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› Keenso MPPT Solar Charge Controller 12V/24V 30A/50A/70A User Manual

Keenso Keensof6k7asguz3-01

Keenso MPPT Solar Charge Controller User Manual

Models: 30A, 50A, 70A (12V/24V)

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Keenso MPPT Solar Charge Controller. This device is designed to manage the power flow from your solar panel to your battery bank and DC loads, ensuring efficient charging and protection for your system. Please read this manual thoroughly before installation and use to ensure optimal performance and safety.



Figure 1: Keenso MPPT Solar Charge Controller in a solar power setup.

2. KEY FEATURES

- **Automatic System Voltage Identification:** Automatically recognizes 12V or 24V system voltage.
- **LCD Display and Dual Button Operation:** User-friendly interface for easy monitoring and control.
- **High-Efficiency 3-Stage MPPT Charging:** Optimizes battery charging for improved efficiency and lifespan.
- **Load Control Modes:** Selectable load control modes, including a timer function for night lighting.
- **Working Memory Function:** Records system run time, error timers, and full battery charge times.
- **Comprehensive Protection:** Includes reliable overvoltage, short-circuit, overload, and reverse connection protection.
- **Accurate Temperature Compensation:** Automatically corrects charging and discharging voltage based on temperature, extending battery life.
- **Dual USB Output:** Provides 2.4A x 2 USB ports for charging external devices.

3. SPECIFICATIONS

Parameter	Value
Current Options	30A, 50A, 70A
Rated Voltage	12V / 24V (Auto-identification)
USB Output	2.4A x 2
Over-discharge Voltage	10.5V - 11V (for 12V system) / 21V - 22V (for 24V system)
Temperature Compensation	-3mV/°C/cell
Dimensions (L x W x H)	17.5 x 14 x 4 cm (approx. 6.9 x 5.5 x 1.6 inches)
Weight	480 grams (approx. 1.06 lbs)
Material	Plastic
Display Type	LCD



Figure 2: Product dimensions.

4. SAFETY INSTRUCTIONS

Please observe the following safety precautions during installation and operation:

- Ensure all connections are correct and secure before powering on the system.
- Connect the battery first, then the solar panel, and finally the DC load. Disconnect in the reverse order.
- Do not connect the solar panel to the controller without a battery connected.
- Install the controller in a well-ventilated area, away from direct sunlight, high temperatures, and moisture.
- Use appropriate wire gauges for all connections to prevent overheating and power loss.
- This device is for indoor use only.
- Keep out of reach of children.

5. SETUP AND INSTALLATION

5.1 Mounting the Controller

Mount the solar charge controller vertically on a flat, non-flammable surface. Ensure there is adequate airflow around the unit for proper heat dissipation. Avoid mounting near flammable materials or in areas with excessive dust or moisture.

5.2 Wiring Connections

Follow the connection order carefully to prevent damage to the controller or other components. Always connect the battery first, then the solar panel, and finally the DC load.

1. **Connect the Battery:** Connect the positive and negative terminals of the battery to the corresponding battery terminals on the controller. Ensure correct polarity. The controller will automatically detect the system voltage (12V or 24V).
2. **Connect the Solar Panel:** Connect the positive and negative terminals of the solar panel to the corresponding solar panel terminals on the controller. Ensure correct polarity.
3. **Connect the DC Load:** Connect the positive and negative terminals of your DC load to the corresponding load terminals on the controller. Ensure correct polarity.

Important: Disconnect components in the reverse order: Load, then Solar Panel, then Battery.

Controller Connection Method



Figure 3: Wiring diagram for the solar charge controller.



Figure 4: Front panel overview with LCD and terminals.

6. OPERATING INSTRUCTIONS

6.1 LCD Display

The LCD displays various system parameters, including battery voltage, solar panel voltage, load current, charging status, and error codes. Use the dual buttons to navigate through the display menus and adjust settings.

6.2 Button Functions

The controller features two buttons for operation:

- **Left Button:** Used to scroll through display screens and decrease values during setting adjustments.
- **Right Button:** Used to enter setting mode, confirm selections, and increase values during setting adjustments.

6.3 Load Control Settings

The load output can be configured for different operating modes. Refer to the on-screen menu for options such as 24-hour output, dusk-to-dawn operation, or timed output. To adjust load settings:

1. Press and hold the Right button to enter the setting menu.
2. Use the Left button to navigate to the load control setting.
3. Press the Right button to select the setting, then use the Left/Right buttons to adjust the value.
4. Press and hold the Right button again to save and exit the setting menu.

6.4 USB Output

The controller provides two USB 2.4A output ports for charging compatible electronic devices such as mobile phones, tablets, and cameras. These ports are active when the controller is powered.



Figure 5: Dual USB ports for device charging.

7. MAINTENANCE

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

- **Check Connections:** Periodically inspect all wiring connections to ensure they are tight and free from corrosion.
- **Clean the Controller:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning. Do not use liquids.
- **Inspect for Damage:** Check for any physical damage to the casing or wiring.
- **Ventilation:** Ensure that the ventilation openings are not blocked to allow for proper heat dissipation.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Controller not powering on / LCD blank	Battery not connected or low voltage; reverse polarity connection.	Ensure battery is connected first with correct polarity and has sufficient charge.
Battery not charging	Solar panel not connected; insufficient sunlight; faulty solar panel/wiring; battery full.	Check solar panel connections and sunlight exposure. Verify solar panel functionality. The controller stops charging when the battery is full.
Load not working	Load disconnected; battery voltage too low; overload protection activated; load control setting.	Check load connections. Charge battery. Reduce load. Adjust load control settings.
Error code displayed	Specific system fault (e.g., overvoltage, short circuit).	Refer to the controller's display for the specific error code and consult the manufacturer's support for detailed resolution. Address the underlying issue (e.g., disconnect short circuit).

9. WARRANTY AND SUPPORT

This Keenso product is covered by a standard manufacturer's warranty. Please refer to your purchase documentation for specific warranty terms and conditions. For technical support, troubleshooting assistance, or warranty claims, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.

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