

29-0070 Smart Multi-Charger

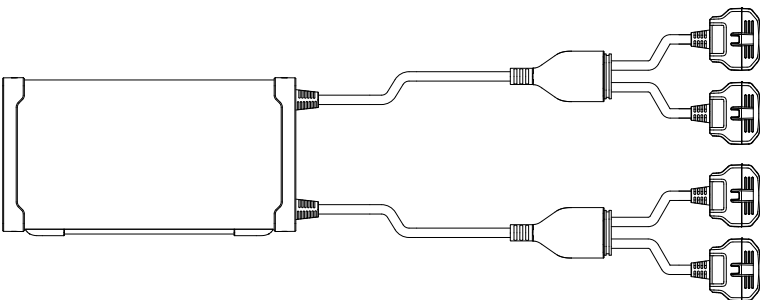
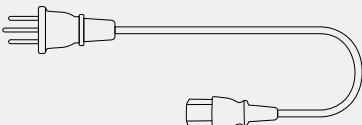
User Manual

The 29-0070 Smart Multi-Charger is a lithium battery charger with a **2-channel 4-port** output configuration. It is specially designed as a dedicated charging device for the power batteries of **MDH** multirotor unmanned aerial vehicles (UAVs). It provides the following features:

- It can support charging of up to four power batteries, greatly improving the charging efficiency.
- It is compatible with power batteries of various capacity specifications for MDH multirotor UAVs, enhancing the operational flexibility.
- It has a built-in output overvoltage protection mechanism, which automatically disables the output when the output voltage exceeds 30 V. It is also equipped with an output overcurrent protection mechanism that triggers protection when the current exceeds 27 A, providing all-around protection for battery safety.

Packing List

Check that all the following items are included in the package:

No.	Item	Quantity	Diagram
1	Smart Multi-Charger	1	
2	AC power cord	1	

Port Introduction

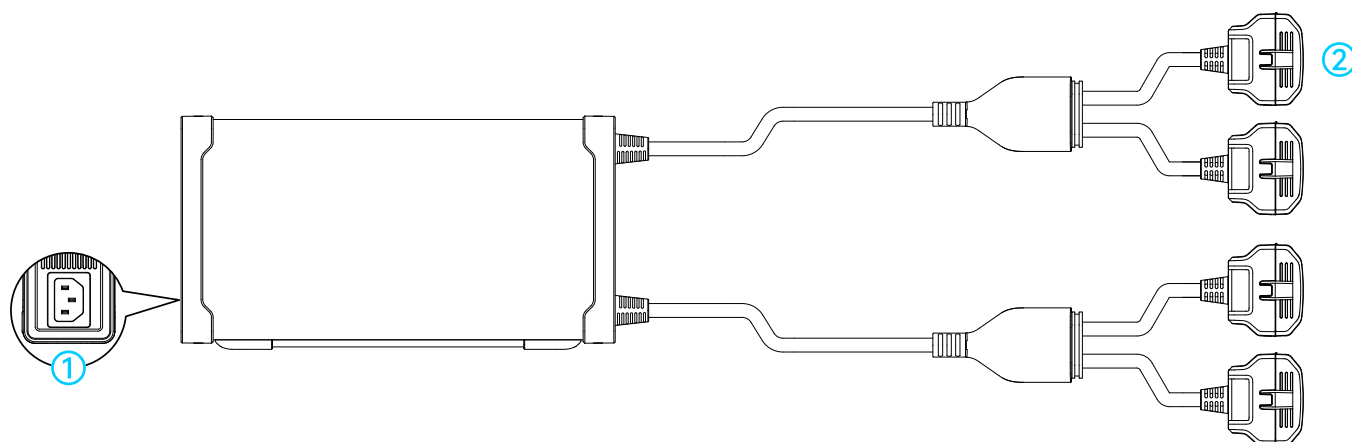


Figure 1. Input/Output ports

No.	Port	Description
1	AC input port	Connect the AC power cord to the Smart Multi-Charger via the AC input port, and then plug the charger into an AC mains outlet.
2	DC output port	Four output ports are provided. Remove the protective covers from the output ports and connect the batteries to be charged to the ports.

Supported Batteries

This charger supports fast charging only for the power batteries of MDH multirotor UAVs. The supported battery models and specifications are as follows:

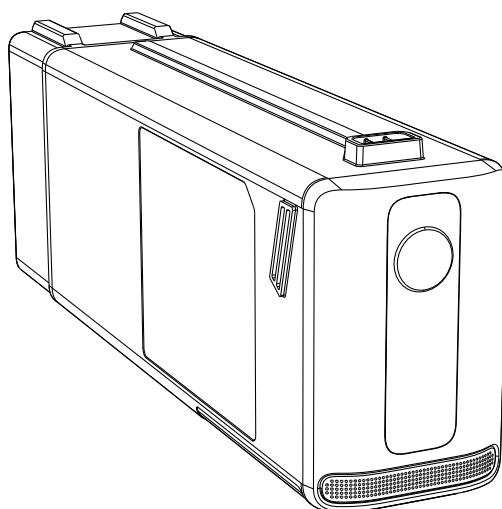


Figure 2. Appearance of supported batteries

Model	Rated Capacity	Rated Energy	Nominal Voltage	Max. Charging Voltage
MDH_10000_23700	10000 mAh	237 Wh	23.7 V DC	26.7 V DC
ABH62	12000 mAh	259 Wh	21.6 V DC	25.2 V DC

Battery Connection

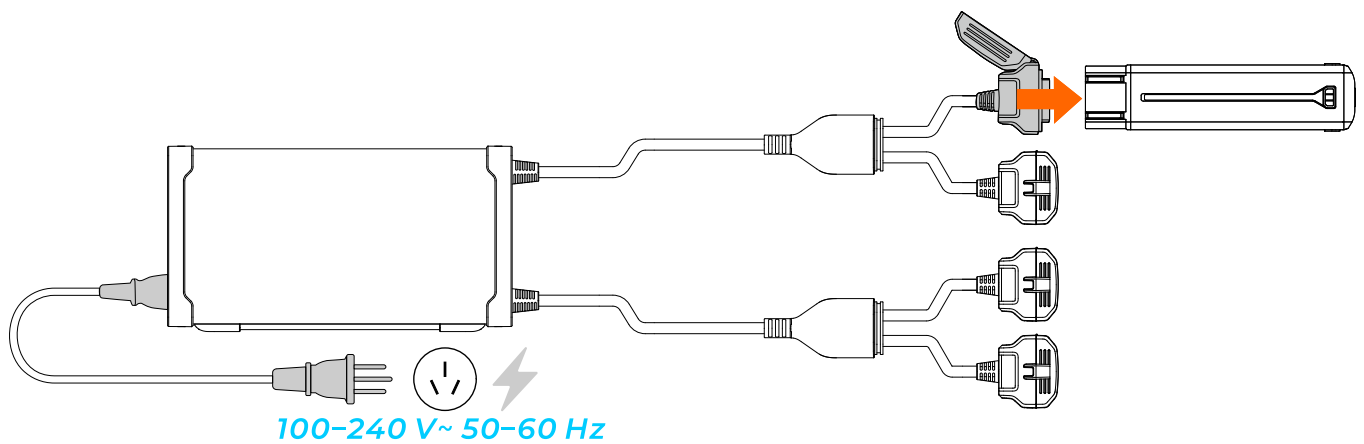


Figure 3. Schematic diagram of battery connection

TIP:

- The charger supports charging up to four power batteries.
- When the charger is used at an altitude exceeding 5000 meters, its output performance may be compromised.
- Always plug the charger's power cord into a properly grounded outlet when in use.
- The charger output must be used only to power devices that do not have an antenna terminal.

IMPORTANT:

- Before using the charger, place it horizontally with the label facing down.

WARNING:

- Do not modify the charger.
- Do not charge power batteries that are smoking, swollen, leaking, or visibly damaged.
- Do not use a damaged charger to charge power batteries.
- Do not use this charger to charge battery models not specified in this manual.
- During charging, place the charger and power batteries on a flat, stable, insulated, and fireproof surface, away from flammable and explosive materials.
- Do not touch the metal terminals with your hands or any other objects. If the terminals are dirty, clean them with a dry, soft cloth.
- After charging is complete, promptly disconnect the charger from the batteries and unplug it from the power source.

Charging Strategies

When multiple power batteries are connected to the charger, if one of the batteries being charged encounters a fault, upon receiving the fault information, the charger immediately

disconnects the charging branch of that battery. The charger proceeds to charge the next pending battery according to the defined charging strategies. The specific strategies are as follows:

- **Charging strategy for batteries of the same model:** When multiple power batteries of the same model are connected, the charger can charge up to two batteries at the same time. It first charges the battery with the lowest charge level. After the charge level of this battery reaches that of the next pending battery, the charger charges both batteries simultaneously until they are fully charged. Following this logic, it sequentially handles the remaining pending batteries.
- **Charging strategy for batteries of different models:** When multiple power batteries of different models are connected, the charger first charges the battery with the highest charge level until it is fully charged, and then proceeds to charge the next battery with the highest charge level among the remaining batteries, until all the batteries are charged. If multiple batteries have similar initial charge levels, the charger defines a custom charging sequence.

Specifications

Item	Description
Model	29-0070
Charger dimensions	250.5 mm × 134.7 mm × 53.5 mm Note: The dimensions are measured with the AC power cord and DC output cables disconnected.
Input	100–240 V~ 50/60 Hz, 8.8 A Max
Output voltage	15–27 V DC
Output current	0–24 A 24 A (total), 12 A max/channel
Total output power	650 W
Output port	4
Operating environment	0–+25°C, 10%–90% RH
Storage conditions	-20°C–+70°C, 5%–95% RH
Charging time	1 battery: 90 min 2 batteries: 120 min 3 batteries: 150 min 4 batteries: 180 min Note: The above charging time is for reference only. The actual charging time may vary due to differences in ambient temperatures, remaining battery levels, and battery models.