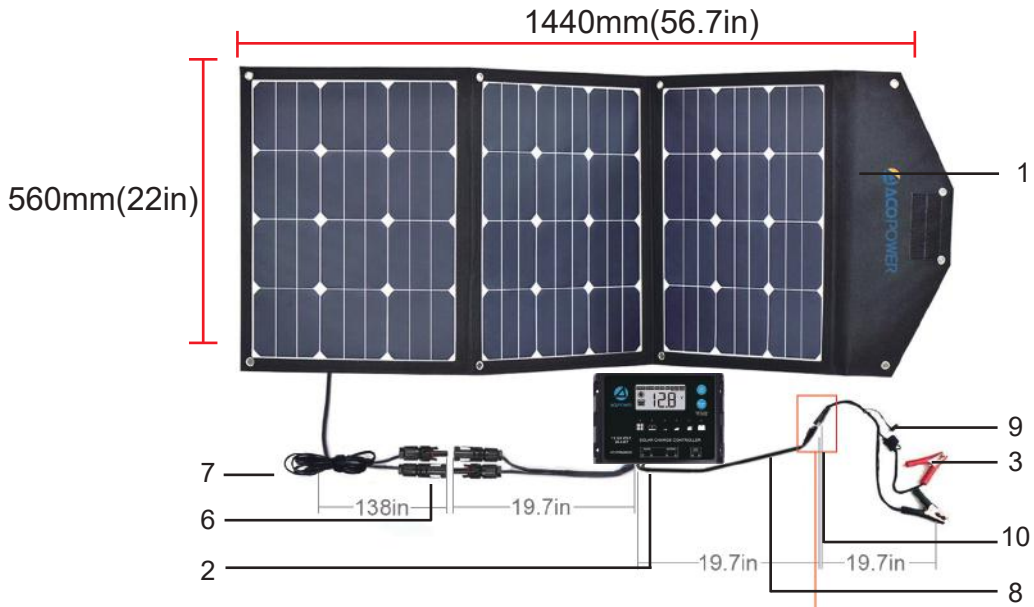


### Product Introduction



Items	
1	3x40 Watts Solar Panel
2	10A Charge Controller
3	Alligator clips
4	Suitcase with handle and pocket
5	Stands
6	MC4 Connectors (two pairs, removable)
7	Cable 14AWG 15ft
8	Cable 14AWG 3ft
9	Fuse

## Introduction

This portable solar panel comes with a pre-installed charge controller. This charge controller protects battery against unsafe electrical conditions and must be used to charge 12V batteries. To charge solar generators with a built-in charge controller, simply use the MC4 cables provided and plug them into the cables that came with your power station to charge. A 12V battery and solar generator can be charged at the same time.

## Features

- Max 120 watts solar panel
- 10A PWM charge controller with USB output
- Portable
- Removable MC4 Connectors
- Charge 12V battery by alligator clamps- Sealed, Flooded, GEL, AGM, Lithium and other deep cycle batteries
- Charge 12V solar generator by MC4 adapter- battery with inverter, power bank/station with built-in charge controller. ACOPOWER solar generator 400Wh recommended
- Can be used on its own or as part of a larger solar system
- Extendable with MC4 Connectors

## User's guide

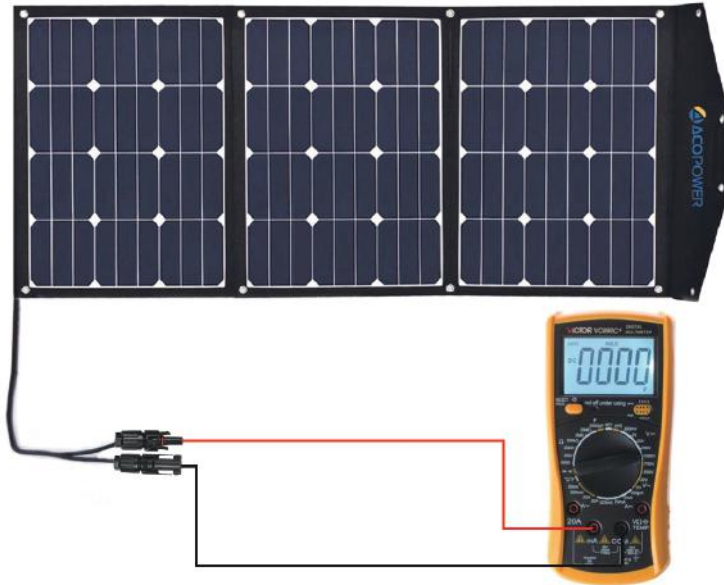
After receiving the solar panel kit, please check if all accessories are included in the package and prepare to test your kit:

1. Locate a sunlit area clear from hanging branches or obstacles.
2. Unfold the solar panels and face the front towards the sun.

**Tip:** To obtain the maximum output power of solar modules, it is recommended to adjust the solar modules based on solar trajectory.

## How to test the solar panel

### Method 1: use a multi-meter



Set your multi-meter to measure DC voltage and put the red probe on the red MC4 cable and the black probe on the black MC4 cable (this is the solar panel's direct output), make sure the connections are secure. the open-circuit voltage should be displayed on your multi-meter and it should be around 17.6V-23V.

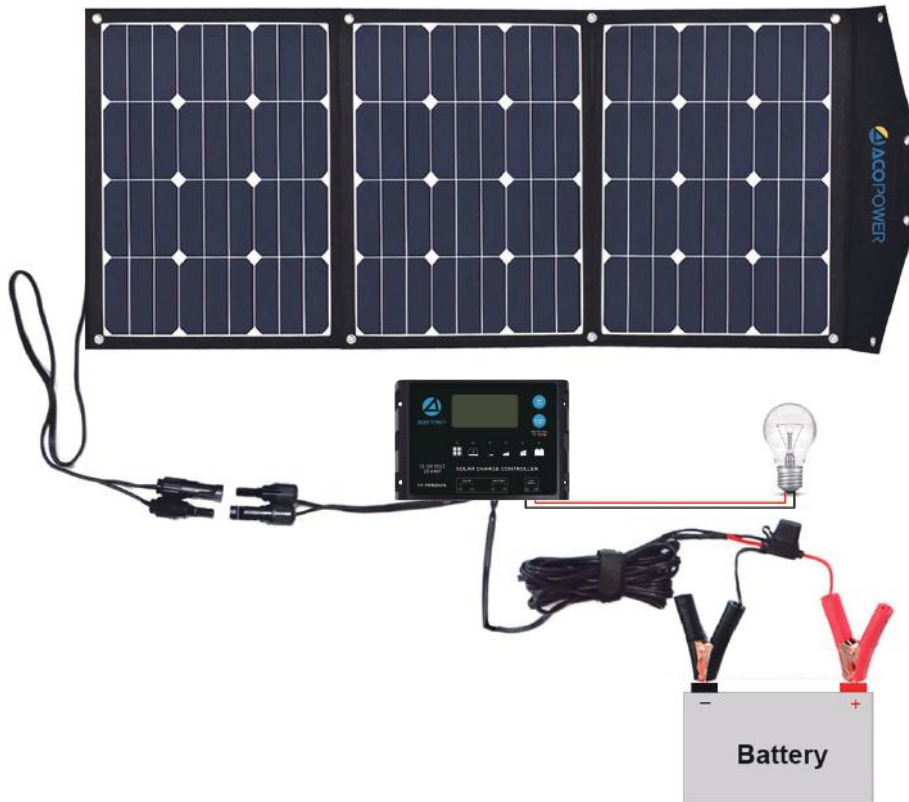
If you're not getting something within that range or close to those numbers, you should check and make sure the solar panel is in direct sunlight and that the connections between the MC4 cables and the multi-meter is secure.

## Method 2: use your solar generator



To test if the solar panel is working with a solar generator with a built-in charge controller, connect the MC4 adapters that came with your solar generator and plug it in to the MC4 cables of the solar panel directly (Bypassing the charge controller). Turn your solar generator on and it should start charging from the solar panel.

## How to test if the charge controller is working



Battery Type:AGM,GEL ,Flooded,Sealed

Step 1: Clamp the red battery clip to positive, black to negative and make sure the connection is secure. Make sure the solar panel MC4 cables are connected to the MC4 cables of the charge controller.

Step 2: When all the connections are complete, the charging status indicator should light up if the solar is under direct sunlight AND the battery is connected to the charge controller.

(Detailed information under Specifications section)

**Tip:** The charge controller and the USB port will not respond unless it is connected to a battery!  
Always connect the battery first, then load (if applicable) and then the solar panel.

For lights explanation, please check the Specifications section.

## What are you going to use it for

### 1. Charge solar generators

#### 1.1. Charge 12V Solar Generator with built-in Charge Controller



Step 1: understand your solar generator and prepare the MC4 adapter for your solar generator



Step 2: Disconnect MC4 Connectors and let it to be a solar panel with MC4 connectors

Step 3: Use your MC4 Adapter to charge your solar generator

## 2. Charge your 12 Volt battery



The solar panel kit is designed to charge a large range of batteries including Sealed, Flooded, GEL, AGM, Lithium, lead-acid battery and other deep cycle battery. The batteries are used as car battery, RV battery, boat battery and emergency back-up battery.

Step 1: understand your battery: battery type, capacity and voltage

Step 2: check the charge controller's set up. We have defaulted the setting of the charge controller is for SEALED. (AGM is also included in SEALED type.) If your battery's type is different, please set your battery type with the charge controller following the instructions below.

### The battery type setting method (on charge controller)

Press and hold the program button for more than 5 seconds, the battery indicator LED1, LED2, LED3 will flash accordingly. Press the button again to set up the exact battery type, after the selection, wait 5 seconds, no flashing lights means battery setting is completed, the specific content of the following table indicates

LED1	LED2	LED3	Battery Type
○	✘	✘	Sealed Lead Acid Battery (Sealed)
○	○	✘	Colloidal lead-acid batteries(Gel)
○	○	○	Opening lead-acid batteries(Flooded)

Note: "○" means lights on "✘" means lights off



The load switch setting method:

When the controller is on (battery connected), press the Set button to control load output. Use this button to turn the load ON or OFF.

Tip: The USB port will only output when the Load is set to ON.

### 3. Join your current solar system by Parallel or Series Circuit

Step 1: Disconnect MC4 Connectors from the charge controller

Step 2: Connect panel with your current system with MC4 connectors. More connectors and extension cables may be needed.

## Specifications

### 120W Foldable solar panel

Module Type	Module Size		N.M	Specification				
	Folded size	Unfolded size		Max Power	Open Power Voltage	Max-power Current	Open-Circuit Voltage	Short-Circuit Current
W	mm	mm	Kg	W	V	A	V	A
3×40W	560×440×20	1440×560×4	3.8 (8.4 lb)	120	20.88	5.97	24.64	6.32
	22×17.3×0.8(inches)	56.7×22×0.2(inches)						



Input:DC12/24VSolar Panel(Max.52V)  
Output:DC12/24V,10A/15A/20A

## INTRODUCE

- This solar charger controller is designed with PWM(pulse width modulated)technology.
- Common negative grounding design and100% solid state(no fuses or fans)
- Suitable for all kinds of solar panel, 12V system or 24V system depends on model number.
- Suitable for most of the rechargeable batteries:
  - Lead crystal battery; Lead acid Flooded (WET), AGM, GEL, and Calcium battery
  - Lithium ion battery type, targeted for the following 3-series LI-ion battery (see the following batterytype setting)
  - Lithium Iron Phosphate, LiFePO<sub>4</sub> (LFP) battery,
  - Lithium titanite oxidized battery, Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> (LTO) battery
- Built into high efficiency smart regulator to prevent your battery from being overcharge and undercharge, optimize the battery performance, permanently to keep your battery fully charged.
- Colored LED's to easily indicate the charging status and battery conditions.
- Big Digital LCD to directly display battery voltage, charging current, charging capacity(Amp hour), battery types, charging percentage, battery temperature and faulty codes.
- Includes a port for external battery temperature sensor.(Temperature sensor optional)
- Waterproof design, suitable for indoor or outdoor use, surface Mount or flush panel mount options
- Designed according to CE standard, EMC, FCC compliance.

### WARNING –

**RISK OF EXPLOSIVE GASES WORKING IN VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS. EXPLOSIVE GASES DEVELOP DURING NORMAL BATTERY OPERATION. IT IS IMPORTANT THAT EACH TIME BEFORE USING OR CONNECTING YOUR SOLAR CONTROLLER, YOU READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS EXACTLY.**

- To reduce risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of battery. Review cautionary marking on these products and on engine.

- Lead acid, Lead crystal, Lithiumion, LiFePO4, LTO batteries can be dangerous. Ensure no sparks or flames are present when working near batteries.Refer to battery manufactures specific recommended values for battery type and charging rate setting.Do not charge to an improper type of battery. (For example, do not charge Gel battery with Calcium battery setting)
- Never attempt to charge adamagedbatteryor frozen batteryor non-rechargeablebattery.
- Never smoke, use an open flame,or create sparks near battery or solar controller during charging operation as batteries may give out explosive gas.
- Eye protection should always be used. Never short circuit the battery.
- Someone should be within range of your voice or close enough to come to your aid when you work neara lead-acid battery or Lithium ion battery.
- If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flush eye with running cold water for at least 10 minutes and get medical attention immediately.
- To reduce risk; avoid dropping a metal tool onto the battery.
- Given sufficient light solar panels always generate energy even when they are disconnected.
- Accidental 'shorting' of the terminals or wiring can result in sparks causing personal injury or a fire hazard. We recommend that you cover up the panel(s) with some sort of soft cloth, so you can block all incoming light during the installation. This will ensure that no damage is caused to the Solar Panel or Battery if the wires are accidentally short circuited.
- Always install a battery fuse on each circuit including the solar controller
- Do not disassemble charger,take it to a qualified person when repair is required.
- Do not reverse connect the wires to the solar panelor battery
- Appliances incorporating batteries which contain materials hazardous to the environment.

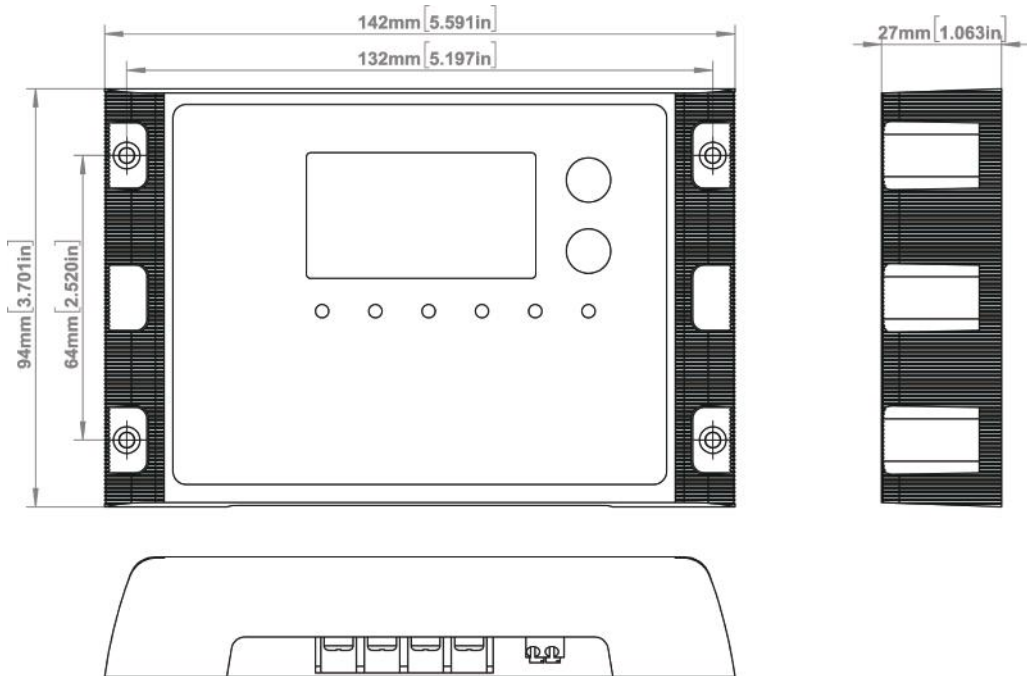
## FEATURES

- Common negative grounding connection
- PWM technology,switching control by MOSFET
- High efficiency and low power consumption
- Battery type setting and battery condition indication
- Smart charging control, Charging time management
- LED indication for the battery condition and charging statues
- Digital display charging parameters and battery settings
- Automatically active to Lithium battery against BMS protection
- Thermal protection
- Over voltage protection,Short circuit protection,Reverse polarity protection
- Nospark
- Waterproof
- Solid-duty cables
- Corrosion-resistant terminals and connectors.
- Flexible cable connection method
- Rubber mask to protect the metal terminals

## INSTALLATION

The Solar Controller is mounted as shown below

The quickest and easiest way to mount the unit is to use the four(4) plastic spacers and self-tapping screws supplied and mount the unit to a flat surface.



## WIRING CONNECTIONS

To protect the Battery and the Solar Panel, we strongly recommend that you place an inline fuse on the positive wire on both the "Solar" and "Battery" Circuits. 40A fuse for 20A controller; 30A fuse for 15A controller, 20A fuse for 10A controller (As close to the Battery/Panel as possible) The Solar Controller has 4 terminals which are clearly marked 'Solar' and 'Battery'. The cable connection method is flexible and easy.



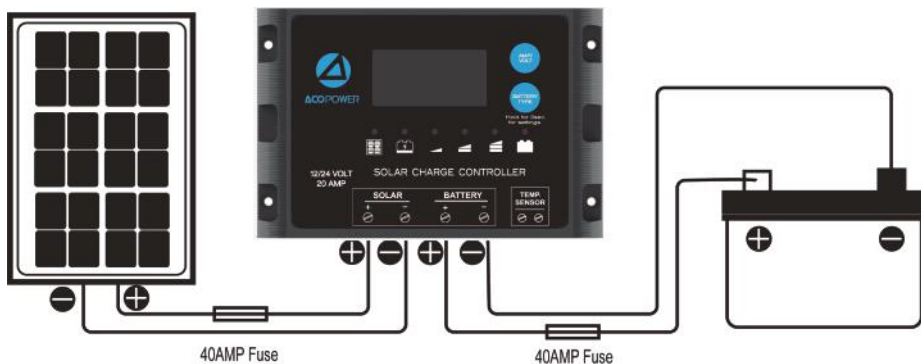
Use the string wires, directly secure the input and output wires into the terminal holes of the solar controller, screw tightly the wires to the “Solar” terminal to the Solar Panel. screw tightly the wires to the “Battery” terminal to the Battery. After tightening the screws, do not forget to fix the rubber mask back to the terminal box, this will protect the metal terminals against rust or moisture.

### Optional external Battery Temperature Sensor BTS

The solar controller provides an external temperature sensor, as an option, the unit provides a port to connect the external battery temperature sensor; if the external battery temperature sensor is connected, the unit will optimize the charging performance subjected to the battery temperature detected and also provide the battery over temperature protection, in some case, if battery over temperature occurs, the controller will auto matically stop charging.

### Wiring diagram

Refer to the below drawing, please cover the solar panel before connecting cables.





Press BATTERY TYPE button and hold for 3 seconds to go into your battery type selection mode, the battery type you select will be shown on the LCD meter, the default setting is AGM Battery; the controller will automatically memorize your battery type setting.

Li-ion battery shown in LCD indicates 3-SERIES Li-ion battery shown as below:

- Lithium Cobalt Oxide  $\text{LiCoO}_2$  (LCO) battery
- Lithium Manganese Oxide  $\text{LiMn}_2\text{O}_4$  (LMQ) battery
- Lithium Nickel Manganese Cobalt Oxide  $\text{LiNiMnCoO}_2$  (NMC) battery
- Lithium Nickel Cobalt Aluminum Oxide  $\text{LiNiCoAlO}_2$  (NCA) battery

Remarks: This solar controller is recommended to just work with 3 x series above Li-ion batteries.

LiFePO4 battery shown in LCD indicates Lithium Iron Phosphate battery, LFP battery.

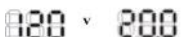
LTO battery shown in LCD indicates Lithium titanate oxidized,  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  battery.

Caution: Incorrect battery type setting may damage your battery.


When the controller powers on, the unit will run self-qualify mode and automatically show below items on LCD before going into charging process.

 Self-test starts, digital meter segments test

 Software version test

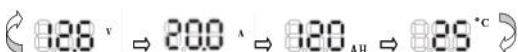
 Rated voltage and current test

 External battery temperature sensor test (if connected)

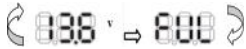
 Indicates the solar panel connected.

After going into charging process, the LCD displays the charging status as below: Press VOLT/AMP button in sequence, the LCD will display in turn with Battery Voltage, Charging Current, Charged capacity (Amp-hour) and Battery Temperature (if external temperature sensor connected)

### Display in sequence



## Alternatively Display voltage and FUL when battery is fully charged

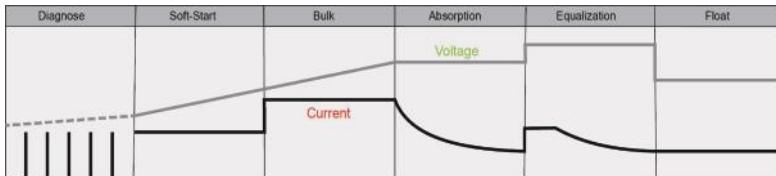


The VOLT/AMP button can be changed at any time during charging process.  
The LCD also can be treated as an independent voltage meter or thermometer.

### CHARGINGSTAGE

The unit has a 6-stage charging algorithm.

#### Diagnose\* - Soft Charge – Bulk Charge - Absorption charge – Equalizing Charge\* - Float Mode



**Diagnose \*** – Only for Lithium battery type, subjected to the Lithium battery initial voltage then determine going to Soft start or Bulk charge; if the Lithium battery is protected by BMS, the controller will automatically send the signal periodically to the battery terminal to activate the BMS against protection.

**Soft start** -When batteries suffer an over-discharge,the controller will softly ramp the battery voltage upto10V for 12V battery, 20V for 24V battery.







**Bulk Charge** - Maximum current charging until batteries rise to Absorption level. For Leadcrystal battery type, the charge controller will deliver two step level of Bulk charge,when the first level rises the battery voltage up to14.4V, then switch into the second level of the 50% of the first bulk charge rate, until the Lead crystal battery voltage up to14.7V.

**Absorption**-Constant voltage charging and battery is over 85% for lead acid battery; a Li-ion battery, LiFePO4 battery and LTO battery will close fully charging after absorption stage, the absorption voltage level will reach12.6V for Li-ion battery, 14.4V for LiFePO4 battery; 14.0V for LTO battery. 14.7V for Lead crystal battery.







**Equalization\***- Only for WET battery or Calcium battery type, when the battery is deeply drained below10 Vore very 28 day scycle,it will automatically run this stage to bring the internal cells as an equal state and fully complement the loss of capacity. (Lead crystal, Li-ion, LiFePO4,LTO, Gel and AGM battery do not run Equalization charge)

**Float Charge or Re-Bulk charge-** Battery is fully charged and maintained at a safe level. A fully charged Lead acid battery (Crystal, GEL, AGM, WET battery) has a voltage of more than 13.8 Volts; if the lead acid battery voltage drops to 12.8 V at float mode, it will return to Bulk charge; Li-ion, LiFePO4 and LTO battery have no float mode; if a Li-ion battery voltage drops to 12.0V after absorption stage, it will return to Bulk charge; if a LiFePO4 battery voltage drops to 13.4V, or LTO battery voltage drops to 13.2V after Absorption stage, they will return to Bulk charge. (voltage x 2 for 24V use)

## LED INDICATION

LED indications							LCD Display	LCD Backlight
LED Color	ORG	BLUE	BLUE	BLUE	BLUE	GREEN		WHITE
Soft start charging	ON	ON	FLASH	OFF	OFF	OFF	Normal Display	ON
Bulk charge (charged capacity < 25%)	ON	ON	FLASH	OFF	OFF	OFF		
Bulk charge (charged capacity < 50%)	ON	ON	ON	FLASH	OFF	OFF		
Bulk charge (charged capacity < 75%)	ON	ON	ON	ON	FLASH	OFF		
Absorption charging	ON	ON	ON	ON	ON	FLASH		
Float charging	ON	OFF	OFF	OFF	OFF	ON		
Solar weak (At dawn or dusk)	FLASH	OFF	Subject to battery voltage					
In the night	OFF	OFF					OFF	
Solar good, VB < 5V	ON	OFF	OFF	OFF	OFF	OFF	b03 / bLv	FLASH



LED indications							LCD Display	LCD Backlight	
LED Color	ORG	BLUE	BLUE	BLUE	BLUE	GREEN		WHITE	
Solar good, battery reversed	ON	OFF	OFF	OFF	OFF	OFF	b02/ brc	FLASH	
Solar good, battery over-voltage	ON	OFF	FLASH	FLASH	FLASH	FLASH	b01 / bov	FLASH	
Solar off, battery over-voltage	OFF	OFF	FLASH	FLASH	FLASH	FLASH	b01 / bov	FLASH	
Solar good, battery over 65°C	ON	OFF	Subject to battery voltage					bot/c	FLASH
Battery good, solar reverse	FLASH	OFF						P02/prc	FLASH
Battery good, solar over-voltage	FLASH	OFF						P01/pou	FLASH
Over Temperature Protection							Pot/c	FLASH	

Voltage are for 12V use, x 2 for 24V use

## SAFETY PROTECTION-

- Spark-free protection.
- Reverse polarity solar and battery connection.
- Again strever securment from battery to solar panel at night.
- Over temperature protection with charging current de-rate.
- Transient over voltage protection, a varistor or transient voltage suppressor (TVS) at the solar input and battery output against surge voltage.
- Safety and EMC compliance  
IEC/EN60335, EN61000-4-2,EN61000-4-3, EN61000-4-4, EN61000-4-5FCC Class-B  
EN61000-4-6,EN61000-4-11, EN61000-3-3, CISPR14-1

## MAINTENANCE

Occasionally, clean the case using a damp cloth and mild cleaning agent. Check with terminals without loose, rusty; If connecting cable is damaged,replace the cable by qualified person.

## SPECIFICATION-

**Voltage in below table are for 12V use, x 2 for 24V use.**

<b>1</b>	<b>Electrical Parameters</b>			
1-1	Rated solar panel amps	10/15/20	Max.	AMP
1-2	Normal input Solar cell array voltage	15-22		VDC
1-3	Max. solar cell array voltage (output has no load)	25	Max.	VDC
1-4	The controller lowest operating voltage at solar or battery side	8V	Min	VDC
1-5	Standby current consumption at night	5	Max	mA
1-6	Maximum voltage drop-Solar panel to battery	0.25	Max.	VDC
<b>2</b>	<b>Charging characteristics</b>			
2-1	Minimum battery start charging voltage	3	Min	VDC
2-2	Soft start charging voltage	3-10	+/-0.2	VDC
2-3	Soft start charging current (50% PWM duty)	Up to 5/7.5/10		AMP
2-4	Bulk charge	By the maximum rated current		
	Bulk charge level1 for Lead Crystal battery	By 100% maximum rated current charge up to 14.4V.		
	Bulk charge level2 for Lead Crystal battery	By 50% rated current charge up to 14.7V from 14.4V.		
2-5	Absorption charging voltage at 25°C			
	--Lead Crystal battery	14.7	+/-0.2	VDC
	--Gel type battery	14.1	+/-0.2	VDC
	--AGM type battery (default setting)	14.4	+/-0.2	VDC
	--WET type battery	14.7	+/-0.2	VDC

	--Calcium type battery	14.9	+/-0.2	VDC
	--LTO battery	14.0	+/-0.2	VDC
	--LFP battery	14.5	+/-0.2	VDC
	--Li-ion battery	12.6	+/-0.2	VDC
2-6	Absorption transits to Equalizing or Float condition:			
	--Charging current drops to	1.5	+0.1	AMP
	-- or Absorption charging timer timed out	4		Hour
2-7	Equalization charging active			
	--Only for WET or Calcium battery			
	--Battery voltage discharged to less than	10	+/-0.2	VDC
	--Automatic equalizing charging periodical	28		Day
2-8	Equalization charging voltage at 25°C	15.5	+/-0.2	VDC
2-9	Equalization charging timer timed out	2		Hour
2-10	Float voltage (for Crystal, GEL, WET, Calcium, AGM battery) at 25°C	13.8	+/-0.2	VDC
	Restart voltage for LTO battery	13.2	+/-0.2	VDC
	Restart voltage for LFP battery	13.4	+/-0.2	VDC
	Restart voltage for Li-ion battery	12.0	+/-0.2	VDC
2-11	Voltage control accuracy	+/- 1%		
2-12	Battery temperature compensation coefficient	-24		mV/°C
2-13	Temperature compensation range	<b>-20 ~ +50</b>		°C
<b>3</b>	<b>Protection</b>			
3-1	Against reverse polarity or short circuit at panel or battery			
3-2	No reverse current from battery to solar at night			
3-3	Over temperature protection during charging	65		°C
<b>4</b>	<b>Electrical parts</b>			
4-1	Input output terminal	M5 terminals		
<b>5</b>	<b>Physical Parameters</b>			
5-1	Controller material	Plastic, Standard ABS		
5-2	Power terminal maximum stranded wire size	#6 AWG stranded-16 mm <sup>2</sup>		
5-3	Power terminal torque	Up to 17 in-lb (0.2n-m)		
5-4	Mounting	Vertical wall mounting		
5-5	IP grade	IP65,		
5-6	Net weight	Approx. 0.5KG		
<b>6</b>	<b>Environmental characteristics</b>			
6-1	Operating temperature	-25 ~ 50°C / -13~ 122 °F		
6-2	Storage temperature	-40 ~ 85°C / -40~ 185 °F		
6-3	Operating Humidity range	100% no condensation		

Voltage in below table are for 12V use, x 2 for 24V use.

## Frequently Asked Questions(FAQ)

ACOPOWER is always open to customers with technical support, if you have any issues, please feel free to contact ACOPOWER by email at [support@acopower.com](mailto:support@acopower.com)

Here we collected some frequently asked questions for reference:

Q: What kind of battery can be charged by these solar modules

A: 1. sealed lead-acid battery (Sealed) 2. colloidal lead-acid battery (Gel) 3. the opening lead-acid batteries (Flooded)

Q: How to clean the solar panel surface?

A: When dust and dirt cover the surface of solar module, it can be cleaned with a soft brush, then use a damp cloth to wipe the surface to remove the remaining dust and dirt. Anything that covers the solar cells should be removed as soon as possible so as not to affect performance.

Q: Are the foldable solar modules are waterproof?

A: Because the system contains sophisticated electronic components, please prevent water from contacting the module during use.

Q: How can I get my battery's information?

A: To get your battery's information, please contact your battery's manufacturer or check your battery label.

Q: Is the charge controller waterproof, what is IP rate for that?

A: No, the charge controller is not waterproof.

Q: Can I use an extension cables in the system?

A: Yes, any extension cable with MC4 connectors can be used before the solar charge controller. ACOPOWER has 20ft 14AWG extension cables.

Q: How do I get the MC4 Adapter for my solar generator?

A: Please contact your solar generator's seller or manufacturer to get a MC4 adapter. The MC4 is a solar industrial universal connector. If your solar generator's supplier does not provide it, please contact ACOPOWER to get it customized.

Q: It worked for my car battery and it does not charge my solar generator.

A: Please check your solar generator's connection and voltage. Some generators in the market are designed to be unique like 24V battery. Most solar generators in the market is 12V. Please contact your solar generator's supplier for the voltage confirmation.

Q: My battery is two 6V batteries in series, can I use this kit?

A: Yes. Two 6V batteries in series is considered a 12 Volts battery.

Q: My battery is AGM, which battery setting shall I use?

A: Please use SEALED, which is default setting.

Q: My battery is lithium battery, which battery setting shall I use?

A: please use FLOODED.

Q: will the system discharge my battery after sunset?

A: No. The charge controller avoids discharging from battery.

Q: Can I use my own controller, or can I use MPPT charge controller?

A: Yes, if you would like to do so, please remove the charge controller and use the solar panel with MC4 connectors to connect your own controller.

Q: I connect the kit with my battery with red clamp to Positive and black clamp to Negative, why the lights of charge controller are not on?

A: we suggest charging your car battery for the kit's test. And then test your solar panel's open circuit voltage and battery's voltage. If the solar panel open circuit voltage is good and the battery's voltage is lower than rechargeable voltage, the battery should be recharged some other way or replaced before charging with the solar panel.

Q: Can I use the solar panel to jumpstart a drained battery?

A: No, the drain car battery has lower voltage than what the kit could recharge. Therefore, please jump start the battery and make sure the battery is high enough, then charge it by the solar panel.

Q: Can I use the solar panel to avoid my battery drain?

A: Yes.

Q: My RV has a Zamp solar plug or other types of plugs, how do I use this solar panel kit?

A: You will need to refer to the RV user manual and find out what kind of adapter you may need. Most adapters are sold on Amazon. Please contact [support@acopower.com](mailto:support@acopower.com) if you can't find what you need.

Q: The solar panel kit has the correct voltage reading but it won't charge my generator.

A: Please check the voltage rating of your generator, it might be rated at 24V and this solar panel kit is only for charging 12V batteries. Another possibility is that the generator is already fully charged.

## Safety Tips

- Before using the product, read all safety precautions.
- If the product is abnormal or damaged, do not use.
- Do not allow water to enter the controller
- Prevent sharp objects from impacting the surface of solar modules
- Ensure proper battery clip connection to prevent short circuits.
- No user license serviceable parts inside. Do not disassemble or attempt to repair it.
- Do not touch the exposed electrical conductor of battery.

## Warranty

### Limited Product Warranty-One Years Repair,Replacement and refund Remedy, but fuse excluded

The solar panel itself comes with an 18-months workmanship warranty and a 25-year 85% output warranty.

Within 30 days of purchase: Items can be returned for a full refund or replacement, we will cover return shipping due to quality issues, buyer pays return shipping and replacement shipping due to non-quality issues.

Within 30 days to 6 months: Items can be replaced new or refurbished due to quality issues, we will cover return shipping. Items can be replaced with a restocking fee due to non-quality issues, buyer pays for all shipping.

Within 6 months to 18 months: Items can be replaced refurbished due to quality issues, buyer pays for all shipping.

#### Accessories:

Within 30 days of purchase: Items can be returned for a full refund or replacement, we will cover return shipping due to quality issues, buyer pays return shipping and replacement shipping due to non-quality issues.

Within 30 days to 6 months: Items can be replaced new or refurbished due to quality issues, we will cover return shipping. Items can be replaced with a restocking fee due to non-quality issues, buyer pays for all shipping.

Within 6 months to 18 months: Items can be replaced refurbished due to quality issues, buyer pays for all shipping.

#### Charge Controller:

The controller itself comes with a 1-year warranty.

Within 30 days of purchase: Items can be returned for a full refund or replacement, we will cover return shipping due to quality issues, buyer pays return shipping and replacement shipping due to non-quality issues.

Within 30 days to 6 months: Items can be replaced new or refurbished due to quality issues, we will cover return shipping. Items can be replaced with a restocking fee due to non-quality issues, buyer pays for all shipping.

Within 6 months to 1 year: Items can be replaced refurbished due to quality issues, buyer pays for all shipping.

Seller shall not be responsible or liable in any way to the customer or any third-party arising from any non-performance or delay in performance of any terms and conditions of sale, including this "Limited Warranty for PV Modules", due to acts of God, war, riots, strikes, warlike conditions, plague or other epidemics, fire, flood, or any other similar cause or circumstance beyond reasonable control. such cases, this Limited Warranty shall be suspended without liability for the period of delay reasonably attributable to such causes.

Register your warranty with ACOPWER, please visit: <https://www.acopower.com> select "Warranty Registration".

Thank you for your business and support!

ACOPower Team

technical support: [support@acopower.com](mailto:support@acopower.com)  
[www.acopower.com](http://www.acopower.com)



Warranty Registration Web