

## Saoer 30A

# Saoer Solar Charge Controller 12V/24V 30A User Manual

Model: 30A  
Brand: Saoer

## 1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation of your Saoer Solar Charge Controller. This device is designed to manage the power flow from your solar panel to your battery, ensuring optimal charging and protecting your battery from overcharge and over-discharge. It is compatible with both 12V and 24V solar systems and features a 30A discharge current capacity.

## 2. SAFETY INSTRUCTIONS

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in damage to the controller, battery, or other components, and may cause personal injury.

- Ensure the battery voltage is sufficient for the controller to recognize the battery type before the first installation.
- The charge controller is suitable for lead-acid batteries (OPEN, AGM, GEL) and lithium-ion batteries. Do not use it for other battery types.
- Install the charge controller indoors, away from direct sunlight, high temperatures, and humid environments.
- The controller will heat up during operation; ensure good ventilation.
- The controller's positive and negative terminals should be connected correctly. Reverse connection may damage the device.
- Always connect the battery first, then the solar panel, and finally the load. Disconnect in the reverse order: load, then solar panel, then battery.

### 3. PRODUCT FEATURES

- **System Voltage Compatibility:** Automatically detects 12V or 24V systems.
- **Discharge Current:** 30A capacity.
- **Integrated Micro Controller:** Manages solar panel and battery operation efficiently.
- **Dual USB Ports:** Supports mobile phone charging (5V/2A output).
- **Comprehensive Protection:** Includes short-circuit protection, open-circuit protection, reverse polarity protection, and over-load protection to enhance system efficiency and battery lifespan.
- **LCD Display:** Provides clear indication of status and data, allowing for convenient mode switching and parameter configuration.
- **Adjustable Parameters:** User-configurable settings for various battery types and operational needs.
- **Built-in Timer:** For load control.

### 4. PACKAGE CONTENTS

- 1x Saooer Solar Charge Controller (30A)

### 5. SETUP AND INSTALLATION

Follow these steps for proper installation of the solar charge controller. Incorrect connection order can damage the controller.

1. **Connect the Battery:** Connect the battery to the charge regulator first. Ensure correct polarity (positive to positive, negative to negative). This allows the controller to recognize the battery voltage.
2. **Connect the Solar Panel:** Connect the solar panel to the solar charge controller. Ensure correct polarity.
3. **Connect the Load:** Connect the consumer or load to the charge controller regulator. Ensure correct polarity.

#### **Important Disconnection Note:**

When disconnecting the system, always remove the solar panel connection first, then the load connection, and finally the battery connection. This prevents potential damage to the controller.



Figure 1: Front view of the Saoer Solar Charge Controller, showing the LCD display, control buttons, USB ports, and connection terminals.

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## Solar Charge Controller 12V24V 30A

Figure 2: Illustrative diagram of the solar charge controller's connection points for the battery, solar panel, and electrical load.

## 6. OPERATING INSTRUCTIONS

The controller features an LCD display and three buttons for operation: **MENU**, **UP**, and **DOWN**.

### 6.1. LCD Display

The LCD display shows real-time system status and data, including battery voltage, charging current, discharging current, and various parameter settings.

### 6.2. Button Functions

- **MENU Button:** Press to cycle through different display modes and enter parameter setting mode. Long press to exit setting mode.
- **UP Button:** In setting mode, press to increase the parameter value.
- **DOWN Button:** In setting mode, press to decrease the parameter value.

### 6.3. Parameter Settings

To adjust parameters (e.g., battery type, charge/discharge voltage limits, load timer settings):

1. Press the **MENU** button until the desired parameter display appears.
2. Long press the **MENU** button until the displayed value starts flashing.
3. Use the **UP** and **DOWN** buttons to adjust the value.
4. Once the desired value is set, long press the **MENU** button again to save the setting and exit the flashing state.

Refer to the specific icons on the LCD for detailed parameter identification.



Figure 3: Close-up of the controller's LCD display and control buttons for parameter adjustment.

## 7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your solar charge controller.

- **Cleanliness:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning.
- **Connections:** Periodically check all wiring connections to ensure they are tight and free from corrosion. Loose connections can cause power loss and overheating.
- **Ventilation:** Ensure the installation area has adequate ventilation to prevent overheating of the controller.
- **Inspection:** Inspect the controller for any signs of physical damage or unusual operation.

## 8. TROUBLESHOOTING

If you encounter issues with your solar charge controller, consider the following common troubleshooting steps:

- **No Display/No Power:** Check battery connections and ensure the battery has sufficient voltage. Verify all wiring is correct and secure.
- **Battery Not Charging:** Check solar panel connections and ensure the panel is receiving adequate

sunlight. Verify solar panel voltage and current. Ensure the controller's charging parameters are correctly set for your battery type.

- **Load Not Working:** Check load connections. Ensure the load is not exceeding the controller's rated current. Check the load timer settings if applicable. The controller may have entered protection mode due to over-discharge or over-load; check the display for error codes or indicators.
- **Over-Voltage/Under-Voltage Alarms:** Check battery voltage. Ensure solar panel open-circuit voltage does not exceed the controller's maximum input voltage.

If the problem persists after performing these checks, please contact customer support.

## 9. SPECIFICATIONS

Feature	Specification
Brand	Saooer
Model	30A Solar Charge Controller
System Voltage	12V / 24V Auto-sensing
Discharge Current	30A
Material	Metal, Plastic
Display Type	LCD
USB Output	Dual USB, 5V/2A
Included Components	1x Solar Charge Controller



Figure 4: Top-down view of the solar charge controller, showing its overall dimensions and layout.



Figure 5: Bottom view of the solar charge controller, illustrating the mounting holes for installation.

## 10. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation provided with your purchase or contact your retailer. For technical support or inquiries, please contact Saoer customer service through their official channels.