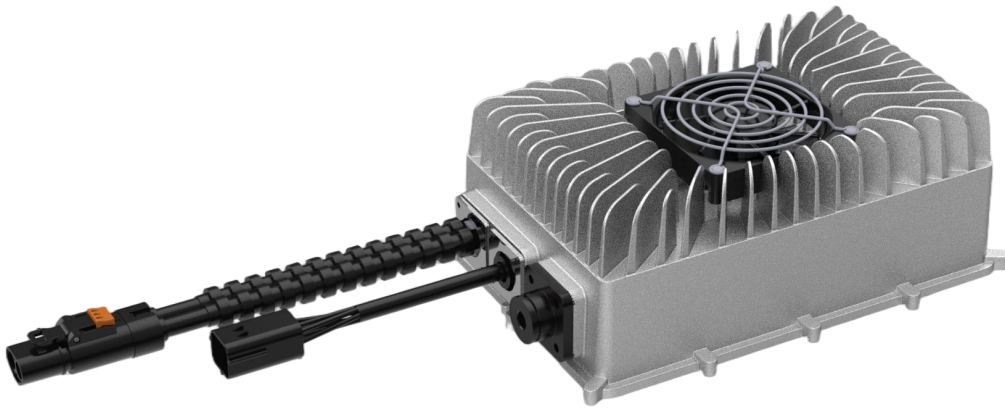


DC02G Product Manual

1000W Isolated DC Converter



Anhui Inone New Energy Technology Co.,Ltd

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1. Installation Guidelines

1.1 Unpacking Inspection

Open the box and check whether the packing list is consistent with the specifications and quantities of the actual items. Please also inspect the hardware modules, wiring harnesses, accessories, etc. for any damage, rust, or detachment. Handle the box and the equipment with care during unpacking and moving to avoid damage. Check if there is any water ingress in the package, If so, do not install it.

1.2 Safety Check

Please read the safety tips in the user manual carefully. The operation should be carried out by qualified electrical engineers. Non-professional operation may cause accidents. Prepare the tools and installation environment as required to ensure compliance with the operation.

1.3 Environmental Check

Please carefully read the system's operating environment specifications.

If your application conditions do not match the specified environment, please contact customer support

1.4 Function Check

Please read the system overview carefully to understand the functions and interface definitions of the system's hardware modules, wiring harnesses, and accessories. Based on the product functions and installation space, follow the "install nearby" principle (keep the hardware modules and high-current interfaces as close as possible), determine the installation location, and then proceed with the product installation. The installation tightness must meet the vibration and shock requirements of the application.

1. Installation Guidelines

1.5 Wiring Harness Installation

Please follow the steps below to install the wiring harness.

- **Step1** Connect the 14V low-voltage output to the vehicle's low-voltage system and the DC-DC conversion system.
- **Step2** **Connect the battery pack's main positive and main negative terminals. Before connecting to the battery, be sure to verify that the polarity (main positive and main negative) is correct. Once confirmed, proceed to connect the battery via the designated connector.**

Note 1: When connecting all wiring harnesses, please ensure that the connector locking mechanisms are fully engaged to guarantee a secure and reliable connection.

Note 2: When connecting all wiring harnesses, pay close attention to the insulation condition of the connector terminals. Before inserting the cables, inspect the connectors for the presence of any conductive contaminants such as water, dust, or metal particles. After inspection, use insulating tape or other suitable insulating materials to protect the connectors until they are fully inserted into their corresponding interfaces.

Note 3: Before all system cables are fully connected, ensure that both high-voltage and low-voltage power supplies are disconnected.

1.6 Operation and Maintenance

During system operation, hot plugging is strictly prohibited to prevent accidents that could endanger equipment and personnel safety. Non-professional personnel must not disassemble the device enclosure to avoid system damage. Unauthorized modifications to the system are strictly forbidden, as they may lead to serious accidents.

2. Operating Environment

2.1 Scope of Application

The DC02G product is designed for low-voltage electrical systems and is used to supply power to the 12V low-voltage system of electric vehicles, with an output power of up to 1000W. It is suitable for mid-to-low voltage vehicles operating within the 32–98V range, including low-speed vehicles, utility carts, material handling vehicles, and micro trucks. The product is compatible with various types of power battery systems, including lead-acid batteries, lithium-ion batteries, and nickel-metal hydride batteries.

The DC02C adopts a highly flexible integrated design that balances the diverse requirements and cost considerations of mid-to-low voltage systems. It features a compact size, easy installation, and low failure rate. With reliable input and output interfaces, the product fully meets the DC conversion requirements of the entire vehicle.

2.2 Environmental Parameters

Table 1 DC02G Operating Environment

Item	Min.	Typ.	Max.	Unit	Remarks
Environmental Conditions					
Operating Temperature	-30	\	55	°C	\
Storage Temperature	-40	\	70	°C	\
Altitude	\	\	2000	m	\
Humidity	\	\	95	%RH	No condensation
Atmospheric Pressure	57	\	101	kPa	\
Salt Spray	\	\	48	h	\
Mechanical Strength					
Vibration (Amplitude/Accel.)	\	\	30	m/S ²	10–25 Hz: amplitude 1.2 mm. 26–500 Hz: max 30 m/s ²
Drop (Height)	\	\	1.5	m	
Shock (Acceleration)	\	\	150	m/S ²	Half-sine shock waveform
Dust Protection (IP Rating)	\	\	6	\	GB 4208
Water Protection (IP Rating)	\	\	6	\	GB 4208

3. Technical Specifications

3.1 Product Features

- ✓ High-efficiency onboard DC conversion.
- ✓ Fully digital power supply with both software and hardware protection.
- ✓ High efficiency and compact size, offering industry-leading power-to-volume density.
- ✓ IP66 protection rating with automotive-grade vibration and shock resistance.
- ✓ 100% functional testing and full-load burn-in testing before delivery.
- ✓ Comprehensive protection features (input overvoltage/undervoltage protection, output current limiting, overtemperature protection).

3.2 Technical Parameters

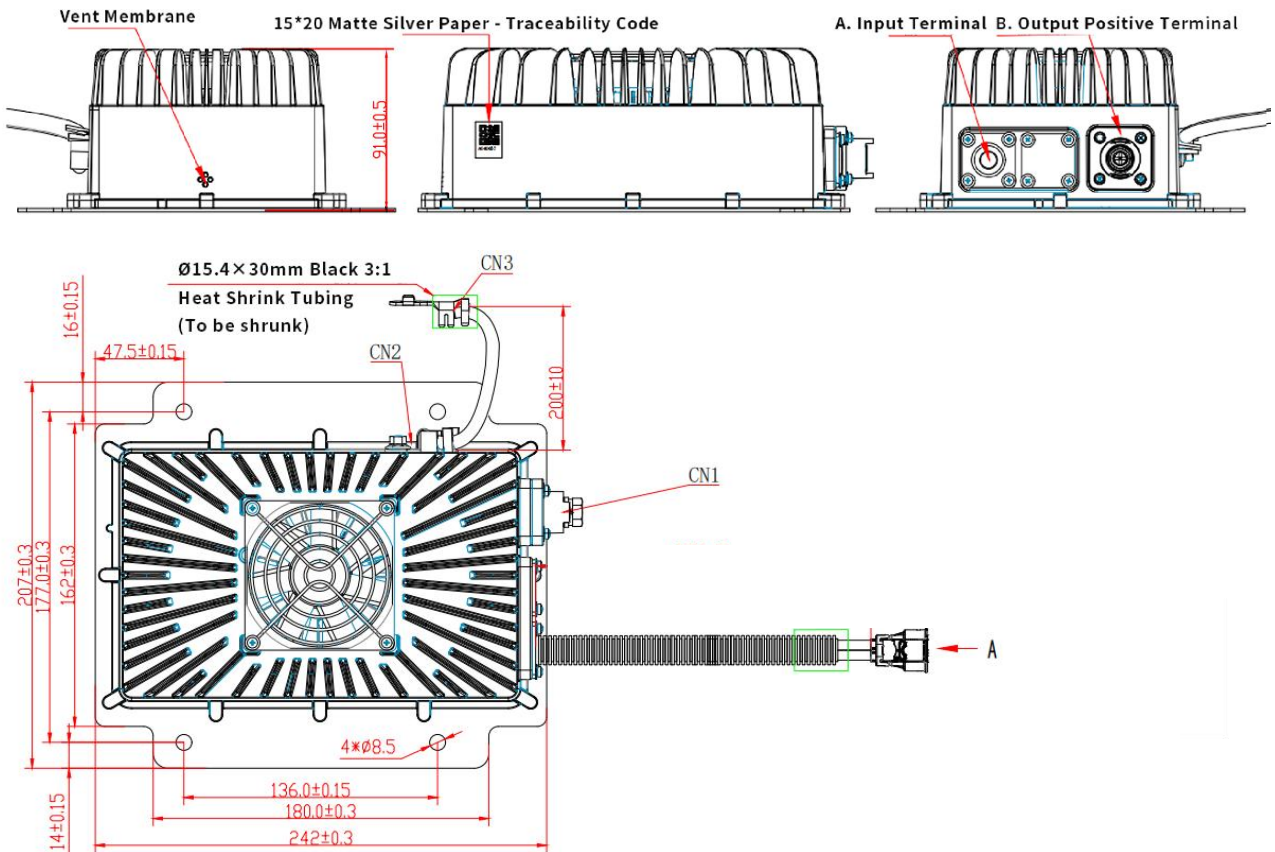
Table 2 DC02G Technical Specifications

Parameter		DC02G-CAN Enable	DC02C-Low Voltage Enable	DC02G-No Enable
Input	Input Voltage Range	DC35V~100V		
	Efficiency	≥85%		
	Reverse Polarity Protection	Yes		
	Overvoltage Protection	100V		
	Undervoltage Protection	32V		
	Compatible Battery Packs	48V/60V/72V/80V		
Output	Output Mode	Constant Voltage with Current Limiting		
	Output Current	72A		
	Constant Current Accuracy	± 1%		
	Constant Output Voltage	14V		
	Ripple Voltage Vp-p	300mV		
	Output Power	1000W		
	Overcurrent Protection	Constant current output of 72A. When the load exceeds 72A, the output voltage decreases		
	Enable Control Method	CAN enable (customized according to user requirements)		
Other	Dielectric Strength	Withstand Voltage:1000VAC≤10mA,3S, Insulation: ≥ 50MΩ @ 500VDC		
	Overtemperature Protection	Power limiting at 90°C, auto-recovery when cooled to 80°C		

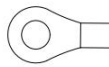
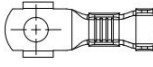
4. Installation Dimensions and Interface Definitions

4.1 Installation Dimensions

Overall dimensions and installation dimensions are as shown in the figure below.
The weight of the illustrated product is approximately 4.35 kg.



4.2 Interface Definitions

INPUT		OUTPUT	
Connector Model: ZM0015-P016B2-002A Terminal Model: M001-020  1. Battery + EV2.5mm² Red Wire 2. Battery - EV2.5mm² Black Wire View A		Output Positive Terminal (Red) NEC21-100-1011  RNB14-8  ST01215A-6-10 	
CN1 Constant Power Output Positive (Enclosure)		CN2 Constant Power Output Negative (Enclosure)	CN3 Constant Power Output Negative (Wiring Harness)



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