realistic scenario for evaluating energy storage under consistent conditions.

### CR Discharge Curve
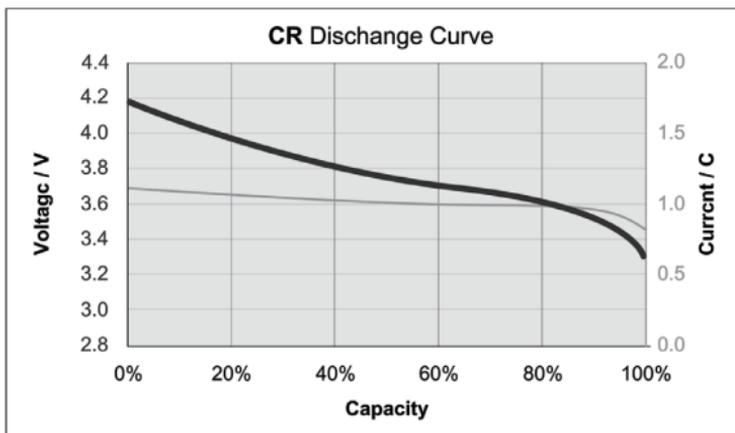
Constant Power (CP) Mode

CP mode allows the BD380 to deliver a constant power output irrespective of variations in voltage or current. It is beneficial for reflecting the ability to maintain constant power output, adapting to the needs of diverse applications requiring steady power delivery.

CP Discharge Curve
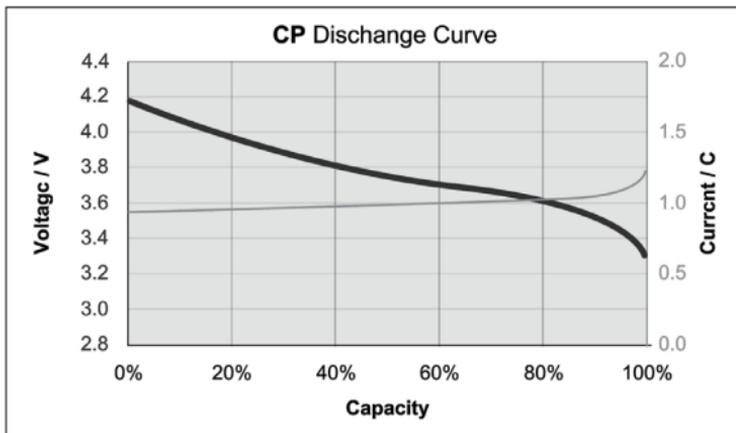
Constant Voltage (CV) Mode.

In CV mode, the BD380 provides a stable voltage output despite changes in current or resistance. This mode is commonly used to highlight the maintenance of a constant voltage level, ensuring devices operate within their optimal range while adapting current flow.

Never connect a battery in CV mode.

CV Discharge Curve
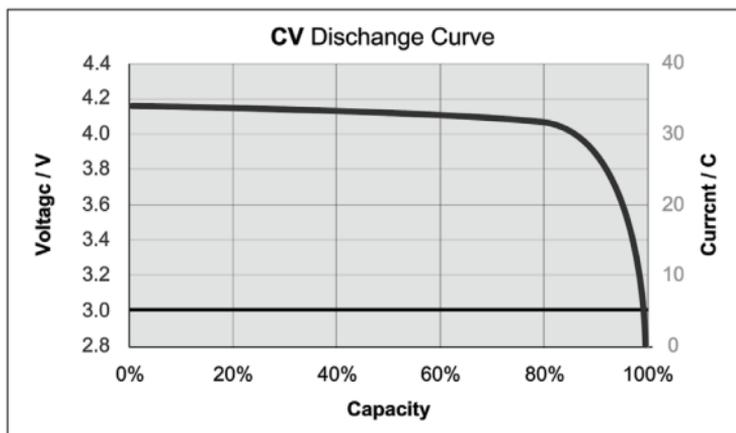
OPERATION

1. Connect the battery to the BD380. Once connected, the BD380 will power on and start up.
2. Choose one of the four operating modes you need.
3. Setting parameters such as discharge time and cutoff voltage for discharging via the knob. Depending on the selected mode, parameters such as current, resistance, voltage, and power also need to be set.
4. Once the settings are completed, press and hold the start button to begin the discharging process.

During the discharging process, you can rotate the knob to monitor the capacity and power of the discharge. At the same time, you can also observe the changes in the internal temperature.

If it is necessary to stop the current discharging process, press and hold the start button to abort the ongoing discharge.

CHARGE MASTER

BD380 can work in conjunction with SKYRC's T1000 and D200neo chargers. When working together, they support computer connection and control.
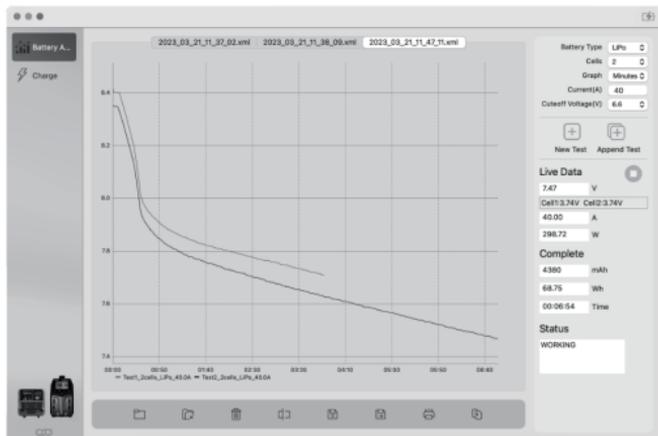
The CHARGE MASTER software is a prerequisite for establishing this connection and control.

Please visit our official website and click to download the CHARGE MASTER software.

No more guesswork anymore when choosing the best battery for RC racing!

Watch Video

APP CONTROL

BD380 is equipped with a built-in Bluetooth module, allowing it to be connected and controlled using a mobile phone.

You can easily achieve this by downloading the app "SkyCharger", which is available for free on Google Play and the App Store.

SkyCharger

GET IT ON Google Play

Download on the App Store

SETTING

Long press the scroll wheel to enter the settings.

Item	Option	Description
Volume	Off/Low/Middle/High	Turn off the key tone or adjust the key tone volume
LCD Backlight	Low/Middle/High	Adjust the display backlight brightness
Power Limit	100W-380W	Limit the output power of the discharger
Language	English/ 中文 /Japanese/ Deutsch/French/Spanish	Select the menu language that suits you
Factory Reset	Yes/No	Choose whether to restore factory settings
System Info		View system information
System Upgrade	Yes/No	Choose whether to upgrade the system

Warranty and Service

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 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.

Warranty and Service

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