



72 Watt Solar Farm And Cottage Power Kit

User 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 #40060

SAVE THESE INSTRUCTIONS

Important Safety Information

Thank you for choosing a Nature Power Product.

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

This product is designed for certain applications only. the distributor cannot be responsible for issues arising from modification. We strongly recommend this product not be modified and/or used for any application other than that for which it was designed. If you have any question relative to a particular application, Do not use the product until you have first contacted the distributor to determine if it can or should be performed on the product.

For technical question please call 1800-588-0590

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 tool. 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 product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product 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 be a safer experience and do the job better 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.



WARNING

This product can expose you to chemicals, including Di (2-ethylhexyl) phthalate (DEHP) which is known to the State of California to cause cancer, birth defects or other reproductive harm. For more information, go to www.p65warnings.ca.gov



ADVERTENCIA

Este producto puede exponerlo a productos químicos, incluidos Di (2-etilhexil) ftalato (DEHP) que el estado de California sabe que causa cáncer, defectos de nacimiento u otros daños reproductivos. Para obtener más información, vaya a www.p65warnings.ca.gov

Intended Use

Charges 12 Volt batteries for use on cabins, RV's, sheds or emergency back-up power

Parts List

Parts Description	Quantity
Solar panel	4
8 Amp Charge controller	1
Inverter with battery connecting cable	1
4 in 1 SAE cable	1
SAE to battery clamp cable	1
Manual	1

Technical Specifications

Property (solar panel)	Specification
Solar cells	Amorphous
Maximum power total	72 Watt
Maximum current total	4.8 Amps
Dimension each	29.3 x 12.6 x 0.8"
Weight each	5.5 Lbs

Operating Instructions

- Unit must be properly assembled in accordance with the assembly instructions before use.
- Do not tamper or alter any component of this product. Risk of fire, electric shock, or injury. Any tampering or alteration of any component will void warranty.
- It is important to observe and follow industry standard and manufacturer's safety procedures when working around batteries and other electrical equipment.
- To reduce the risk of sparking when installing solar charger please use a thick dark fabric to cover the panels or install in low light conditions.
- Make sure that you are connecting the panels in a well-ventilated area, free from flammable gases or vapours.
- These 12 Volt solar panels are designed for 12 Volt rechargeable batteries and 12 Volt configurations ONLY.
- All connections should be made in parallel, Positive(+) to Positive(+) Negative(-) to Negative(-)
- We recommend that you own a DMM {Digital Multi-Meter) to allow you to measure your voltage and amperage. It will help with understanding your system, checking proper polarities and troubleshooting.
- Do not attempt to recharge non-rechargeable batteries.
- Charge controller and inverter are NOT weatherproof and should be installed within 2 to 5 feet from battery

To avoid electrical surges, always connect the charge controller to the battery first, and then connect the charge controller to the solar panels. Then always disconnect the solar panels first and the battery last from the controller

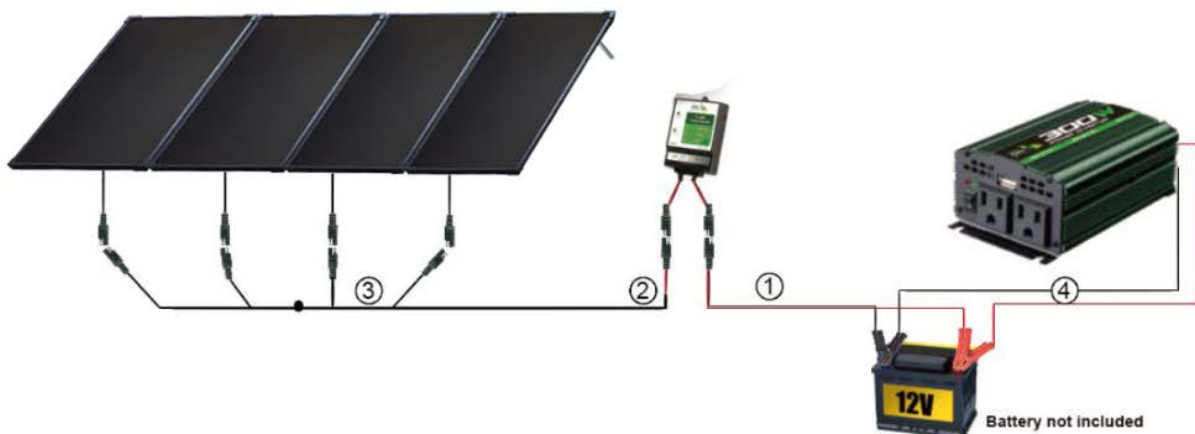
Power Usage Operation

Use only products that draw less than the power rating of the power inverter. Use of products greater than the rated power rating may cause power inverter to shut down or blow the fuse. If that application does not operate and the inverter turns off, you may need a larger inverter.

Battery Life Operation

The power inverter can draw lot of amperage from your vehicle battery. If you are using it for extended periods of time, you will want to operate your vehicle occasionally to maintain a charge to your battery. In addition the power inverter will also draw a small current when turned off and not operating. Therefore, it should be disconnected from your battery if your vehicle will not be used for more than 24 hours.

Assembly Instructions



- Step1** Connect the charge controller to battery with SAE-battery clamp cable, Parallel connections = Positive to Positive and Negative to Negative.
- Step2** Connect 4 in1 SAE cable with charge controller.
- Step3** Connect solar panels with the 4 in 1 SAE cable.
- Step4** Connect the power inverter to battery by "bare end - battery clamp" cable which included with inverter. please refer to inverter manual for more information.

Optional Additional Accessories

1. 4 to 1 SAE cable

(Used for connecting the solar panels to the charge controller). connect each solar panel to the multi plug side of the wire. ensuring that each connection is secure. insert the single SAE into solar panel side of the charge controller.



* 3. Battery clamp to female DC port

(For powering 12V DC devices) connect the clamps to the appropriate terminals on the battery. the female DC port can now be used to charge or power 12 volt devices directly from the battery. (For permanent installation see 3a).

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2. SAE to battery clamp

(Used for Connecting the charge controller to the Battery). connect the SAE to the battery side of the charge controller and connect the clamps to the appropriate terminals on the battery ensuring the correct polarity is observed. (For permanent connection to the battery see 2a).

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* 3a. SAE to female DC port

When connected this can be used to connect your DC devices directly to the solar panels for charging.

3a



* 2a. SAE to bare end cable

(Permanent Connection) - connect the SAE to the battery side of the charge controller. the bare wires on the other end of the wire can now be hard-wired to the battery terminals.

2a



* 4. SAE to male DC plug

By connecting the SAE to the battery side of the charge controller the male DC plug can be used to charge car 12V DC batteries directly from the solar panels through the 12V port in the vehicle.

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* If interested in any of these additional accessories please visit www.ecowarenessdirect.com



8 AMP CHARGE CONTROLLER

Product Description:

Any solar panel that is rated 12 watts or higher requires the use of a charge controller. Nature Power Solar panels and 8 Amp charge controller comes equipped with easy to use SAE adapters. The 8 Amp Charge controller is designed to protect your 12 Volt batteries from being overcharge by high voltage surges and prevents discharging of the battery overnight. LED lights display battery "Charged" or battery "Charging". Never deeply discharge your battery; never let your battery voltage pass below 11.0

volts, It will cause permanent damage to the battery. Use a DMM (Digital Multi-Meter) to measure your battery's voltage. When connecting and during operation it is normal for both lights to flicker for a short time.

IMPORTANT:

- Observe manufacturer's safety procedures when working around batteries and other electrical equipment.
- Always connect charge controller to the battery first and remove last.
- This product is designed to be used on 12 volt configurations in parallel, (optional 6 volt in series).
- This product is designed to receive charges from 12 Volt Solar Panels.
- This product should be placed in a well ventilated dry area, free from flammable gases, weather, and moisture. Charge controller is NOT weatherproof.
- Charge controller should not be installed further than 2 to 5 ft. way from the battery. Solar Panel length must not reach further than 20 ft way from battery or loss of current may occur.
- LED light indicates a full battery charge "green" at 14.2 Volts, at this time the charge controller will cut out to prevent overcharging.
- LED light indicates battery charging "yellow" when battery reaches below 13 Volts, charge controller will cut in and allow solar panel to being charging.
- Charge controller can handle up to 130 Watts of solar power.

Technical Specifications

Property	Specification
Battery voltage system	12V
Charging current (max)	8A
Charging power (max)	130W
Cut-in voltage	13V
Cut-out voltage	14.2V

Solar Kit Weekly Power Chart

Please refer to the run times chart to choose how much solar power your desired system requires.

Note: All run times/ratings are estimates only and may vary depending on your location, time of day, time of year and are based on 7 Hours of full sunlight per day.

Solar panel Rated Hourly (Maximum output)	66 Watt	72 Watt	200 Watt	400 Watt
	3.9 Amp	4.8 Amp	11.3 Amp	22.6 Amp
Weekly Output	3.2 kw·h	3.5 kw·h	9.8 kw·h	19.6 kw·h
Weekly Power Run Times				
Laptop 20-50 watts	68 hr	84 hr	199 hr	398 hr
PC 80-150 watts	23 hr	28 hr	66 hr	132 hr
Fan 10-50 watts	68 hr	84 hr	199 hr	398 hr
Halogen Light 100 watts	34 hr	42 hr	99 hr	199 hr
40" TV / Projector 200Watts	17 hr	21 hr	50 hr	99 hr

***Noted:** Device power can not exceed the inverter's power capacity

Go to www.naturepowerproducts.com for a larger selection of renewable energy products and accessories.

FAQ

- Will this kit work with a 12V or 24V battery?**
 This is a 12V battery charging system only. Please call Nature Power Customer Service for more 24V system configuration.
- How do solar system work?**
 The panel's photovoltaic cells convert the energy in sunlight to electricity, the electricity is then stored in the battery and an inverter will allow you to plug in appliances. there is 4 major components needed to set up your solar off grid system. Solar panels, charge controller to control the charge to the battery bank, a battery for power storage and an inverter to transfer DC power from the battery to an AC power.
- Does the panels need to be in direct sun to work?**
 No, although solar panels produce the highest wattage output in direct sunlight, they will still produce power on cloudy days.
- Do I need a battery to store Power?**
 Yes, a battery is needed to store the power from the solar panel, inverter will also connect to the battery.
- Will I need solar maintenance?**
 Solar panels generally require very little maintenance. They are very durable but should always be cleaned to prevent dust and debris particles from causing shading on the solar panels. batteries might need to be changed every few years.
- On what roof materials can solar be installed?**
 Solar panels can be installed on any roof material that can take the weight of the panel. properly mounted solar panel system is essential, as a an improperly mounted solar panel can cause leaks or other roof issues.

Trouble Shooting

- **Charge controller not working after battery connected.**

Confirm that it is a 12V battery and the voltage is higher than 11V, If the voltage is below 11V for a long time, the battery is probably damaged.

- **Battery are not charging.**

1, Check your controller and battery first of all, Make sure your battery is a workable 12V battery.

2, Faulty connections

The wires should always be water tight and insulated. Poor wiring may cause loose connections, corrosion and oxidation of the wires. Voltage levels at various parts of your connection can be checked by a multimeter to help you find out the points at which low voltage problems start. Do not connect the solar power to the controller during the solar power voltage check.

3, Solar panel faults

This condition is not common as most of the solar panels are able to sustain harsh weather conditions and last for a long period of time. Checking on your solar panels is also advised as the last resort. The main defects a solar panel may experience are: Delamination, junction box faults (increased resistance in the junction boxes due to exposure to moisture).

- **Low power output from Solar panel / Battery charging slow.**

1, Shading

Shading should always be avoided at all times. Shading causes massive loss of power output and solar panels need high exposure to sun light so as to produce high power outputs. One should always make sure that there are no tree branches blocking the solar panels from direct sunlight. Dust and debris also causes shading. Solar panels should always be cleaned to prevent dust and debris particles from causing shading on the solar panels.

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 1 year from date of purchase, 5 year warranted to generate up to 80% of rated power 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.



Please contact Nature Power Products to acquire more information:

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