

DC-DC Converter 96V-12V 500W User Manual



2023.12 Version 1.0

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1 THANK YOU ---

Thank you for purchasing a product from ePropulsion, world leaders in cleaner, safer and more reliable electric marine propulsion systems. We are sure you'll be pleased with your new motor and welcome your feedback at www.epropulsion.com.

2 Product Introduction ---

2.1 Product Description

This product is an isolated DC-DC converter with advanced high-frequency conversion technology. It is designed to convert the voltage from high voltage batteries to a 12V voltage, supplying power to 12V device. It features a compact size, high efficiency, and stable output. The DC-DC converter provides complete electrical isolation between input and output for safety. The output voltage can directly charge a 12V battery or power 12V electrical devices. This product operates in a non-communication mode, providing power to the 12V system upon connection to the high voltage battery.

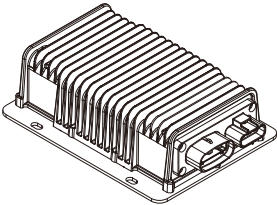
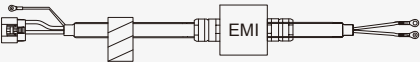
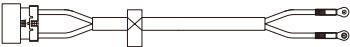
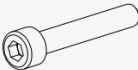




2.2 Specifications

Rated Input Voltage	75 V - 120 Vdc
Rated Output Voltage	13.8 Vdc
Maximum Output Power	500 W
Storage Temperature	-30~+70 °C
Operating Temperature	-20~+60 °C
Net Weight	1200g
Dimensions	204*154*64 mm
Protection Level	IP67

2.3 Protection Functions

Protection Function	Description
Input Under-voltage Protection	In the case of the high voltage battery voltage dropping below a critical level, the output will be automatically suspended to prevent over-discharge.
Output Short-circuit Protection	In the case of a short circuit in the 12V system, the protection mechanism enters a hiccup mode, temporarily interrupting the output. Once the short circuit is resolved, the voltage is automatically restored, ensuring the safety of the boat's cables.
Output Current Limit Protection	When the load on the 12V output exceeds a safe threshold, the converter automatically limits the output current, preventing it from further increase. This feature ensures the safety of the boat's cables by avoiding over-current.
Output Over-temperature Protection	In the case of the 12V output load overheating, the converter automatically attenuates the output power. Rather than an immediate shutdown, this gradual reduction in power ensures the continuity of power supply to the boat's 12V power system, maintaining uninterrupted electrical support.

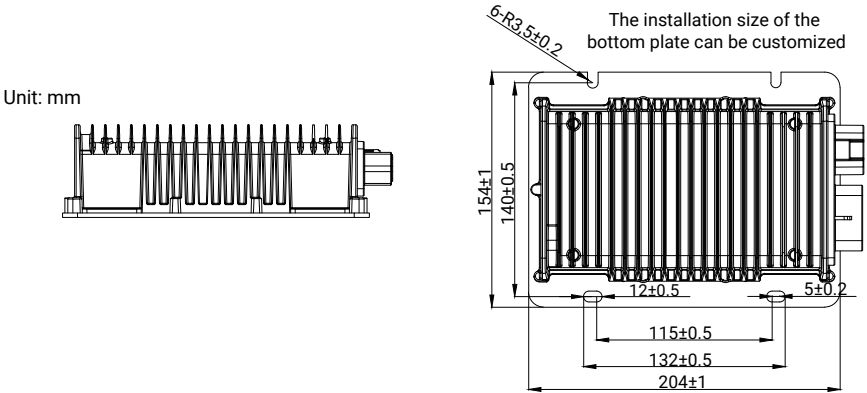
3 In the Package

Item	Qty.	Figure
DC-DC Converter	1	
Input Connection Cable	1	
Output Connection Cable	1	
Screws	4	
Self-tapping Screws	2	
Washers	4	
Nuts	4	
User Manual	1	

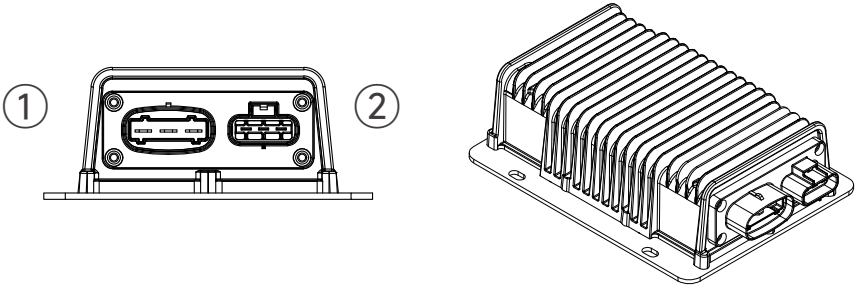
4 Connections and Installation Diagram

4.1 Dimensions

When opening the packages, please check contents against the list above. If anything is missing or damaged, please contact your dealer.



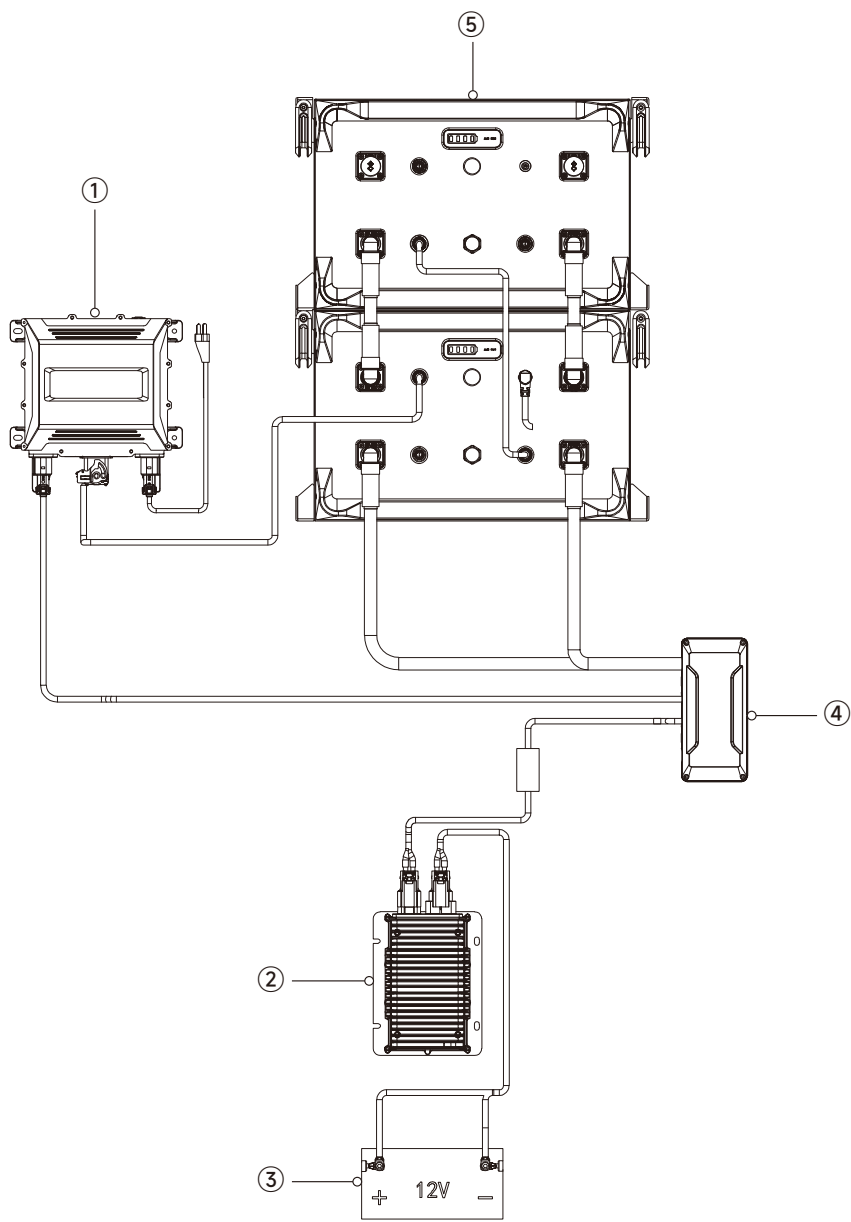
4.2 Interface



- ① 12V power system output interface, connected to the 12V battery and 12V devices.
- ② Battery input interface, connected to the high voltage battery.

💡 The terminals of the input and output cables in the interface are red for positive and black for negative.

4.3 Connection



- ① Battery charger
- ② DC-DC converter
- ③ 12V battery
- ④ Battery output bus box
- ⑤ High voltage battery

5 Notices

1. This product does not support hot-swapping with electrical power. Please mount and connect with the high voltage battery turned off.
2. The DC-DC converter 96V-12V 500W has a maximum output power of 500W. Please ensure compatibility with an appropriate capacity lead-acid battery.
3. Use the DC-DC converter 96V-12V 500W in a dry, clean environment to ensure the stability and safety of the equipment.
4. Before each use, inspect the appearance and power connections of the DC-DC converter 96V-12V 500W. Ensure that the cable connections are stable and reliable. In case of any damage or abnormality, stop using it immediately and contact maintenance personnel.
5. Opening the charger casing without the manufacturer's prior written consent will void the warranty immediately.

6 Limited Warranty

Guangdong ePropulsion Technology Co., Ltd. ("ePropulsion"), China, warrants its products to be free of defects in material and workmanship under normal usage with proper installation and routine maintenance for a period of twenty-four (24) months from the date of delivery of invoice (the "Limited Warranty Period"). The Limited Warranty is provided to the first end customer of ePropulsion products ONLY. The Customer is entitled to free repair or replacement of defective or non-conforming parts. Any warranty claim must be made within six (6) months of discovery of issues as provided below.

If the Limited Warranty Period has expired, you can still enjoy maintenance services from dealers/distributors authorized by ePropulsion (the "ePropulsion Service Partners") who will endeavour to keep costs to a minimum.

In all warranty cases, ePropulsion will only bear the repair or replacement cost for items that are covered by the Limited Warranty. Any costs not covered by the Limited Warranty – such as those related to product installation, disassembly, transportation, financing, rental, etc – shall be borne by the customer alone.

Beyond the Limited Warranty, the Customer may have statutory rights in their jurisdiction according to applicable laws. Nothing in this Limited Warranty affects such rights. The Customer may have warranty claim rights arising from the purchase contract with ePropulsion Service Partners in addition to the rights granted by this Limited Warranty.

Products used for commercial or professional purposes*, even if only temporarily, are not covered by the Limited Warranty. Instead, the statutory warranty in your jurisdiction shall apply. You are encouraged to consult with ePropulsion Service Partners for applicable warranty and advice before engaging in such use.

*** Commercial/Professional Purposes include those where the product is used with the intention of making profit, or high frequency, or very high reliability requirements, etc .**

To keep your warranty valid, please note the following:



Products without the original product label will not be covered by ePropulsion's Limited Warranty. Keep the product label intact and record the serial number from it. Never remove the label from the product;



The Limited Warranty is not transferable and will not be reissued;



The Limited Warranty may change from time to time. Please visit our website (<http://www.epropulsion.com>) for the latest version.

Capacity guarantee for high-voltage batteries

A guarantee of the capacity of the high-voltage batteries, in addition to the standard guarantee. Depending on the long-term average temperature and the usage profile, this guarantee runs for a longer life.

Comment on average temperature:

The average temperature is calculated using the Arrhenius equation; this means that higher temperatures are given a greater weighting.

6.1 Warranty Exclusions

ePropulsion may refuse a warranty claim if:

- The product is operated in contradiction to what is written in the user manual;
- Damage is caused by accident, misuse, dropping, improper care or storage, wilful abuse, physical damage, unauthorized repair;
- Water ingress is caused by external sources such as fishing nets, submersion, etc;
- Product has been modified, altered, dismantled, or had parts/accessories attached in any way not expressly permitted or recommended by ePropulsion;
- Due to failure of, or damage caused by, any 3rd party products;
- The high-voltage batteries have been repositioned in the boat, without contacting ePropulsion service. Repositioning may result in changes to cabling, and other risks to system operation;
- The battery has been incorrectly charged, overcharged, over-discharged, or operated in temp out of scope described in the user manual;
- Consumables (such as replacement propeller, anodes, oil/fluids...etc.);
- Purchases of products from unauthorized dealers or sellers;
- Normal wear and tear and routine servicing;
- Damage caused by improper packing or handling of the product during its return. The additional damage part will be deemed out of warranty;
- Incorrect shipping of lithium batteries. These are classed as a UN9 hazardous item, and must be shipped in accordance with regulations in your jurisdiction. Non-compliance may result in warranty exclusion.

6.2 Limited Warranty Claim Procedures

The process shown below must be followed in order to make a Limited Warranty claim:

1. Contact your nearest ePropulsion Service Partner with details of the problem. They will advise if such defects are covered by the Limited Warranty or any additional rights you may have from your purchase.
2. Send the defective product to them (or the Service Partner they advise) together with Proof of 1(st)-time (first time) Purchase (e.g., receipt, invoice, etc., with information of product purchased and date of purchase), the Confirmation of Online Warranty Registration, ex-factory Serial Number, etc. Note that all labels must be kept intact. Warranty claims will only be valid only when the information above is correct, genuine, and complete.
3. Make sure the product is properly packed during delivery, the original packaging is highly recommended.
4. The ePropulsion Service Partner will examine and diagnose the defective products to check the validity of the warranty claim.
5. If your warranty claim is accepted, the Product or its defective components/parts will be either repaired or replaced free of charge. Note that any delivery cost incurred in the process shall be borne by you.
6. If your warranty claim is rejected, a repair/replacement cost and fee with round trip delivery cost will be estimated and sent to you for confirmation. ePropulsion Service Partners will only begin the work after your written confirmation that you wish to proceed with the repair/replacement and will pay for it.

ePropulsion

(*In order to validate warranty, please fill in this form first and read the Warranty Policies.)

|| OWNER INFO. ||

Owner Name			
Address			
Phone		Email	

|| DEALER INFO. ||

Store Name			
Address			
Phone		Email	

|| PRODUCT INFO. ||

Date of Purchase (mm/dd/yyyy)	
Serial No.	

Thanks for reading this user manual.

If you have any concerns or find any problems while reading, please don't hesitate to contact us. We are delighted to offer service for you.

Guangdong ePropulsion Technology Limited

Webseite: www.epropulsion.com

E-Mail: service@epropulsion.com