

## CRIDENG 5SJI1F7L8412RZGVX8J3

# CRIDENG 1200W 20A DC Boost Converter Power Module Instruction Manual

## 1. INTRODUCTION

This manual provides essential information for the safe and effective use of your CRIDENG 1200W 20A DC Boost Converter Power Module. This non-isolated boost module is designed to convert a lower DC input voltage to a higher DC output voltage, suitable for various applications requiring a stable and adjustable power supply. Please read these instructions carefully before installation and operation.

## 2. PRODUCT FEATURES

- **Durable Construction:** Made from robust materials to ensure strength and longevity.
- **Adjustable Output:** Each module allows individual current adjustment up to 15A, enabling customized power distribution.
- **Wide Temperature Range:** Operates effectively within a temperature range of -40 to +85 degrees Celsius. Adequate heat dissipation is required at higher ambient temperatures.
- **High Conversion Efficiency:** Achieves up to 95% conversion efficiency, which may vary based on input/output voltage, current, and differential pressure.
- **Comprehensive Protection:** Features over-current protection with adjustable output current limit and double short-circuit protection (input 20A fuse) for safe and reliable operation.

## 3. SPECIFICATIONS

Attribute	Value
Module Type	Non-isolated Boost Module (BOOST)
Input Voltage	10 - 60V DC (via jump cap switch)
Input Current	20A
Quiescent Current	15mA (at 12V to 20V, increases with higher output voltage)
Output Voltage	12 - 80V DC (continuously adjustable)

Attribute	Value
Output Current	20A MAX (strengthen heat dissipation if greater than 18A)
Constant Current Range	20A
Output Power	Input voltage × 20A (e.g., 12V × 20A = 240W, 60V × 20A = 1200W)
Installation	Four 3mm screws
Connection Type	Press-fit terminal output
Dimensions (L x W x H)	85mm x 63mm x 64mm
Working Temperature	-40 to +85 degrees Celsius
Working Frequency	150KHz
Conversion Efficiency	Up to 95%
Over-current Protection	Yes (with current reduction adjustment, output current automatically reduces to 5A if limit exceeded)
Short-circuit Protection	Yes (input 20A fuse, double protection)
Input Reverse Polarity Protection	No (connect a diode in series if required)
Output Counter Fill Protection	Yes (no blocking diode needed for charging)

## 4. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of the boost converter module.

### 4.1. Physical Installation

- **Mounting:** Secure the module using four 3mm screws through the designated mounting holes. Ensure it is mounted on a stable, non-conductive surface.
- **Heat Dissipation:** Ensure adequate ventilation around the module, especially if operating at higher currents or ambient temperatures. Strengthening heat dissipation may be necessary.

### 4.2. Electrical Connection

- **Input Voltage:** The default input voltage range is 10-60V DC. Connect your DC power source to the input terminals (VIN+ and VIN-).
- **Output Connection:** Connect your load device to the output terminals (VOUT+ and VOUT-) using the press-fit terminals.
- **Reverse Polarity:** The module does **not** have input reverse polarity protection. If this is a concern for your application, connect a diode in series with the input.

## 5. OPERATING INSTRUCTIONS

Follow these steps to adjust the output voltage and current of the boost converter module.

### 5.1. Output Voltage Adjustment

1. Connect the input power source to the module.
2. Adjust the **V-adj potentiometer** (voltage adjustment) to set the desired output voltage. Use a multimeter to monitor the output voltage and match it to the requirements of your load equipment.

## 5.2. Output Current Adjustment

1. Before connecting the load, rotate the **I-adj potentiometer** (current adjustment) counterclockwise for approximately 30 turns to minimize the output current.
2. Connect your load device to the output terminals.
3. Slowly adjust the I-adj potentiometer clockwise until the required current for your load is reached. Monitor the current with an ammeter.

## 5.3. Battery Charging (Constant Current Mode)

When using the module for battery charging:

1. Ensure the battery is discharged before connecting it to the module's output.
2. Adjust the **CC potentiometer** (constant current) to the desired charging current.
3. Note that the charging current will decrease as the battery approaches full charge.

**Important Safety Note: Do not attempt to adjust the current by short-circuiting the output. The boost module's circuit structure is not designed for this and may result in damage.**

## 6. MAINTENANCE

To ensure the longevity and optimal performance of your CRIDENG DC Boost Converter Power Module, consider the following maintenance guidelines:

- **Cleaning:** Periodically inspect the module for dust and debris. Use a soft, dry brush or compressed air to gently clean the components, especially the heat sink, to maintain efficient cooling.
- **Ventilation:** Ensure that the module's operating environment provides adequate airflow to prevent overheating. Do not obstruct the heat sink.
- **Connections:** Regularly check all electrical connections to ensure they are secure and free from corrosion. Loose connections can lead to poor performance or damage.
- **Environmental Conditions:** Operate the module within its specified temperature and humidity ranges. Avoid exposure to moisture or corrosive substances.

## 7. TROUBLESHOOTING

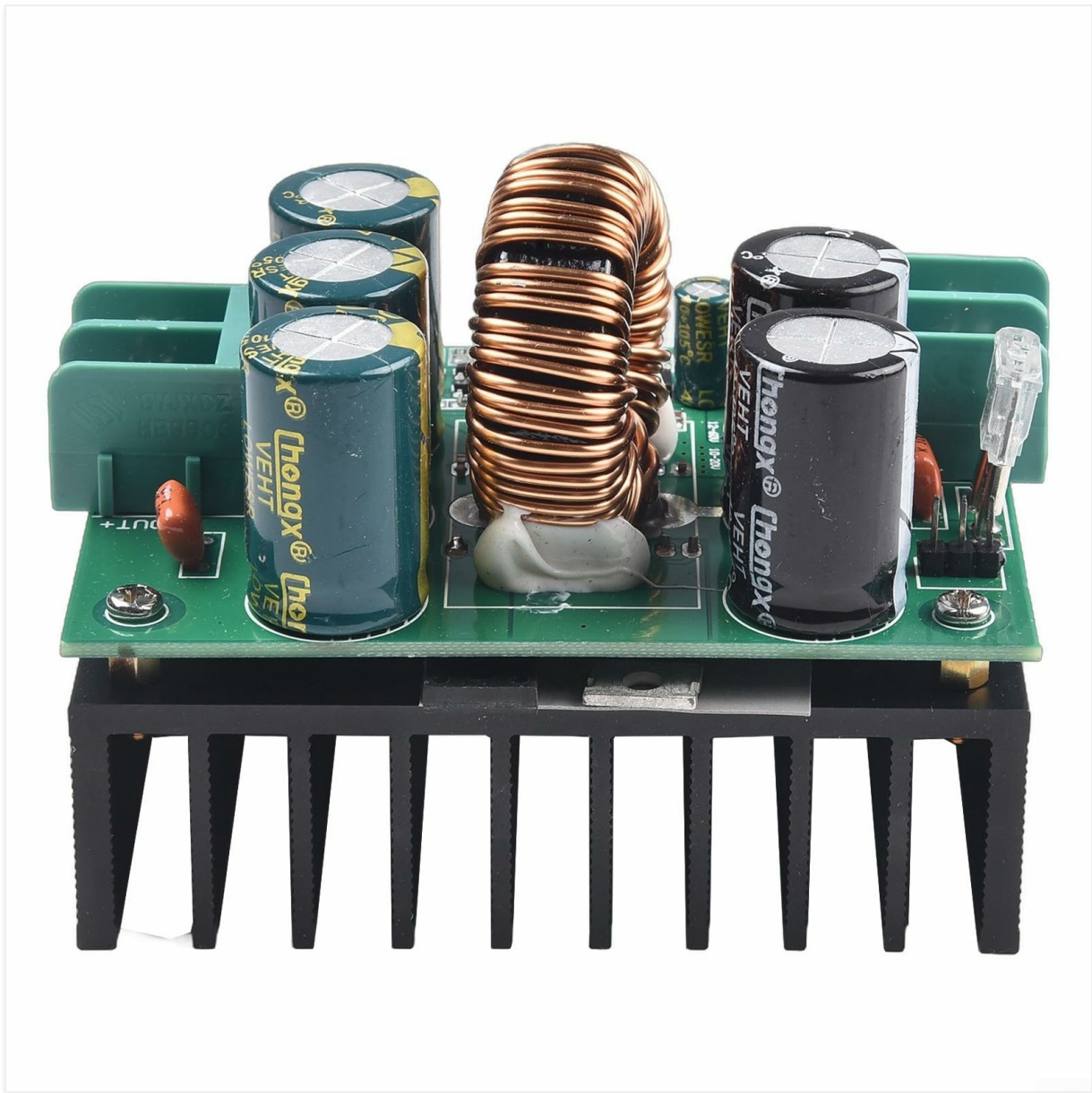
If you encounter issues with your CRIDENG DC Boost Converter Power Module, refer to the following common troubleshooting steps:

- **No Output Voltage:**
  - Verify that the input voltage is within the specified range (10-60V DC).
  - Check all input and output connections for proper contact and polarity.
  - Ensure the V-adj potentiometer has not been adjusted to its minimum setting.
- **Output Current Too Low/High:**
  - Adjust the I-adj potentiometer as described in the Operating Instructions.
  - Confirm that the load's current demand is within the module's 20A maximum output.

- Check for any short circuits in the load or output wiring, which could trigger over-current protection.
- **Overheating:**
  - Ensure adequate ventilation and airflow around the module.
  - Reduce the load if it is consistently drawing near the maximum current.
  - Verify that the ambient temperature is within the operating range.
- **Module Not Functioning:**
  - Check the input 20A fuse for continuity. Replace if blown.
  - Inspect the module for any visible damage or burnt components.

If problems persist after following these steps, contact customer support for further assistance.

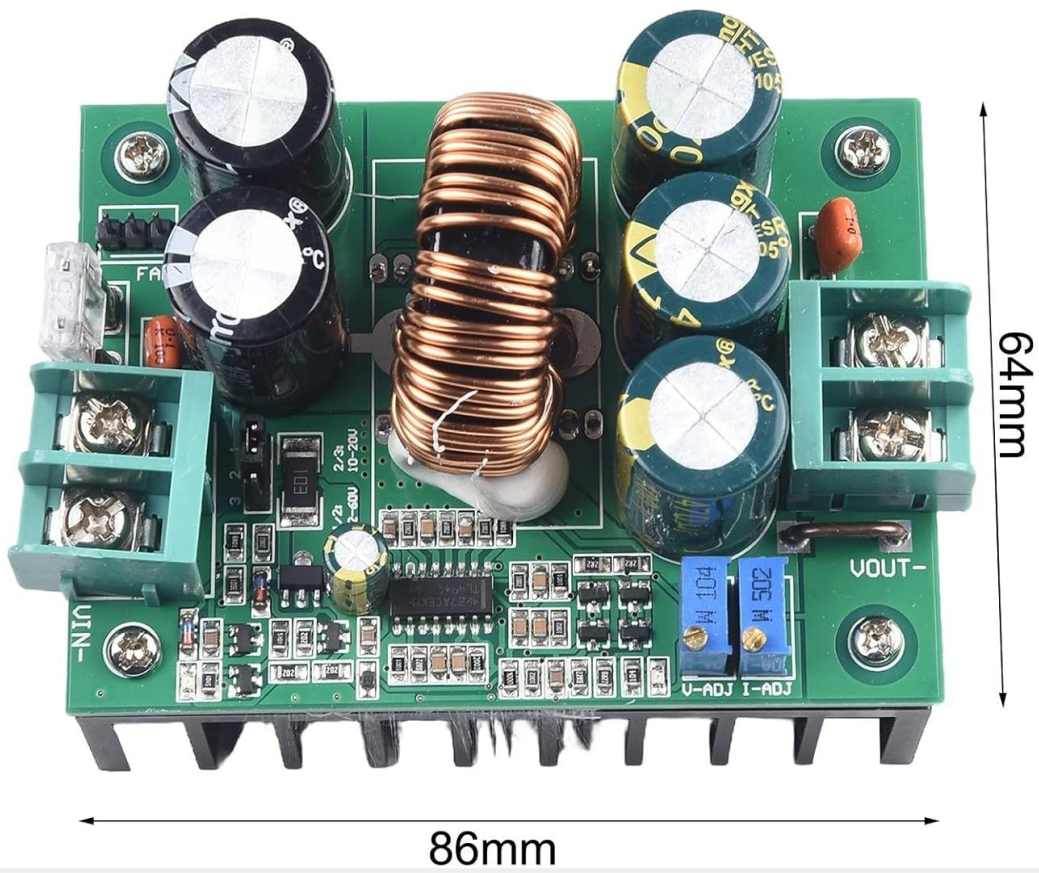
## 8. PRODUCT IMAGES



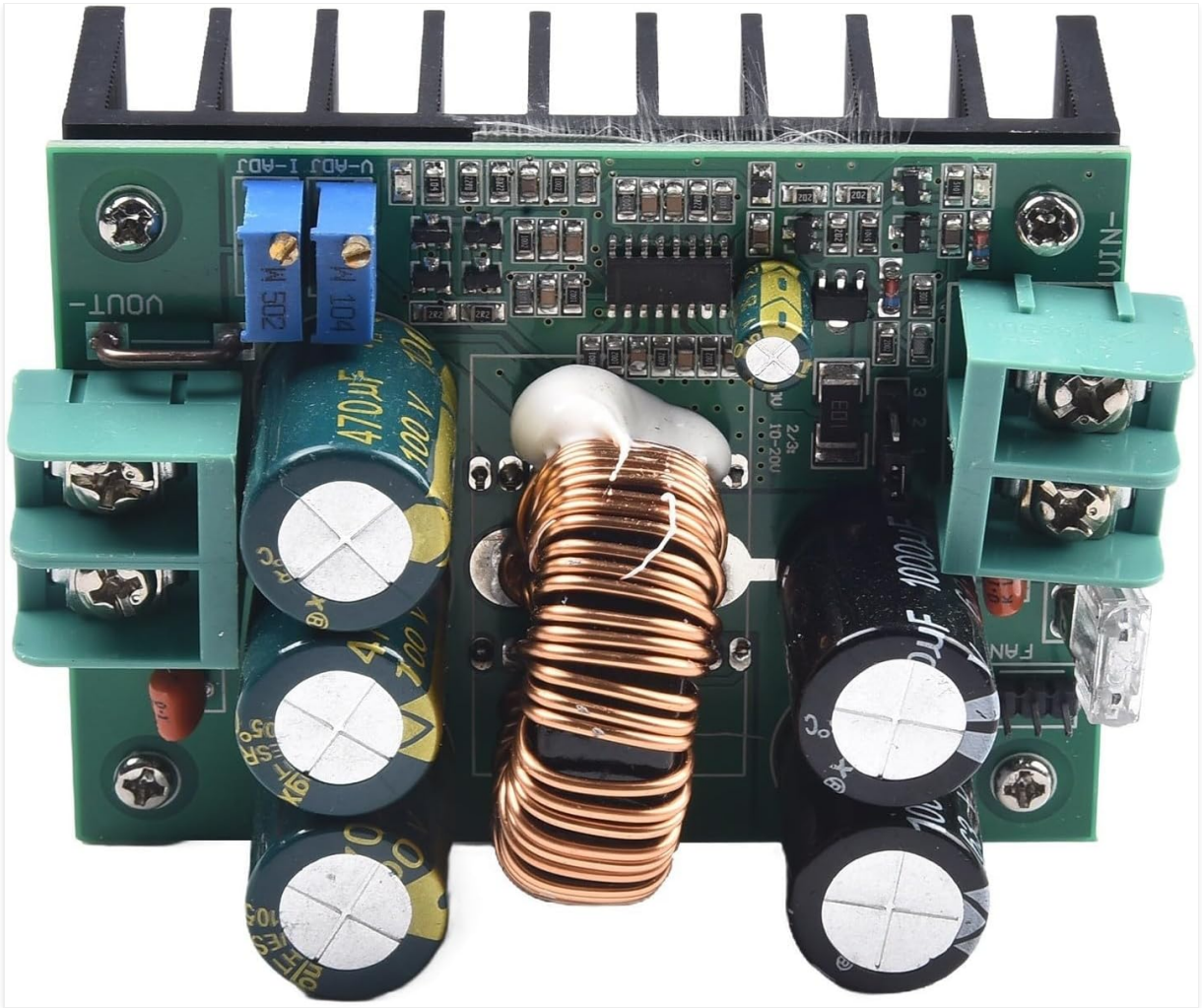
Detailed views of the CRIDENG 1200W 20A DC Boost Converter Power Module, highlighting various components and angles.

# Products Size

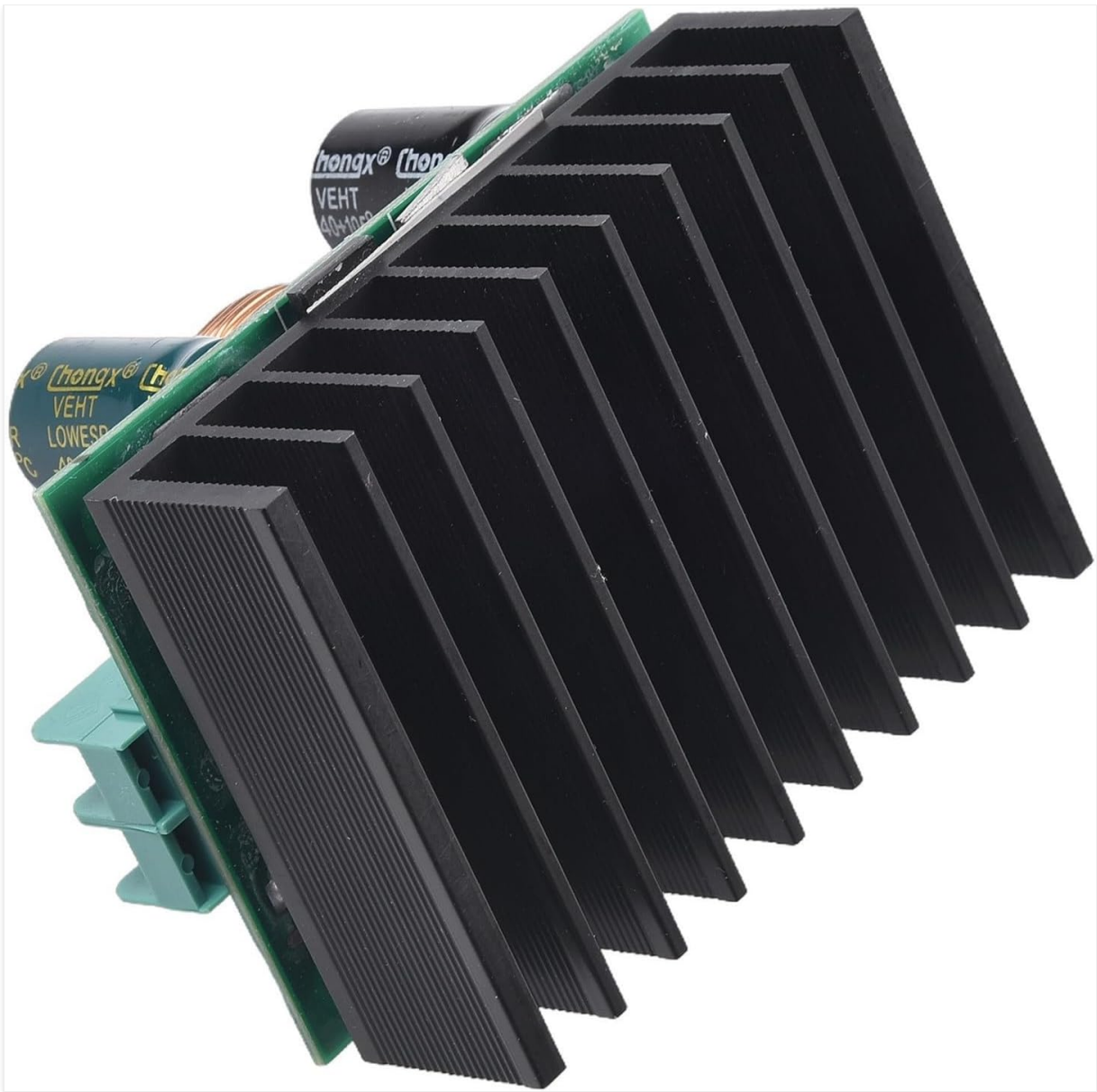
H:65mm



The CRIDENG 1200W 20A DC Boost Converter Power Module with its physical dimensions (86mm x 64mm x 65mm) indicated.



A top-down view of the CRIDENG 1200W 20A DC Boost Converter Power Module, showing the capacitors, inductor, and adjustment potentiometers.



A side view of the CRIDENG 1200W 20A DC Boost Converter Power Module, highlighting the integrated heat sink for thermal management.

## 9. OFFICIAL PRODUCT VIDEOS

There are no official product videos available for this item at this time.

## 10. WARRANTY INFORMATION

Specific warranty details for the CRIDENG 1200W 20A DC Boost Converter Power Module are not provided in this manual. Please refer to the product packaging or the retailer's website for applicable warranty terms and conditions.

## 11. CUSTOMER SUPPORT

For technical assistance, troubleshooting, or inquiries regarding your CRIDENG 1200W 20A DC Boost Converter Power Module, please contact the retailer or manufacturer's customer support channels. Refer to your purchase documentation for contact information.

