



# Solar Home and RV Kit 40 Watts

## Owner's Manual

Model: 40400



For safe and optimum performance, the Solar Home and RV Kit must be used properly. Carefully read and follow all instructions and guidelines in this manual and give special attention to the **CAUTION** and **WARNING** statements.

## PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE

**Note:** Due to unit contain large battery capacity, upon purchasing, **immediately** charge unit for more than 24 hours or through the solar panel for more than 72 hours depending on the availability of the sun light. To guarantee maximum device performance and life span if the unit is not connected continuously to utility power or not connected to the solar panel, it is recommended to charge the unit after *each* use and once every *90 days*.

### Disclaimer

While every precaution has been taken to ensure the accuracy of the contents of this guide, **Nature Power** assumes no responsibility for errors or omissions. Note as well that specifications and product functionality may change without notice.

### Important

Please be sure to read and save the entire manual before using your **Nature Power Solar Home and RV kit**. Misuse may result in damage to the unit and/or cause harm or serious injury. Read manual in its entirety before using the unit and save manual for future reference.

### Service Contact Information



Tel: 1-800-588-0590

[www.naturepowerproducts.com](http://www.naturepowerproducts.com)

Email: [info@naturepowerproducts.com](mailto:info@naturepowerproducts.com)

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# 1. INTRODUCTION

Thank you for purchasing the Nature Power Solar Home and RV Kit. With our state of the art, easy to use design, this product will offer you reliable service for providing a solar-powered rechargeable power source for your home, cabin, or campsite. With its highly technical design and comprehensive features, the Nature Power Solar Home and RV Kit will provide you with a simple yet effective user experience as you learn to generate your own power.

The Nature Power Solar Home and RV Kit can run many AC-powered appliances whenever you need power. Its battery is expandable for times when you require longer run times, and its automatic transfer switch built inside means that you can switch seamlessly from household utility power to the power you generate from the sun. This manual will explain how to use this unit safely and effectively. Please read and follow these instructions and precautions carefully.

**NOTE:** Upon purchasing, immediately charge unit through utility power for 24 to 48 hours or through the solar panel for more than 72 hrs. To guarantee maximum device performance and life span, it is recommended to continuously connect the unit to utility power or solar panel to top up the internal battery or else to charge the unit after *each* use and once every *90 days*

## IMPORTANT SAFETY INFORMATION

This section contains important safety information for the Nature Power Solar Home and RV Kit. Each time, before using the Nature Power Solar Home and RV Kit, READ ALL instructions and cautionary markings on or provided with the inverter/charger, the batteries, and all appropriate sections of this guide.

The Nature Power Solar Home and RV Kit contains no user-serviceable parts. See Warranty section for how to handle product issues.

## FIRE AND/OR CHEMICAL BURN HAZARD

- Do not cover or obstruct any air vent openings and/or install in a zero-clearance compartment.
- Do not use the Nature Power Solar Home and RV Kit, if the unit is visibly leaking some type of liquid. It is possible that the internal battery has been damaged and battery acid may have spilled.

## FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN DEATH OR SERIOUS INJURY

- When working with electrical equipment or lead acid batteries, have someone nearby in case of an emergency.
- Wear eye protection and gloves.
- Avoid touching your eyes while using this unit.
- Keep fresh water and soap on hand in the event battery acid comes in contact with eyes. If this occurs, cleanse right away with soap and water for a minimum of 15 minutes and seek medical attention.
- Batteries produce explosive gases. **DO NOT** smoke or have an open spark or fire near the system.
- Keep unit away from moist or damp areas.

- Avoid dropping any metal tool or object on the battery. Doing so could create a spark or short circuit which goes through the battery or another electrical tool that may create an explosion.

**WARNING: Shock Hazard. Keep away from children!**

- Avoid moisture. Never expose unit to water.
- Unit provides 120Vac from inverter or by pass utility power, treat the output socket the same as regular wall AC sockets at home.

**WARNING: Explosion hazard!**

- DO NOT use the Nature Power Solar Home and RV Kit in the vicinity of flammable fumes or gases (such as propane tanks or large engines).
- AVOID covering the ventilation openings.
- Always operate unit in an open area.
- Prolonged contact to high heat or freezing temperatures will decrease the working life of the unit. Unit exposure to these elements may lead to cracking and decreased capacity of the internal battery.

**FCC INFORMATION**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**LIMITATIONS ON USE**

Do not use in connection with life support systems or other medical equipment or devices.

**BATTERY RECYCLING**

The unit is designed to provide years of service. However, the internal battery is not designed to be user replaceable.



Because the internal battery installed inside the battery box contains lead, which can be hazardous if exposed to the environment, the battery box should be recycled or safely disposed of at your local recycling depot. Do not dispose of the battery box with common household waste. Please ask your local authorities about recycling services that are available in your area.

## 2. PRODUCT DESCRIPTION

The Nature Power Solar Home and RV Kit package includes the items list below.

- Solar Home and RV Kit base unit
- 40W Solar Panel
- Solar Panel Cable
- Owner's manual

## 3. INSTALLATION



**WARNING: FAILURE TO FOLLOW THESE INSTRUCTIONS CAN DAMAGE THE UNIT.**

Before beginning your Nature Power Solar Home and RV Kit Installation, please consider the following:

- The Nature Power Solar Home and RV Kit base unit should be used or stored in an indoor area away from direct sunlight, heat, moisture or conductive contaminants. The solar panel of course can be installed outdoors where the best access to sunlight occurs.
- When placing the unit, allow a minimum of three inches of space around the unit for optimal ventilation. When placing the unit, allow a minimum of three inches of space around the unit for optimal ventilation.
- Charge battery immediately upon purchasing this product.
- To ensure optimum battery run time and life expectancy, leave Nature Power Solar Home and RV Kit continuously plugged into utility AC power and/or leave solar panel plugged into the unit to charge internal battery

### **Main Unit Installation**

To install the unit, plug the AC input power cord directly into a wall outlet and unit is ready to use.

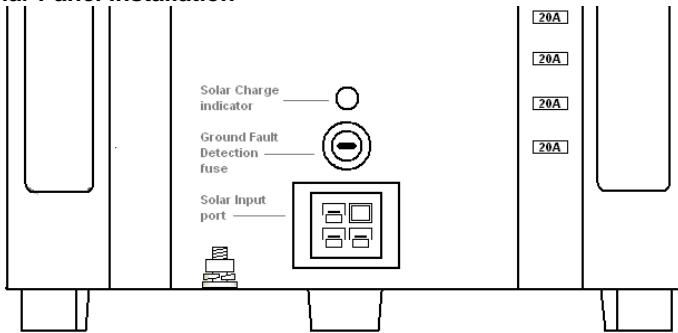
Note: Although the unit is grounded through the ground pin of the AC plug, it is highly recommended to ground the battery box through the 'Grounding Electrode Terminal'

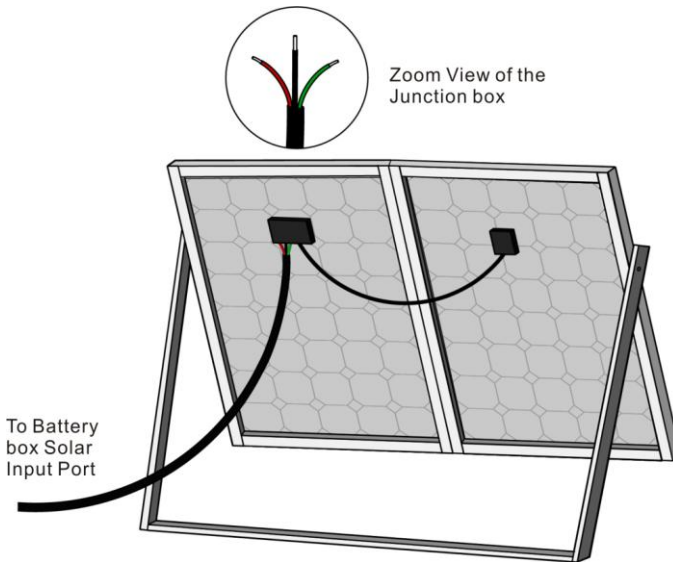
locates at the back of the battery box.

Follow instruction below to test the unit:

- Turn unit on by pressing and holding the Power button for about a second until a beep sound occur. The 'Status' light turns on indicating-the Nature Power Solar Home and RV Kit is ON. The unit is functioning in standby mode and is ready to provide backup power. AC output is now being provided directly from utility power.
- If the battery capacity is low and needs to be recharged, the LED screen on display flashes "CHG" during the charging process and flashes "Ful" until battery is fully charged.
- Unplug the input power cord to simulate power failure. The status LED on display will turns amber indicate unit is running in backup power mode. AC output is now being provided from battery power.
- Reconnect the AC power cord into a wall outlet will switch unit back to standby mode and AC output is now being provided directly from utility power again.
- The unit is successfully installed and functioning properly.

### PV Solar Panel Installation





**WARNING: Shock, fire and energy hazards.** Make sure the solar panel is covered with an opaque sheet or facing the ground before connected or disconnected the cable wire to the solar panel junction box. All wiring must be done in accordance with applicable local and national electrical wiring codes.

#### **Connect Unit to Solar Panel:**

**WARNING: Shock, fire and energy hazards.** The Solar input port is rated at 17.5V 4A and is designed to be used with the supplied Solar Home and RV Kit 40W solar panel. If a non Solar Home and RV Kit 40W solar panel is use, be sure the solar panel is design for a 12V battery system and with maximum open circuit voltage less than 25 VDC. Please refer to the specifications label on the solar panel before connecting. Do not connect with PV source capable of delivering more than 8 amps. Connect solar panel with higher voltage or current rating will permanently damage the unit and may cause fire and energy hazard.

- Unfold the Solar Home and RV Kit 40W solar panel. Cover the solar panel with an opaque sheet or flip the solar panel with the solar cell facing a flat ground to minimize the output voltage to zero volts. Beware of sharp object that may cause damage the surface of the solar panel.
- Unscrew the plastic junction box cover from the back of the solar panel.

**CAUTION: Reverse polarity.** Improper connections (reversing the wire connection on the solar panel connection box) will cause the unit to malfunction and may permanently damage the unit. Damage caused by a reverse polarity connection is not covered by your warranty.

- Connect the red, white, green wires of the provided solar cable to the three connectors in the solar panel junction box through the supplied strain relief with red wire connected to positive, white wire to negative and green wire to the ground



connection.

- Secure the solar cable to the plastic junction box by the supplied strain relief
- Cover the junction box with the cover and secure it with the screw.
- Plug in the other side of the solar panel cord plug to the solar input port located at the back of the Nature Power Solar Home and RV Kit battery box. Please note the polarity of the connector.
- Remove the opaque sheet or flip the solar panel with solar cell surface facing upwards. Adjust the mounting fringe of the solar panel to have the solar cell surface facing directly to the sunlight to achieve the maximum power. When sunlight is available, the solar charge indicator should automatically turn on and the “Solar Charge Indicator” should either flash or solid depending on the battery status.

**NOTE:** It is recommended to always charge the internal battery to a 100% state-of-charge, as shown by a steady green on Solar charger indicator.

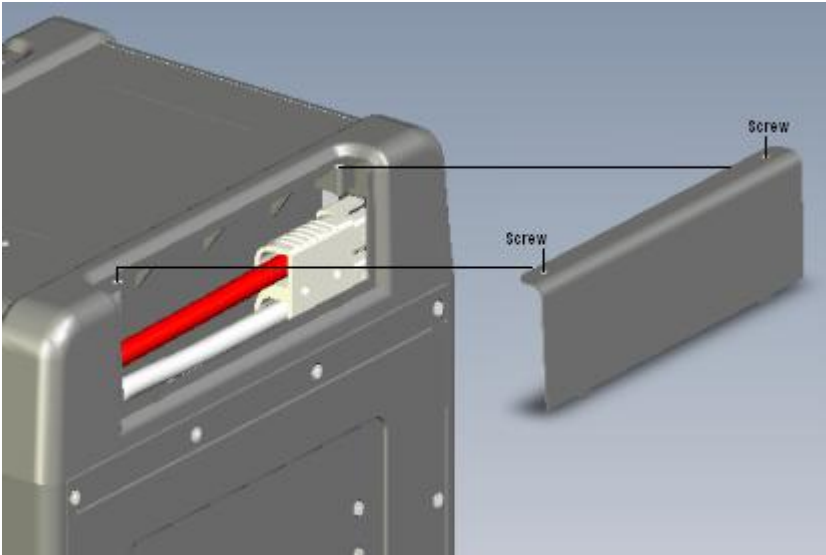
#### **Disconnect Solar Panel from Unit:**

- Cover the solar panel with an opaque sheet or flip the solar panel with the solar cell facing a flat ground to minimize the output voltage to zero volts.
- Grasp the solar panel cord plug by squeezing the side retaining tabs to release and pull plug out of receptacle.
- Verify the Solar charge indicator is off.
- Disconnect the solar cable from the solar panel by reversing the procedure of installing the cable to the junction box.

#### **Install a Second Battery Box: (optional)**

Connect the unit with a second battery box will double the unit run time. Follow the detail installation guide provide with the second battery box for second battery box installation. See also below a brief guideline to access the built in auxiliary DC input port on this main unit and how the secondary battery box is connected.

- Please be sure the AC power cord is unplugged and the unit is turned off.
- Remove the top right panel by unscrewing the two screws located on the top right corners of the panel. The auxiliary port is located inside the compartment.



- Place the optional battery box on the right hand side of the main unit.
- Ground the two battery boxes together and to earth ground by using the supplied ground cable through the “Grounding Electrode Terminal”
- Take out the auxiliary DC input port from the main unit and connect it to the second battery box output port.
- The unit is now ready to provide power to double the run time.  
**Tips:** The second battery box is design to be stackable. Using the above procedure can parallel multiple battery boxes.

## 4. CONFIGURATION

Please read the following table to fully understand unit settings and desire your own desirable settings. Unit default setting is “Full Automatic” (In1, Ch1, A1).

### Understanding of Unit Setting

Inverter	Setting
In0	Inverter is disabled, unit will not provide backup function when utility power is not available
In1	Inverter is set to standby mode. Unit will provide backup function when utility power is not available
In2	Inverter is forced to turn on even when AC utility power is available. The inverter will only switch back to utility mode when internal battery is getting low. With this setting, the 5A internal charger is set to Ch0 by default.

Charger	Setting
Ch0	Internal 5A charger is disabled. The charger will not charge the internal battery when utility AC is available.

Ch1	Internal 5A charger is enabled. Charger will automatically charge the internal battery when AC is available.
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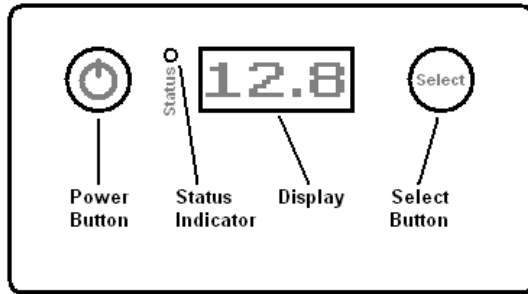
<b>Alarm</b>	<b>Setting</b>
AL0	Audio alarm sound is disabled. Alarm will not sound when warning and fault occur.
AL1	Audio alarm sound is enabled. Alarm sounds when warning or fault occurs.

### Unit Function Setting

<b>Setting</b>	<b>Mode of Operation</b>	<b>Unit Function</b>
In1 Ch1 AL1	Full Automatic (Factory default)	AC output is provide by AC utility when utility is available Internal battery is automatically charged by the 5A charger AC output will automatically switch to inverter mode power by the internal battery when utility is not available Audio alarm is enabled and will sound when any warning or fault occurs
In1 Ch1 AL0	Full Automatic Silent	Same as “Full automatic mode” but with alarm disabled. Audio alarm will not sound when any warning or fault occurs. The unit fault protection features remain active and will shutdown without audio warning when fault occurs.
In1 Ch0 AL1	Auto Backup with AC Charger Disable	Same as “Full automatic mode” but with 5A AC charger disabled. Battery can only be charged by the solar panel or external charger. Only use this mode when there is sufficient solar power or external charger to charge the internal battery
In1 Ch0 AL0	Auto Backup with AC Charger & Alarm Disable	Same as “Auto backup with AC charger disable mode” but with alarm disabled. Audio alarm will not sound when any warning or fault occurs. The unit fault protection features remain active and will shutdown without audio warning when fault occurs.
In2 Ch1 AL0 or 1	Setting is not available	Not available for user setting

In2 Ch0 AL1	Backup Priority	Unit will provide output using battery and solar power as higher priority. AC output will only switch to utility mode when battery is low and available. Audio alarm is enabled and will sound when any warning or fault occurs Note: Only use this mode when there is sufficient solar power to power up the load.
In2 Ch0 AL0	Backup Priority with Alarm Disable	Same as “Backup priority mode’ but with alarm disabled. Audio alarm will not sound when any warning or fault occurs. The unit fault protection features remain active and will shut down without audio warning when fault occurs.
In0 Ch1 AL1	Backup Disable	AC output is provided by AC utility when utility is available Internal battery is automatically charged by the 5A charger Inverter is disabled and no backup power occurs when AC utility is not available. Audio alarm is enabled and will sound when any warning or fault occurs
In0 Ch1 AL0	Backup & Alarm Disable	Same as “Backup disable mode” but with alarm disabled. Audio alarm will not sound when any warning or fault occurs. The unit fault protection features remain active and will shut down without audio warning when fault occurs.
In0 Ch0 AL1	Backup & Charger Disable	AC output is from utility AC power. No AC output when utility AC is not available.
In0 Ch0 AL0	Backup, Charger & Alarm Disable	AC output is from utility AC power. No AC output when utility AC is not available.

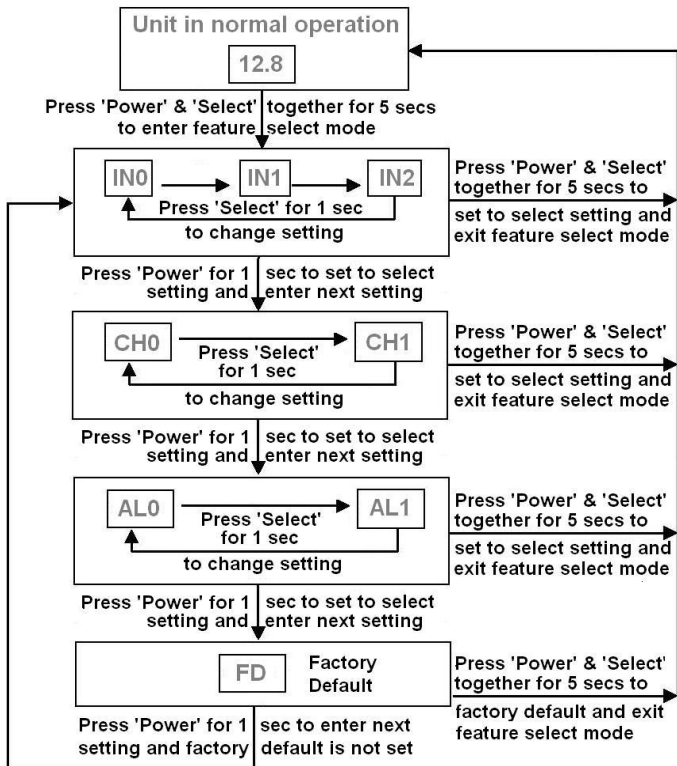
Unit Display Label as shown



### To change unit function:

- To enter the feature setting mode, press and hold "Power" and "Select" button together for about 5 seconds until a beep is sounded. Display will show current inverter setting as "In0 or In1 or In2"
- Press and hold "Select" button for 1 second to toggle between the three settings.
- Once the desired setting is selected, press and hold "Power" button for 1 second to set the desired setting and carry on with setting the other feature.
- Display will show current charger setting as "Ch0 or Ch1"
- Press and hold "Select" button for 1 second to toggle between the two settings.
- Once the desired setting is selected, press and hold "Power" button for 1 second to set the desired setting and carry on with setting the other features.
- Display will show current alarm setting as "AL0 or AL1".
- Press and hold "Select" button for 1 second to toggle between the two settings.
- Once the desired setting is selected, press and hold "Power" button for 1 second to set the desired setting and carry with setting the other features.
- Display will show "Fd" factory default setting. If you desire to use the factory setting, press and hold 'Power' and 'Select' button together for 5 seconds to exit the setting mode. If you wish to keep all the previous settings on inverter, charger and alarm, just press 'Power' button for 1 seconds and press and hold 'Power' and 'select' button together for about 5 seconds to exit the feature setting mode.

Note: Press and hold 'Power' and 'Select' button together for 5 seconds at any time to exit the feature setting mode. See feature setting chart below.



## 5. OPERATION

### **WARNING: RISK OF EQUIPMENT DAMAGE**

- Do not plug surge-protected power bars into the unit's 120 VAC outlets.
- Do not connect an AC power source to the 120 VAC outlets.
- Do not connect the unit's AC power input cord to its 120 VAC outlets.

### Operating the main unit

Mode	Status LED	Display	Condition
Full Automatic In1,Ch1, Al1	Solid green	"Ful"	AC output is supplied by utility AC power Internal battery is fully charged
	Flashing green	Flash "XX" battery capacity in %	AC output is supplied by utility AC power Charging of internal battery by 5A charger is in progress
	Solid amber	Flash between Output Power "X.XX" in kW & "XX" battery	AC output power is supplied by the inverter through internal battery and/or your Nature Power solar power or another external solar panel or external charger

		capacity in %	
	Flashing amber	Same as above	Same as above and utility AC power is just detected and AC output will switch to utility power within a few seconds
	Solid red	“E01-E11”	Error on unit is detected. AC output is disconnected. See Trouble shooting section
Full Automatic Silent In1,Ch1, A10	Same as “Full Automatic Mode” but with audio alarm disabled. The unit fault protection features remain active and will shut down without audio warning when fault occurs.		
Auto backup with internal AC charger disable In1, Ch0, A11	Solid green	“Ful”	AC output is supplied by utility AC power. Internal battery is fully charged
		“XX.X” in %	AC output is supplied by utility AC power. Internal battery is not fully charged. Display show battery capacity
	Solid amber	Flash between Output Power “X.XX” in kW & “XX” battery capacity in %	AC output power is supplied by the inverter through internal battery and/or Nature Power solar panel or another external solar panel or charger.
	Flashing amber	Same as above	Same as above and utility AC power is just detected and AC Output will switch to utility power within a few seconds
	Solid red	“E01-E11”	Error on unit is detected. AC output is disconnected. See Trouble Shooting section
Auto backup with internal AC charger and alarm disable In1, Ch0, A10	Same as “Auto backup with AC charger disable mode” but with audio alarm disabled. The unit fault protection features remains active and will shut down without audio warning when fault occurs.		
Backup priority In2,Ch0, A11	Solid amber	Flash between Output Power “X.XX” in kW & battery capacity “XX” in %	AC output power is supplied by the inverter through internal battery and/or solar power
	Solid	“XX” in (%)	AC output is supplied by utility AC power

	green		Display shows battery capacity
	Solid red	“E01-E11”	Error on unit is detected. AC output is disconnected. See Trouble Shooting section.
Backup priority with alarm disable In2,Ch0,AI0	Same as “Backup Priority mode” but with audio alarm disabled. The unit fault protection features remain active and will shut down without audio warning when fault occurs.		
Backup disable In0,Ch1, AI1	Solid green	“Ful”	AC output is supplied by utility AC power Internal battery is fully charged
	Flashing green	Flash between “Chg” & “XX” battery capacity in %	AC output is supplied by utility AC power Charging of internal battery by 5A charger is in progress
Backup disable with alarm disable In0,Ch1, AI0	Same as “Backup disable mode” but with audio alarm disabled. The unit fault protection features remain active and will shut down without audio warning when fault occurs.		
Backup and charger disable In0,Ch0,AI0 or AI1	Solid green	“Ful”	AC output is supplied by utility AC power and battery is full charge
	Green	“XX” in (%)	AC output is supplied by utility AC power and display shows battery capacity

### Operating the PV Solar Input

The battery box comes with a solar input port and a DC to DC controller that provides an alternative method to charge the internal battery. A solar charge indicator located at the back of the battery box to indicate the charging status of the internal battery.

The DC to DC controller is a fully automatic self-sustaining device that will initiate the charge cycle when solar power is available. Please note that the DC to DC controller is designed to be used with the provided Nature Power 40W solar panel. Connected to other solar panel may damage the unit or over-charge the battery. If insufficient charge capacity is not available from the solar source, it is recommended to use the internal 5A charger to complete the battery charging process through the utility.

### Understanding the Error Codes

Error Code	Condition	Corrective Action
E01	Inverter has sensed input under voltage and has shutdown	Recharge battery immediately and restart unit



E02	Inverter has sensed input over voltage and has shutdown	Check battery voltage or if any external charger is connected to the battery box
E03	Inverter output has sensed overload or short circuit and was shutdown	Check load connected to the output. Reduce load and restart the unit
E04	Inverter has sensed internal temperature was high and has shutdown	Turn unit off and wait for 15 minutes before restarting. Check if any object has blocked the air flow of the unit
E05	Inverter has sensed low voltage input and warning occurs	Recharge battery as unit will shut down shortly
E06	Inverter has sensed output load is high and overload shutdown is near	Check load connected to the output. Reduce load.
E07	Inverter has sensed internal temperature is high and is close to thermal shutdown limit	Reduce load and check if any ventilation of the unit is blocked.
E08-09	Not used	
E10	Battery reaches high voltage	Check battery voltage or if any external charger is connected to the battery box
E11	Transfer relay has sensed high temperature and shutdown	Check load connected to the output. Reduce load and check if any ventilation of the unit is blocked
E12	Not used	

### Estimate Run time on Load

Following run time is an estimate based on using a single battery box with 60AH battery on specific load used for testing. Actual run time may vary.

Load	Consumption	Estimate Run time
Cordless Phone	5W	90 hrs
Home Alarm System	5W	90 hrs
Clock/Radio	8W	50 hrs
Table Lamp	40W/60W	10 hrs/ 6 hrs
Freezer (8.8 cu. ft.)	80W	4.5 hrs
20" LCD TV	100W	4.0 hrs
Refrigerator (18 cu. ft.)	120W	3.5 hrs
Sump Pump (1/2 hp)	300W	55 min
Microwave (mid size)	1000W	20 min
Coffee Maker	1200W	10 min

### Tips: Maximize the usage of your Nature Power Solar Home and RV Kit

During times of power outage, here are some tips to maximize your run times for key back-up power applications:

- Do not leave appliances on when not in use because they will drain the internal

battery

- For computer use, use laptop, or desktop computer with LCD monitor instead of desktop computers with CRT monitor.
- Use small televisions instead of big screen TV's
- Use small desk lamps (25 to 40 W) instead of high-wattage lamps.

### Battery Replacement

The battery box contains a 60AH battery. Qualified battery/electronic technician is required to replaced the battery. To replace the battery, please contact customer service for details.

## 6. TROUBLESHOOTING

To trouble shoot the unit, please note the error code display on the main unit and review the “Understanding the Error Codes” in section 5.

<b>Problem</b>	<b>Symptom</b>	<b>Solution</b>
Products connected to unit malfunction or overheat	Products connected to unit do not accept modified sine-wave waveform	Products are not compatible with the modified sine wave output produced by the Nature Power Solar Home and RV Kit. See “Precaution for using rechargeable application” on page XX
Insufficient run-time	Battery is not fully charged	Charge battery by leaving the unit plugged to the utility for more than 24 hrs to fully charge the battery or leave the solar panel plugged into the battery box for more than 72 hrs
	Battery is near the end of it's life	Replace battery box
Solar Charger indicator is not ON when solar panel is connected	Solar panel cannot supply sufficient power to start the solar charger and charge the battery	Check location and direction of solar panel
	Wrong wire connection on solar panel junction box	Verify solar panel junction box connection
	Ground fault is detected on the solar panel and it shuts down the solar panel DC to DC controller	Check for any damage on solar panel. Replace Ground Fault Detection fuse located at the back of battery box
Unit has no output	Unit is off	Turn unit on
	Unit has shutdown due to various potential conditions	Check utility, battery voltage, and unit settings. See Unit Operation section

## 7. SPECIFICATIONS

*Note: Specifications are subject to change without notices.*

Inverter Specification:

Output Current/Power:	12A/1440W continuous 15A/1800W maximum
Surge Power:	2880W peak
Output Voltage:	120 VAC/ 60 Hz
Output Waveform:	Modified Sinewave
Peak Efficiency:	90%
No Load battery draw (unit in standby):	< 3W
DC Input Voltage operating range:	10.5 – 15.5 Vdc

Internal AC Charger Specification:

Output Current:	5 ADC
Output Voltage (Absorption/Float):	14.8/13.5 VDC
Recharge Voltage:	12.6 VDC
Efficiency:	80%
Charger type:	3 stages (bulk/absorption/float)

Solar Panel Charger Specification:

Output Current:	4A maximum
Output Voltage:	14.8/13.5 VDC
Recharge Voltage:	12.6 VDC
Input DC Voltage:	9 - 26 VDC maximum
Efficiency:	>95%
Charger Type:	PWM control

Battery Specification:

Battery Capacity:	12V, 60Ah
Battery Type:	Sealed Lead Acid (Deep cycle)

Regulatory Approval (ETL certify):

CSA C22.2 no. 107.1
UL 1741
UL 458

## 8. OPTIONS FOR EXPANSION

This Solar Home and RV Kit is a modular design. Battery capacity can easily be extended with multiple standalone Nature Power battery boxes or to external 12 Volt batteries through the external mating connector to connect in parallel with the unit through a pre-wired built-in internal connector located by the side of the unit. External AC or Solar chargers are also available to improve battery charging time. For more information, please visit [www.naturepowerproducts.com](http://www.naturepowerproducts.com) or talk to your local supplier.

Extend unit run time with Nature Power solution:

- Purchase Nature Power 12V 60Ah battery box with 4A solar input port Purchase Nature Power Mating connector with wire and ring terminal to connect your own 12 Volt battery.

Reduce battery charging time with Nature Power solution:

The following options are available to improve battery charging time.

- 20/40A high current charger
- 30A DC to DC controller
- 30A MPPT controller
- 90W Solar panel

## 9. WARRANTY

### **One Year Limited Warranty (Receipt Required)**

The limited warranty program is the only one that applies to this unit, and it sets forth all the responsibilities of Nature Power. There is no other warranty, other than those described herein. Any implied warranty of merchant ability of fitness for a particular purpose on this unit is limited in duration to the duration of this warranty.

This unit is warranted, to the original purchaser only, to be free of defects in materials and workmanship for one year from the date of purchase without additional charge.

The limited warranty on the power output and the material of the module, guarantees that your solar unit will produce a minimum of 80% of the original rating for the warranted period from the purchase date. The warranty does not extend to subsequent purchasers or users.

Manufacturer will not be responsible for any amount of damage in excess of the retail purchase price of the unit under any circumstances. Incidental and consequential damages are specifically excluded from coverage under this warranty.

This unit is not intended for commercial use. This warranty does not apply to damage to units from misuse or incorrect installation/connection. Misuse includes wiring or connecting to improper polarity power sources.

### **RETURN/REPAIR POLICY:**

If you are experiencing any problems with your unit, please contact our customer service department at 1-800-588-0590 before returning product to retail store. After speaking to a customer service representative, if products are deemed non-working or malfunctioning, the product may be returned to the purchasing store with 30 days of original purchase. Any defective unit that is returned to manufacturer within 30 days of the date of purchase will be replaced free of charge.

If such a unit is returned more than 30 days but less than one year from the purchase date, manufacturer will repair the unit or, at its option, replace it, free of charge. If the unit is repaired, new or reconditioned replacement parts may be used, at manufacturer's option. A unit may be replaced with a new or reconditioned unit of the same or comparable design. The repaired or replaced unit will then be warranted under the terms of the remainder of the warranty period. The customer is responsible for the shipping charges on all returned items.

### **LIMITATIONS:**

This warranty does not cover accessories, such as adapters and batteries, damage or defects result from normal wear and tear (including chips, scratches, abrasions, discoloration or fading due to usage or exposure to sunlight), accidents, damage during shipping to our service facility, alterations, unauthorized use or repair, neglect, misuse, abuse, failure to follow instructions for care and maintenance, fire and flood.

If your problem is not covered by his warranty, call our Customer Service Department toll free at 1-800-588-0590 for general information if applicable.