



30 Amp Solar Charge Controller

Owner's Manual



! WARNING: Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 60032

SAVE THESE INSTRUCTIONS

Thank you very much for choosing a Nature Power product!

For future reference, please complete the owner's record below:

Model: _____

Purchase Date: _____

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This Charge Controller is designed for certain applications only. Nature Power products cannot be responsible for issues arising from modification or use of this product in an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-588-0590**.

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Intended Use

This charge controller is used to regulate power from a solar panel, to a 12V battery. The controller handles up to 30 amps and also prevents overcharging, high-voltage surges, short circuit or low voltage discharges, and reverse current.

Technical Specifications

Property		Specification
Rated voltage		12VDC Auto
Max input power		525W
Current	Discharging	30A
	Charging	30A
Overcharge protection		14.4V±1%
Starting voltage		12.3V
Over discharge	Cut-off	10.7V±1%
	Resume	12.6±1%
No load current		≤10mA
display		LED
Operating temperature		-13°F to 131 °F (-25°C to 55°C)
Altitude		Below 3.4 miles (5500m) [above 1.24 miles (>2000m) causes reduced power]

Important Safety Information

⚠ WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this charge controller. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the controller until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this controller in any way. Unauthorized modification may impair the function and/or safety and could affect its life. There are specific applications for which the controller was designed.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.
- Do not wear dangling objects or jewelry when working with electrical equipment.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety glasses with side shields.
- Do not overreach. Keep proper footing and balance at all times.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock if your body is grounded.

⚠ WARNING

- This controller may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
- Handling power cords on corded products may expose you to lead, a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Wash your hands after handling.

⚠ WARNING

WORK AREA SAFETY

- Inspect the area before each use. Keep it area clean, dry, free of clutter, and well lit. Cluttered, wet, or dark work areas can result in injury.
- Do not use the charge controller and solar panels where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The charging system can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow children to handle the controller, solar panels, or batteries.

PERSONAL SAFETY

- Do not wear dangling objects or jewelry when working with electrical equipment.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety glasses with side shields.
- Do not overreach. Keep proper footing and balance at all times.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock if your body is grounded.

Specific Operation Warnings

⚠ WARNING

- To prevent serious injury or property damage read owner's manual before operating.
- Ensure that the leads match positive to positive and negative to negative. Wrong connections may cause property damage.
- DO NOT exceed rated current of 30 amps.
- Securely mount charge controller in a well-protected dry place free from moisture and weather.
- Product should be placed in a well ventilated area, free from flammable gases.
- No alterations shall be made to this product.
- DO NOT use if product is damaged. Replace damaged parts before using.
- DO NOT wear metallic jewelry when working on electrical equipment.
- DO NOT drop tools or other large objects on the glass of the solar module.
- DO NOT use soap, solvents, or similar chemicals to clean solar panel.
- Not for use by or around children.

Assembly

No assembly required except the connections for operation. See Operating Instructions

Before Each Use

Check for damaged connectors or indicators on the controller before each use. Replace the controller if damaged.

Operating Instructions

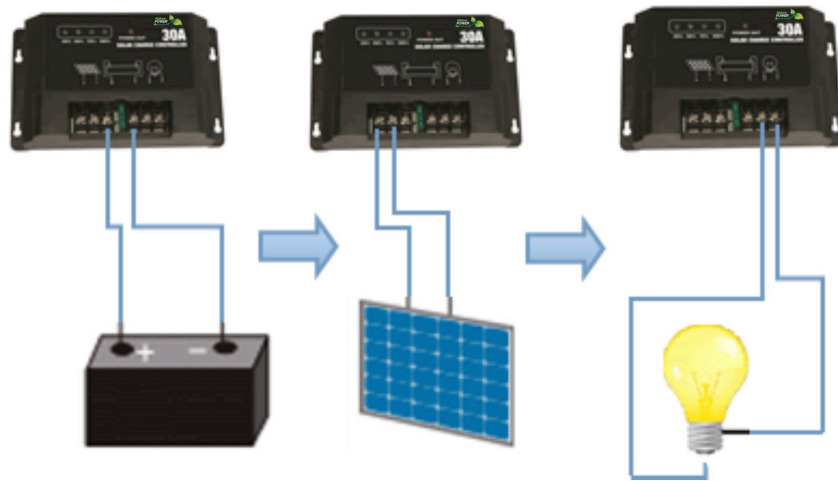
⚠ WARNING

- Check the ratings of the solar panel, and battery before connecting the charge controller. The controller's rated voltage is 12 volts and the input current must be less than 30 amps.
- Check that the current density of the connecting cables is less than $4A/mm^2$, that helps to reduce the line voltage drop.
- Do not expose the charge controller to rain or wet conditions. The controller is NOT weather-proof.

⚠ CAUTION

- When connecting the system for use, ensure that the connections are positive-to-positive and negative-to-negative. Wrong connections will cause damage to the controller, solar panel and/or the battery.

1. Arrange the controller, solar panel, battery, and any load within the range of the connecting cables (only the controller is provided in this package). **WARNING:** Keep the controller away from direct sunlight, electric heaters, or high temperature electrical appliances.
2. Cover the solar panel to prevent arcing while making system connections.
3. Connect the controller to the battery first, then to the solar panel, then to any other load in the system as shown below. **WARNING:** Failure to follow the above sequence may damage the controller.



First: Battery

Second: Panel

Third: Other Load

When the system is connected correctly, the controller's Power Out indicator illuminates.

Note: Do not connect the battery cables directly to the solar panels.
Do not connect any power supply directly to the solar panels.

4. As the system charges, observe the indicators on the controller:

The Percent indicator light displays battery capacity (25%, 50%, 75%, and 100%). When the battery charge is very low the indicator will not display any percentage.

The Power Out indicator illuminates when the system connections are correct and power is being supplied to the controller and to the battery or other load.

5. When disconnecting the system, cover the solar panel to prevent arcing during disconnection, then disconnect the solar panel first, then the battery, and the load.

Maintenance

The controller requires no maintenance except occasional cleaning and replacement if damaged or worn.

Parts List



The Charge Controller

Troubleshooting

- If the Power Out indicator does not illuminate soon after connected to the uncovered solar panel, check that the connections are secure. If the indicator still does not illuminate, the voltage may be too low, make corrections to the system as needed.
- If the battery indicator light is not illuminated when connected to the battery, the battery charge is very low. If the indicator doesn't display in a reasonable amount of time, check that the battery connection is secure.

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-588-0590**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following will be required: model number, serial number/lot date code, and description.
- The distributor reserves the rights to make design changes and or improvements to product lines and manuals without notice.

Limited Warranty

Nature Power warrants our products to the original purchaser that this product is free from defects in materials and workmanship for the period of 2 year from date of purchase. In the case of product defect, contact Nature Power customer service to receive troubleshooting. If defective part or unit should be returned, a return Authorization Number must be issued by Nature Power and the defective part or unit should be returned to the authorized location at the purchasers' expense. A dated proof of purchase is required to receive warranty service. Once received at authorized location and defect proves to be the result of defective material and workmanship, the defective part or unit will be replaced at warrantors' option and returned to the original purchaser at warrantors' expense. No refunds will be granted by the warrantor, in the event of buyer's remorse please contact your point of purchase within and in adherence to their return policy. Refunds are granted at the retailers' discretions.

Dated Proof of Purchase is required.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; (e) product alteration in any manner, and (f) broken glass.



Please contact Nature Power Products to acquire more information:

1-800-588-0590

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