



## 40W Briefcase Solar Panel & 120W Briefcase Solar Panel



**Item 55701**



**Item 55702**

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 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 questions 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 questions please call 1-800-588-0590.



## GENERAL SAFETY RULES



### 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.



**CAUTION:** Do not allow persons to operate or assemble this Solar Panel until they have read this manual and have developed a thorough understanding of how the Solar Panel works.



**WARNING:** The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

## SAVE THESE INSTRUCTIONS

## FEATURES

- Lightweight, rugged and portable
- Made with high powered Crystalline Solar Technology
- Weather resistant

## Part List

### 40W Briefcase

Part#	Description	Qty.
1	2x20 Watt Folding Solar Panel Briefcase	1
2	Battery Clamps	1
3	Mounting Poles	2
4	Charge Controller	1

### 120W Briefcase

Part#	Description	Qty.
1	2x60 Watt Folding Solar Panel Briefcase	1
2	Battery Clamps	1
3	Bare Wire	1
4	Stand	2
5	Charge Controller (attached to the panel)	1

## USE AND CARE

- **Do not modify the Solar Panel in any way.** Unauthorized modification may impair the function and/or safety and could affect the life of the equipment. There are specific applications for which the **Solar Panel** designed.
- **Always check of damaged or worn out parts before using the Solar Panel.** Broken parts will affect the Panel operation. Replace or repair damaged or worn parts immediately.
- **Store idle Solar Panel.** When Solar panel is not in use, store it in a secure place out of the reach of children. Inspect it for good working condition prior to storage and before re-use.
- **Solar Panel is water resistant, yet the quick connect wiring and adapter plugs must be kept dry.**
- **Solar Panel will not charge non-rechargeable batteries.** This product is designed to charge standard 12V batteries and laptops. Product is to be used on 12V Configurations in parallel ONLY. Positive (+) to Positive (+), Negative (-) to Negative (-).

## OPERATION

### CONNECTING TO A RECHARGEABLE 12V BATTERY:

1. Connect the quick connect cable to the lead coming from the Solar Panel and then into Solar Panel port of Charge Controller.
2. Attach the quick connect end of battery clamps into Output port of Charge Controller.
3. Connect the RED – Positive (+) clamp/wire to the Positive (+) battery terminal.
4. Connect the BLACK – Negative (-) clamp/wire to the Negative (-) battery terminal.
5. Confirm that both connections are tight and secure.

**WARNING: Ensure that the positive matches the positive and the negative matches the negative. (Connections are in Parallel) Wrong connections may cause sparks and void the warranty.**

## TESTING

You may use a voltage meter or a digital multi-meter to measure the voltage of your solar panel before connecting to the battery. Voltage can range between 15-22 volts. Testing will ensure correct charging operation. **(Testing equipment not included)**

## LOCATION OF SOLAR PANEL

For best results, please locate your Solar Panel in a position where it can absorb direct sunlight and generally free from cover and shade.

## MAINTENANCE

**Maintain your Solar Panel.** It is recommended that the general condition of any Solar Panel be examined before it is used. Clean the solar module with a damp towel to insure optimum performance of the Solar Panel. Do not use any type of solvent for cleaning and be careful not to put too much pressure on the module while cleaning.

## SPECIFICATIONS

Solar Module Type	SYK40-18MF
Maximum Power(Pmax)	40W
Open-Circuit Voltage(Voc)	21.24V
Short-Circuit Current(Isc)	2.44A
Voltage at Pmax(Vmp)	18V
Current at Pmax(Vmp)	2.22A
Power Tolerance	±3%
Maximum System Voltage	1000V
Dimensions(closed)	13.8*2*16.5in
Test condition:AM=1.5;E=1000W/m <sup>2</sup> ;Tc=25	
ROHS	CE
WARNING	ELECTRICAL HAZARD
This unit produces dielectrical power when exposes to light.Cover before opening terminal junction box.	

Solar Module Type	SYK120-18MF
Maximum Power(Pmax)	120W
Open-Circuit Voltage(Voc)	21.24V
Short-Circuit Current(Isc)	7.33A
Voltage at Pmax(Vmp)	18V
Current at Pmax(Vmp)	6.67A
Power Tolerance	±3%
Maximum System Voltage	1000V
Dimensions(closed)	22.4*3*33.6in
Test condition:AM=1.5;E=1000W/m <sup>2</sup> ;Tc=25	
ROHS	CE
WARNING	ELECTRICAL HAZARD
This unit produces dielectrical power when exposes to light.Cover before opening terminal junction box.	

## Reverse Polarity Adapter

Use with the Zamp Solar connector on RV's

Your solar panel output terminals, either directly from the solar panel, or via the Charge Controller, are always Female Positive Polarity:



In case you need to have a Female Negative Polarity output, you may use the Reverse Polarity Adapter provided:



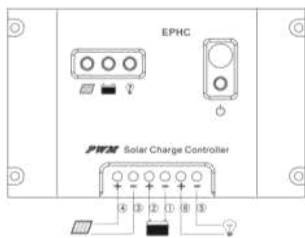
**CAUTION:** Reversing the polarity may damage the electrical appliances!  
Please check carefully the correct polarity before using.

# Nature Power Model MAX10A.

## 10 AMP Charge Controller



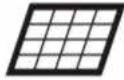
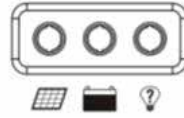
## INSTALLATION



- Connect wires in order indicated 1—6
- Use with 12V batteries only
- Use with sealed batteries only
- Use with 12V systems only
- Do not exceed Solar and Load ratings 10A

Note: carefully check before making each connection to be certain the polarity is correct

## LED indicator



Green ON when solar is charging battery  
Green blink when the system over voltage



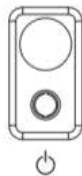
Battery Voltage Display (LED 2)

1. Green ON --the battery level is OK
2. Green slowly flashing --Battery level is full
3. Orange & yellow on -- Battery level is low.



Fault status (LED 3)

RED slowly flashing -- over loaded ( load current is 1.25 times of controller rated current for 60 seconds or the load current is 1.5 times of controller current for 5 seconds )  
RED fast flashing - short circuit of load.



Load status display (LED 4)

RED LED ON- Normal operation  
RED LED OFF-Short circuit of load or OVER load ,LED 3 will be flashing slowly or fast.

Please note:

1. The output will be cut off once there is over load or short circuit. While short circuit occurs, the controller will have 4 automatic loads reconnect attempts. There will be 10s between the first three attempts and 20s between the 3<sup>rd</sup> and 4<sup>th</sup> attempts. For the fifth short circuit, the load can be only reconnected after 24hours. However, after you checked the load you can press the reset switch and reconnection may occur prior 24 hours.

2. After over discharged, the load will be reconnected automatically when the battery is charged to 13.1V.

After over discharged, the load will be reconnected while you press the power switch. Please note the battery voltage needs to be over 12.5V.

## To correct problem

1. Check wires
2. Reduce amps if needed
3. Reset controller
  - Disconnect battery +
  - Reconnect battery +

## TECHNICAL INFORMATION

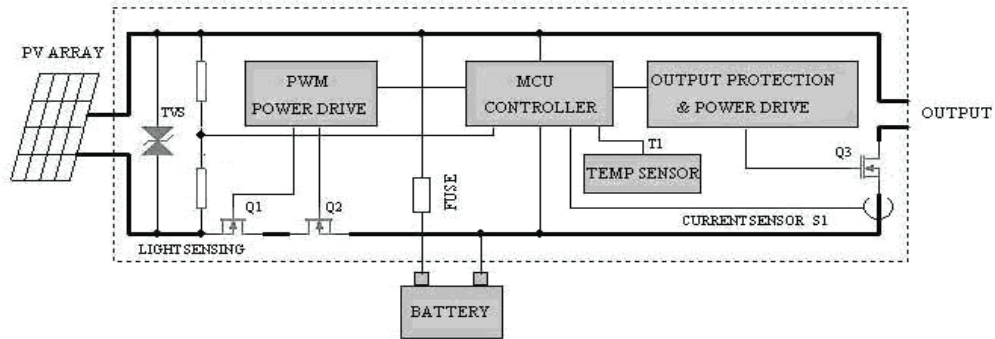
- |                                     |                                   |        |
|-------------------------------------|-----------------------------------|--------|
| <input checked="" type="checkbox"/> | Equalization voltage (60 minutes) | 14.8 V |
| <input checked="" type="checkbox"/> | Boost voltage (60 minutes)        | 14.4 V |
| <input checked="" type="checkbox"/> | Float Voltage                     | 13.7V  |
| <input checked="" type="checkbox"/> | Low voltage Disconnect            | 11.1 V |
| <input checked="" type="checkbox"/> | Low voltage Reconnect             | 13.1 V |

Note: all is for 12V system only

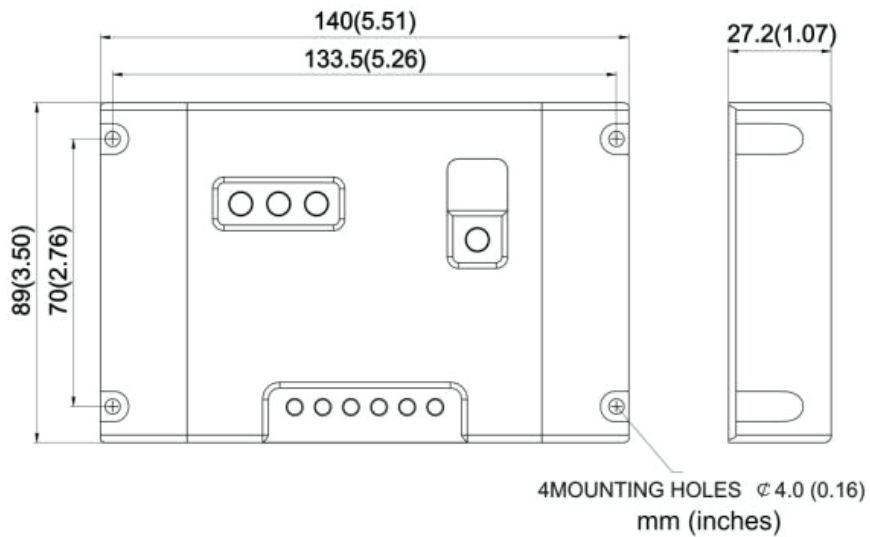
- Microcontroller digital accuracy
- Type of Charging                      Series PWM  
4 Stages: Equalization, PWM, Boost and float,  
Temperature compensation charging
- Electronic protections              Short circuit and over current- load  
  
Reverse polarity- battery  
  
Reverse current at night  
  
Limits high voltage to protect loads  
  
Lightning protection
- Tropicalization                      Conformal coated printed circuit board
- Terminals                              For wire sizes to 2.5mm<sup>2</sup>
- Weights                                170g
- Dimension                            140\*89mm
- Self-consumption                    6mA maximum
- Temperature                         -35 to +55
- Enclosure                              IP30
- Warranty                                1 year
- Compliance                          CE, EMC C-Tick



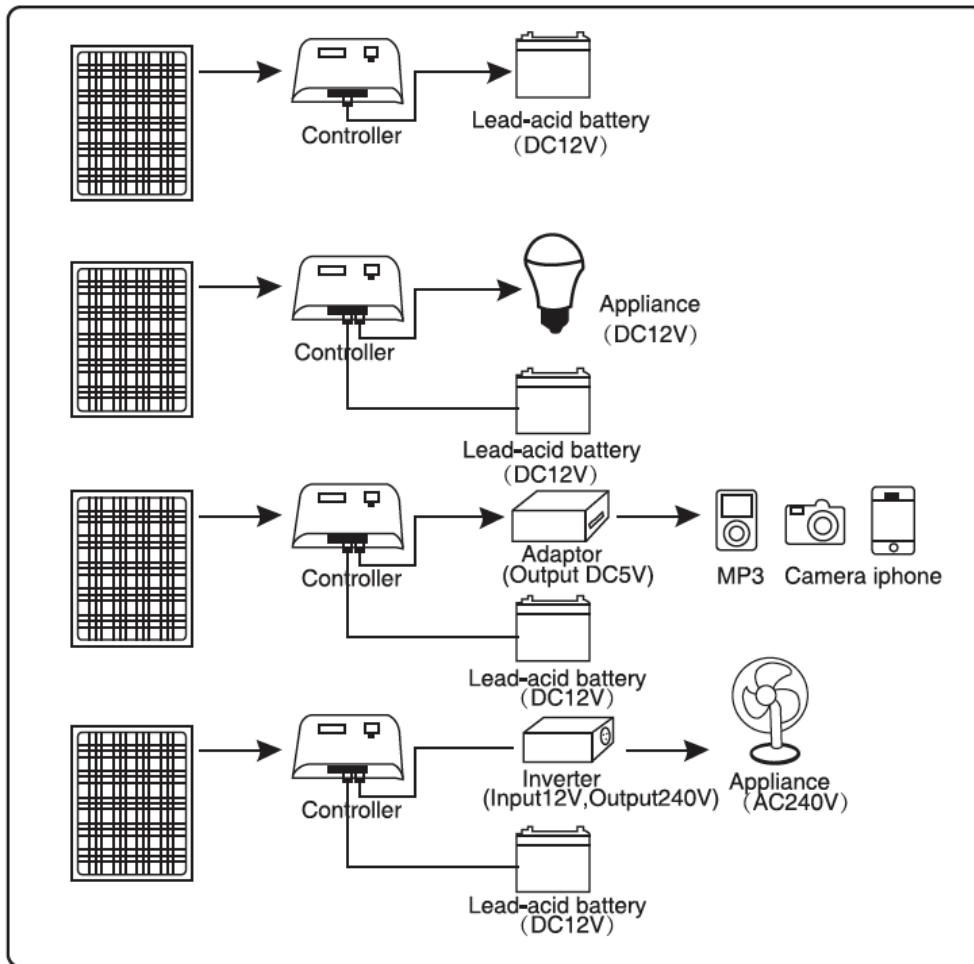
# SYSTEM MAIN CIRCUIT DIAGRAM



# MECHANICAL DRAWING



## Connecting Options



## LIMITED WARRANTY

Nature Power warrants our products to the original purchaser that this product is free from defects in materials and workmanship and to generate up to 80% of rated power for the period of 2 years 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 unit should be returned to the authorized location at the purchaser's 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.**

**Please contact Nature Power Products to acquire more information:**

1-800-588-0590

info@naturepowerproducts.com  
www.naturepowerproducts.com

