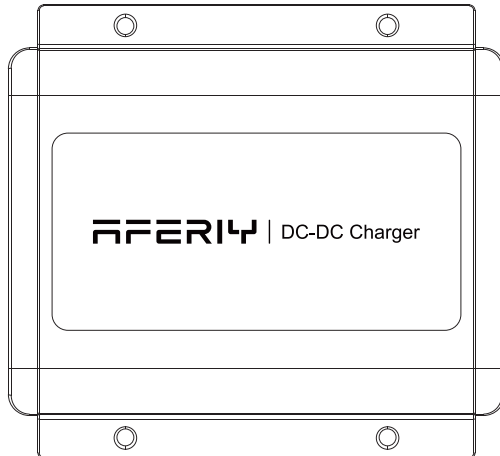




DC-DC Charger

AF-DC060 | User Manual

580W



This user manual contains important safety information, installation guidelines and operating instructions for DC-DC chargers. Do not activate this device until you have read and fully understood the contents of this manual and completed the installation according to the instructions. It is recommended that a qualified professional perform the installation operation. This user manual contains key information of the product and precautions for use. Please keep it properly for future reference.

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Main functions

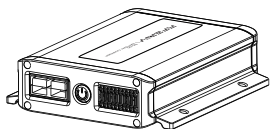
Designed to charge portable energy storage products during driving, it can convert the 12V/24V voltage of the RV battery into the voltage required to charge portable energy storage products.

Intelligent protection function: overvoltage protection, battery temperature protection, overcurrent protection, overheating protection, reverse current protection, reverse connection protection.

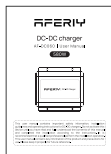
Technical parameters

Charging input voltage range	12~33V
Charging input current	45Amax
Charging under-voltage protection	12V
Charging under-voltage recovery	12.5V
Charging over-voltage protection	35V
Charging over-voltage recovery	31V
Rated output power	500W
Max. output power	580W
Output no-load voltage	47-49V
Output current	15Amax
Charging conversion efficiency	92%
Input reverse polarity protection	Support
Output short-circuit protection	Support
Operating ambient temperature	-20-50°C
Standby power consumption	<0.5W
Product dimensions	176*161*44.7mm
Product weight	0.95kg

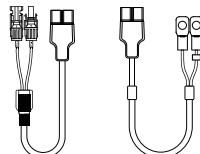
Packing list



DC-DC charger



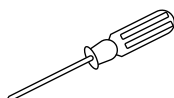
User Manual



Anderson to MC4 adapter ×1
Anderson to
O-type terminal adapter ×1



Fixing screw × 6



Screwdriver × 1

Connection for use

• Precautions for placement

1. The charger must be installed in a moisture-proof area, and it is strictly forbidden to install it in an environment containing explosive substances.
2. Do not install the charger in an environment with a lot of dust.
3. The installation location should be well ventilated. To ensure optimal performance of the DC-DC charger, good air circulation should be maintained.
4. The minimum gap around the charger is not less than 5 cm.
5. The equipment must be installed on a flat and solid surface above the ground.
6. When choosing the location of the DC-DC charger, make sure that the device is as close as possible to the energy storage product (auxiliary battery) you need to charge.
7. The charger can be installed in the vehicle's cab, along the chassis track, behind the vehicle's interior shield, grille or headlights, or on the side of the radiator. But you want to make sure that the area is not susceptible to moisture or other substances and potential heat.

The manufacturer shall not be liable for any damages if:

- ✧ Resulting from an installation or connection error.
- ✧ Product insulation damage due to mechanical impact or overvoltage; unauthorized modifications made without the express authorization of the manufacturer.
- ✧ The product is used for purposes not described in the user manual.

For safety protection, when using electrical equipment, you should pay close attention to the following basic safety information:

1. In the case of fire, please use a fire extinguisher intended for electrical equipment.
2. Use the product only as intended.
3. Ensure that all connections between this product and external equipment are strong and reliable.
4. Please disconnect the product from the battery before cleaning, maintaining or replacing the fuse (operated by qualified professionals only).
5. Prevent water from entering this product (all cables need to be disconnected).
6. If you find that the product body or connecting cable is obviously damaged, please do not use this product.
7. Only qualified personnel are allowed to carry out maintenance; it is strictly forbidden to disassemble or attempt to repair the equipment by oneself, as improper repair may lead to serious hazards.
8. This product is an electronic device, not a toy. Please store it properly and away from the reach of children.
9. Children must be supervised to ensure that they do not take this product as a toy.

• Attentions

1. Before starting, please ensure that the voltage specifications on the product nameplate match the power supply used.
2. Make sure that there are no other objects which may cause short circuits at the product contact points, and store the product in a dry, cool place.

Safety precautions for electrical connections (to prevent the risk of fatal electric shock)

• Charger safe use

Do not connect the RV power to the charger without properly connecting the wiring. Energy storage products must be connected first, so as to ensure that the input voltage of the on-board generator does not exceed 33V DC; otherwise, permanent damage may occur.

• Explosion risk!

Do not attempt to charge an icy or faulty energy storage product.

In this case, please place the energy storage device in a frost-free environment and allow it to return to normal temperature before charging.

- ※ Only rechargeable batteries are used.
- ※ Make sure to use cables with sufficient wire diameter.
- ※ Protect the positive catheter with a fuse.
- ※ Prevent any metal parts from falling onto the battery, which may cause sparks or short circuits to the battery and other electrical components.
- ※ Please pay close attention to the polarity in connection.
- ※ Follow the relevant instructions of the battery manufacturer and the battery system/vehicle manufacturer.
- ※ If you need to disassemble the battery, please first disconnect the ground connection and ensure that all battery terminals are disconnected before dismantling.

Voltage/Mode descriptions

The input voltage is 12V-33V and the standby voltage is 11.8V-12V.

• Low power mode:

12V electrical system: $12\text{V} < \text{input voltage} \leq 12.5\text{V}$;

24V electrical system: $24\text{V} < \text{input voltage} \leq 24.5\text{V}$;

Max. output power: 300W.

• Rated output mode:

12V electrical system: $\text{input voltage} > 12.5\text{V}$;

24V electrical system: $\text{input voltage} > 24.5\text{V}$;

Rated output power: 580W.

Troubleshooting

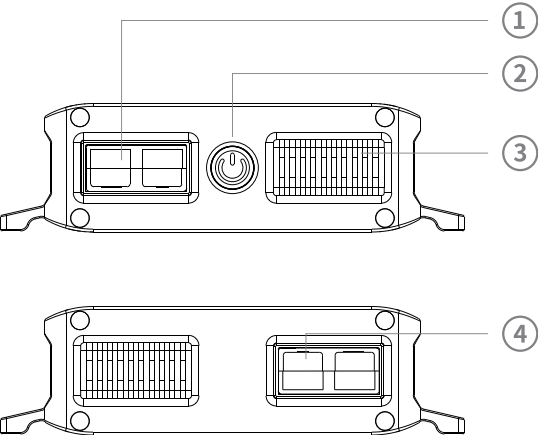
1. In the case of charging under-voltage, the output will be automatically turned off, and the indicator will flash red every 1 S, and the buzzer prompt will appear, and the charging will resume once the voltage comes back to normal.
2. In the case of charging over-voltage, the output will be automatically turned off, and the indicator will flash red every 1 S, and the buzzer prompt will appear, and the charging will resume once the voltage comes back to normal.
3. When the output is overcurrent, the output will be automatically turned off, and the indicator will flash red three times continuously every 0.5 S, and the buzzer prompt will appear; after the fault elimination, press the switch button to recover.
4. When the output is short-circuited, the output will be automatically turned off, and the indicator will flash red three times continuously every 0.5 S, and the buzzer prompt will appear; after the fault elimination, press the switch button to recover.
5. When the temperature exceeds 45°C, the output power of the product is halved, and the indicator will flash green three times continuously; when the temperature reaches above 50°C, the output is automatically turned off, the indicator turns red and always on, and the buzzer prompts.
6. When the temperature goes below -30°C, the output will be automatically turned off, the indicator turns red and always on, and the buzzer prompts.

Notes:

1. When powered on, if no output is connected within 10 minutes, the product automatically shuts down to save energy. Manual switch operation is required to restart.
2. After the vehicle is turned off, the product does not shut down immediately. It enters standby mode when the battery voltage drops to 12V.
3. With input/output connected, if the vehicle engine is not detected within 30 seconds after startup, the product flashes a green alert light for 5 minutes before entering sleep mode.
4. With input/output connected, the product will not activate automatically upon engine start unless manually switched on.

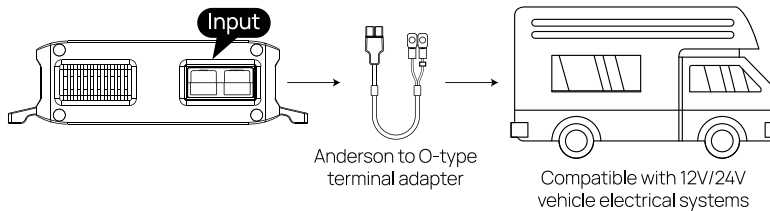
If you have any questions, please feel free to contact us.
Email address: support@afery.com.
Sincerely.

Product display



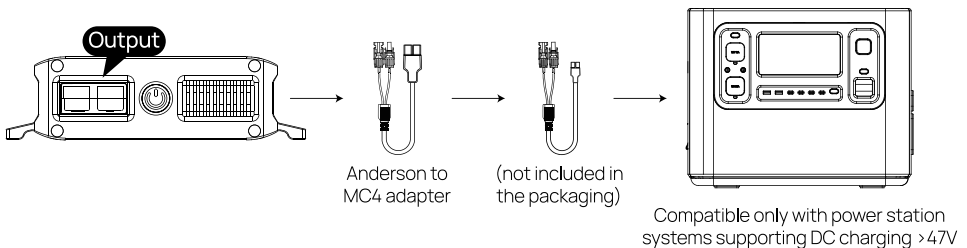
SN	Name	Function
①	Anderson output port	Connect to and charge the load
②	Switch button	Control product ON/OFF
③	Fan	Product heat dissipation
④	Anderson input port	Connect power equipment

Connect automobile generator



1. Please ensure the proper polarity before connecting and avoid reverse connection;
2. The input voltage shall not exceed 33VDC;
3. Do not connect to high-voltage equipment.
4. Match each Anderson connector with the corresponding color terminal: red to red, gray to gray.
5. The red ring terminal connects to the positive pole, and the black ring terminal connects to the negative pole.

Connect portable energy storage products



1. Ensure that the output terminal is firmly connected to the energy storage device;
2. Ensure that the energy storage product supports the selected output voltage;
3. Please disconnect the load equipment (such as electrical appliances) before the output connection;
4. Do not connect to incompatible batteries or load devices.

Warranty Card

Warranty Card	
Model	
Name	
Address	
Tel	
Mail	
Name of the store	
Buying date	
What is the product failure	
Please fill in all the above items.	

This product provides a 24-month warranty service from the date of purchase

- If there is a quality problem within the range of normal use, we provide warranty service.
- After purchasing our company's products, please keep this product together with invoices and other items. When maintenance services are needed, please provide information according to our company's request.
- In the case where the warranty is damaged or altered, and no stamp of the sales store on the warranty, the warranty service may not be provided.
- Damage caused by use beyond the normal range of use is not covered by the warranty service.
- The content of the warranty scope shall be subject to the content recognized by the company.
- Even within the scope of the warranty, sometimes it will be exchanged for products with the same function. The shipping and repair fees for products outside the warranty range shall be paid by the customer.
- Sometimes the specifications and functions of the product will be updated without prior notice.