

AFU AF900-8410B-50A

AFU AF900-8410B-50A 84V 10A Lithium-ion Battery Charger User Manual

Model: AF900-8410B-50A | Brand: AFU

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation of your AFU AF900-8410B-50A 84V 10A Lithium-ion Battery Charger. Please read this manual thoroughly before using the charger to ensure proper function and to prevent damage to the unit or connected battery.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage:

- **Input Voltage:** This charger is designed for **100-120Vac** input only. Do not use with 200-240Vac power supplies.
- **Battery Compatibility:** Use this charger exclusively for 20S 72V Lithium-ion batteries. Using it with incompatible battery types may cause damage or fire.
- **Ventilation:** Ensure adequate ventilation during charging. Do not cover the charger.
- **Environment:** Avoid charging in wet, dusty, or high-temperature environments. Refer to the 'Working Ambient Temperature' section for details.
- **Damage:** Do not operate the charger if it or its cables are damaged. Contact customer support for assistance.
- **Disassembly:** Do not attempt to disassemble or modify the charger. This will void the warranty and may lead to electric shock or fire.
- **Protection Features:** The charger includes overvoltage, overcurrent, short circuit, and reverse protection. However, always connect the charger correctly.

MULTIPLE PROTECTION



Super heat
dissipation



Temperature
protection



Overvoltage
protection



Anti-
protection



Overcurrent
protection



Voltage
protection



Short circuit
protection



Balance
function



Image: Multiple Protection Features. This diagram highlights the various safety mechanisms integrated into the charger, such as protection against overvoltage, overcurrent, short circuits, and high temperatures.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- AFU AF900-8410B-50A Battery Charger
- US Standard Power Cable
- User Manual

What Inside Package



Image: What's Inside the Package. This image displays the charger, power cable, and user manual included in the box.

4. SPECIFICATIONS

Feature	Specification
Brand	AFU
Model Number	AF900-8410B-50A
AC Input	100-120Vac, 50/60Hz
DC Output	84 Volt / 10 Amp
Connector Type	50A Anderson Connector

Feature	Specification
Product Dimensions (L x W x H)	7.48" x 2.36" x 3.68" (190mm x 60mm x 93.5mm)
Weight	Approximately 2.65 lbs
Shell Material	Aluminum
Cooling	Integrated Cooling Fan
LED Indicator	Red: Charging, Green: Full
Protection	Overvoltage, Overcurrent, Short Circuit, Reverse Polarity
Manufacturer	Dongguan Yuguo Technology Co., Ltd.

Size:7.48*3.68*2.36in



Weight:2.65lbs

Image: Charger Dimensions and Weight. This image provides a visual representation of the charger's physical size and its weight.

OUTPUT PLUG SIZE

50A Anderson

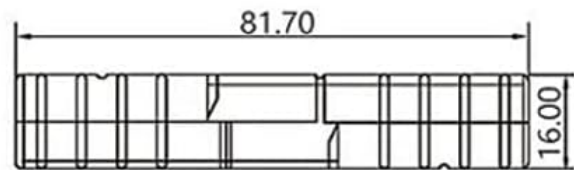
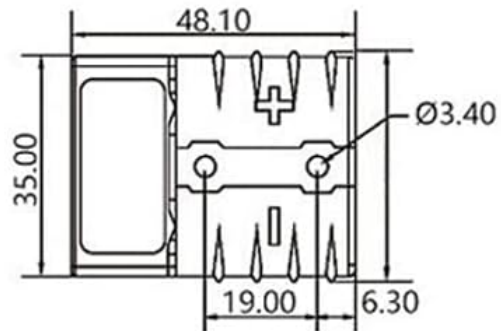
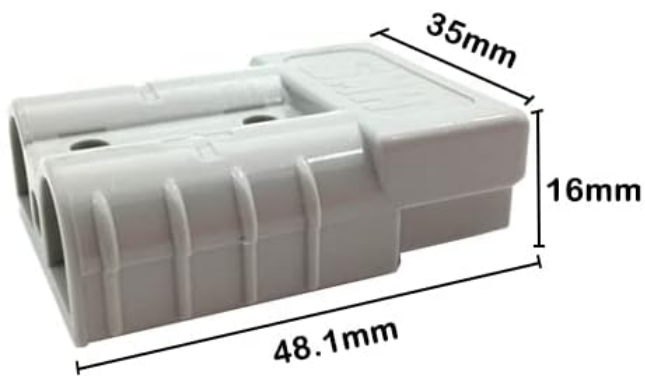


Image: Output Plug Size (50A Anderson). This image details the specifications and appearance of the 50A Anderson connector used with the charger.

Working Ambient Temperature



Maximum working ambient temperature 40°C

40°C



Minimum working ambient temperature -20°C

-20°C

Image: Working Ambient Temperature. This image illustrates the recommended operating temperature range for the charger, from -20°C to 40°C.

5. SETUP

1. **Unpack:** Carefully remove the charger and all accessories from the packaging. Inspect for any signs of damage.
2. **Placement:** Place the charger on a stable, flat surface in a well-ventilated area, away from direct sunlight, heat sources, and moisture.
3. **Connect Battery:** Ensure the battery is a 20S 72V Lithium-ion type. Connect the 50A Anderson output connector from the charger to the corresponding port on your battery. Ensure a secure connection.
4. **Connect AC Power:** Plug the US standard power cable into the charger's AC input port, then plug the other end into a standard 100-120Vac wall outlet.

Your browser does not support the video tag.

Video: AFU AF900N Charger Overview. This video provides a visual demonstration of the charger, its components, and how to connect it.

6. OPERATING INSTRUCTIONS

6.1 Charging Process

The charger employs a four-stage intelligent charging mode to ensure optimal battery health and full charge:

1. **Pre-Charging:** Initial stage for deeply discharged batteries, applying a low current to safely raise the voltage.
2. **Constant Current (CC):** The charger delivers a constant maximum current until the battery voltage reaches a predetermined level.
3. **Constant Voltage (CV):** The charger maintains a constant voltage while the current gradually decreases as the battery approaches full charge.
4. **Trickle Charging:** Once fully charged, the charger automatically switches to a low-current trickle charge to maintain the battery's charge without overcharging.

6.2 LED Indicator

- **Red Light:** Indicates the battery is currently charging.
- **Green Light:** Indicates the battery is fully charged, and the charger has stopped charging automatically.

6.3 Charging Display

The integrated display screen cycles through three pages, providing real-time charging information:

The display screen will show three pages in order

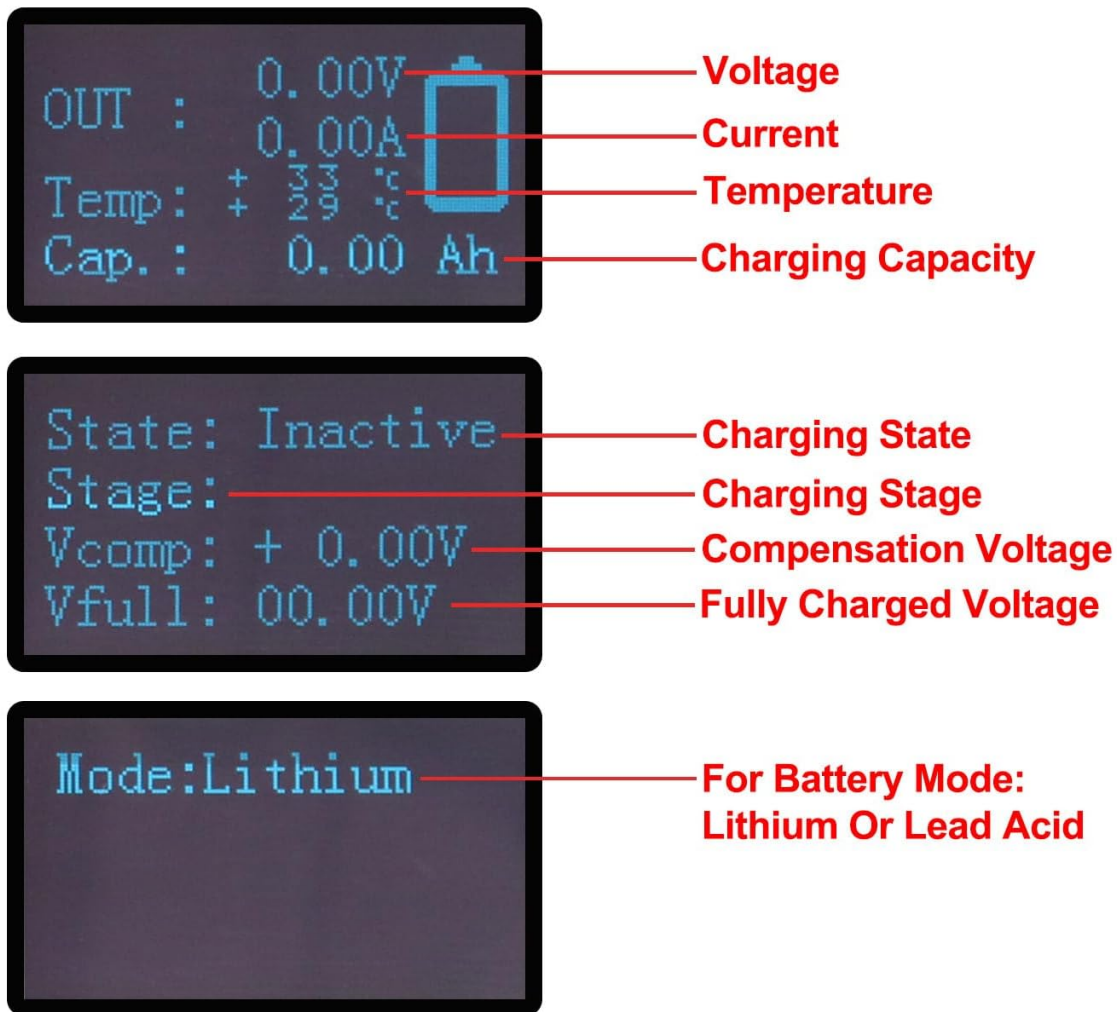


Image: Charging Display Screens. This image illustrates the three different information pages shown on the charger's display, including voltage, current, temperature, charging capacity, charging state, and battery mode.

- **Page 1:** Displays Voltage (OUT), Current (OUT), Temperature (Temp), and Charging Capacity (Cap).
- **Page 2:** Displays Charging State (State), Current Charging Stage (Stage), Compensation Voltage (Vcomp), and Fully Charged Voltage (Vfull).
- **Page 3:** Displays the selected Battery Mode (Mode), which should be 'Lithium' for this charger.

7. MAINTENANCE

- **Cleaning:** Disconnect the charger from both AC power and the battery before cleaning. Use a dry, soft cloth to wipe the exterior. Do not use liquid cleaners.
- **Storage:** Store the charger in a cool, dry place when not in use.
- **Cable Inspection:** Regularly inspect the AC power cable and DC output cable for any signs of wear, cuts, or damage. Replace if necessary.
- **Ventilation:** Ensure the cooling fan and vents remain clear of dust and debris to maintain proper heat dissipation.

8. TROUBLESHOOTING

If you encounter issues with your charger, refer to the following common problems and solutions:

- **Charger not turning on:**
 - Check if the AC power cable is securely plugged into both the charger and the wall outlet.
 - Verify that the wall outlet has power.
- **Red LED not lighting up when connected to battery:**
 - Ensure the 50A Anderson connector is securely attached to the battery.
 - Confirm the battery voltage is within the charger's operating range for a 20S 72V Lithium-ion battery.
 - Check if the battery is already fully charged (green LED would be on).
- **Charger gets hot during operation:**
 - Some heat generation is normal during charging.
 - Ensure the charger is in a well-ventilated area and its cooling fan is not obstructed.
 - If the heat is excessive or accompanied by unusual smells, disconnect immediately and contact support.
- **Green LED is on, but battery is not fully charged:**
 - Verify the battery's actual voltage with a multimeter if possible.
 - Ensure the battery type matches the charger's specifications (20S 72V Lithium-ion).

For further assistance, please contact AFU customer support.

9. WARRANTY AND SUPPORT

This product comes with a warranty. For specific warranty details and duration, please refer to the documentation included with your purchase or contact the manufacturer directly. For technical support or service inquiries, please reach out to:

Manufacturer: Dongguan Yuguo Technology Co., Ltd.

Brand: AFU

Please have your model number (AF900-8410B-50A) and purchase information ready when contacting support.