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Dawnice SPC30A

Dawnice SPC30A Solar Charge Controller User Manual

Model: SPC30A | Brand: Dawnice

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Dawnice SPC30A Solar Charge Controller. This device is designed to manage the power flow from your solar panel to your battery and load, ensuring efficient charging and discharge protection. It features automatic 12V/24V system voltage recognition, an adjustable LCD display, dual USB output for charging devices, and a timer setting function.

SOLAR CONTROLLER

A variety of smart security protection controllers are well worth having

Parameters are adjustable

Light control + time control



Image 1.1: The Dawnice SPC30A Solar Charge Controller, showing its LCD screen and dual USB ports.

2. SAFETY INFORMATION

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

- Ensure proper ventilation around the controller to prevent overheating.
- Connect the battery to the controller FIRST, then the solar panel, and finally the load. Disconnect in the reverse order.
- Verify correct polarity for all connections to avoid damage.
- The controller is designed for indoor use or in a protective enclosure. Avoid exposure to water or direct sunlight.
- Do not attempt to disassemble or repair the controller. Contact qualified personnel for service.
- Keep out of reach of children.

6 BIG SAFETY INTELLIGENT PROTECTION

MULTI-INTELLIGENT SECURITY PROTECTION BID FAREWELL TO THE SECURITY OF THE HIDDEN DANGERS OF SECURITY PROTECTION SYSTEM



Image 2.1: The controller includes multiple safety features such as overcharge, backflow, reverse relay, open circuit, short circuit, and overcurrent protection.

3. PRODUCT FEATURES

The Dawnice SPC30A Solar Charge Controller offers a range of features for effective solar power management:

- **Automatic System Voltage Identification:** Automatically detects 12V or 24V battery systems.
- **PWM Charging:** Utilizes Pulse Width Modulation for efficient battery charging, reducing charge loss.
- **Adjustable LCD Display:** Provides real-time system status and allows for parameter customization.
- **Dual USB Output:** Two USB ports (5V/2A) for charging mobile devices.
- **Timer Setting:** Configurable load working modes and timer settings.
- **Comprehensive Protections:** Includes overcharge, over-discharge, overcurrent, short circuit, reverse polarity, and backflow protection.
- **Temperature Compensation:** Adjusts charging parameters based on ambient temperature.



Image 3.1: The controller features dual USB output for convenient charging of digital devices.

4. SETUP

Follow these steps for proper installation of the solar charge controller:

1. **Prepare Wiring:** Ensure all wires are correctly sized for your system's current and voltage. Strip insulation approximately 8-10mm from wire ends.
2. **Connect Battery:** Connect the battery to the controller's battery terminals (marked with a battery symbol). Ensure correct polarity (+ to + and - to -). The controller will automatically detect the battery voltage (12V or 24V).
3. **Connect Solar Panel:** Connect the solar panel to the controller's solar panel terminals (marked with a solar panel symbol). Ensure correct polarity.
4. **Connect Load:** Connect the DC load to the controller's load terminals (marked with a light bulb symbol). Ensure correct polarity.
5. **Mounting:** Mount the controller on a flat, vertical surface in a well-ventilated area, away from direct sunlight, high temperatures, and moisture.

Important: Always connect the battery first, then the solar panel, then the load. Disconnect in the reverse order: load, then solar panel, then battery.

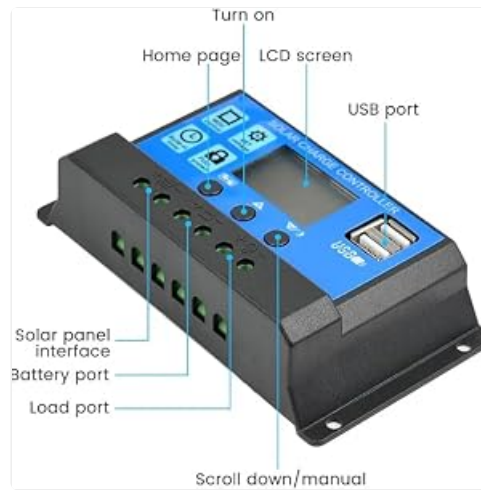


Image 4.1: Labeled ports and controls on the Dawnice SPC30A Solar Charge Controller.

5. OPERATING INSTRUCTIONS

The controller features an LCD display and three buttons for operation: Menu, Up, and Down.

5.1. LCD Display Interface

Press the 'Menu' button to cycle through different display interfaces:

- **Main Interface:** Displays battery voltage, charging status, and load status.
- **Charging Cut-off Voltage:** Adjustable parameter (e.g., 13.7V).
- **Discharge Recovery Voltage:** Adjustable parameter (e.g., 12.6V).
- **Discharge Cut-off Voltage:** Adjustable parameter (e.g., 10.7V).
- **Load Working Mode:** Adjustable timer setting (e.g., 24H for continuous).
- **Battery Type:** Selectable battery type (e.g., b01 for Lead-Acid).

5.2. Parameter Settings

To adjust parameters:

1. Press and hold the 'Menu' button for approximately 5 seconds until the displayed value starts flashing.
2. Use the 'Up' and 'Down' buttons to adjust the value.
3. Press the 'Menu' button again to confirm the setting and move to the next parameter, or wait for 5 seconds for the setting to save automatically.
4. To restore factory settings, press and hold the 'Menu' button for more than 10 seconds on the main interface.



Image 5.1: Examples of adjustable parameters on the LCD display.

5.3. USB Charging

The dual USB ports provide 5V/2A output for charging compatible devices. These ports are active when the controller is powered.

6. MAINTENANCE

To ensure optimal performance and longevity of your solar charge controller, perform the following maintenance tasks:

- **Regular Inspection:** Periodically check all wiring connections for tightness and corrosion.
- **Cleaning:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning.
- **Ventilation:** Ensure that the area around the controller remains clear for proper airflow and heat dissipation.
- **Environmental Check:** Verify that the controller is not exposed to extreme temperatures, moisture, or direct sunlight.

7. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
LCD display is off	No power from battery or solar panel.	Check battery and solar panel connections and voltage. Ensure battery is connected first.
Battery not charging	Solar panel not connected, insufficient sunlight, or faulty wiring.	Verify solar panel connections, check for shading, ensure adequate sunlight, inspect wiring for damage.
Load not working	Load disconnected, battery voltage too low (discharge cut-off), or load working mode setting.	Check load connections, charge battery, adjust load working mode settings.
USB ports not charging	Controller not powered or device incompatible.	Ensure controller is powered, try a different USB device or cable.
Error code on display	Specific system fault.	Refer to the controller's specific error code guide (if available) or contact support.

8. SPECIFICATIONS

Key technical specifications for the Dawnice SPC30A Solar Charge Controller:

- **Brand:** Dawnice
- **Model Number:** SPC30A
- **Rated Charge Current:** 30A
- **System Voltage:** 12V/24V Auto
- **Display Type:** LCD
- **USB Output:** Dual USB, 5V/2A
- **Operating Temperature:** -20 °C to +60 °C (approximate, based on typical controller ranges)
- **Protection Features:** Overcharge, Over-discharge, Overcurrent, Short Circuit, Reverse Polarity, Backflow

Your browser does not support the video tag.

Video 8.1: An overview of a Dawnice Residential Energy Storage System, demonstrating how solar power is managed and stored. This video provides context for the role of a solar charge controller within a larger system.

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries regarding your Dawnice SPC30A Solar Charge Controller, please contact the Dawnice US Store directly. Refer to your purchase documentation for specific warranty terms and contact details.

Dawnice US Store: [Visit Store](#)

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