

## Care and Maintenance

Dirt and dust on the surface of the panel can reduce the power output. The surface of the panel can be cleaned with a damp cloth. The panel itself is waterproof but the Solar Charge Controller is not waterproof. Do not allow the controller to get wet, Keep any plugs and connections out of dirt and water.

The solar panels are made of a very strong tempered glass and will withstand heavy knocks. However, it is still glass and can break if it sustains a heavy enough impact. Take care not to drop the panels or submit them to large impacts.

Batteries can produce flammable gasses when being charged. Avoid making sparks and make sure that the area around the battery is well ventilated.

## General Tips on Battery Care

There are many types of 12V battery and you should be conversant with the specific characteristics of your battery. Following are some general tips on battery care.

A Deep Cycle battery should be used as these allow a greater depth of discharge. The Solar Charge Controller will prevent the battery from being overcharged. If appliances are connected direct to the battery then care must be taken not to allow deep discharge of the battery as this can cause permanent damage. The battery can be tested with a battery analyser or with a voltmeter (the battery should not be allowed to drop below 11.5V).

The battery should be fully charged before storage and topped up every 3 months. When the battery and Solar panel are used for an extended time the battery should be regularly allowed to be fully charged (at least monthly). This should be done without any load to ensure full charge is reached.

## Warranty

This 40w folding solar panel is guaranteed for a period of 12 months from date of purchase.

**Please retain for future reference**



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Lowenergie, Warrington, UK



# 40w Folding Solar Panel Instructions



**Please read instructions fully **before** attempting to install**

**This solar panel will produce electricity as soon as it receives sunlight - the unit **must** remain **face down** until connected to the battery.**

Congratulations on purchasing another quality Lowenergie product.

Solar Panels give clean, cheap access to power to charge your 12V battery and we are sure that you will get many years of reliable service from your solar panel.

## Set Up:

**Please note** that this solar panel is only to be used with a 12V/24V lead/acid or gel battery.

1. Select an area of full sun within 5m of your battery
2. Undo the catches and open the panel - **place panel face down**
3. Fold out the legs
4. Connect the red clip to the positive terminal on the battery and the black clip to the negative terminal or connect it to your system with the Anderson plug.
5. Stand the panel back on its legs
6. Position the panel facing the sun

Your solar panel should now be generating power and charging your battery.

## Positioning your Solar Panel for maximum power:

Solar panels must be pointed at the sun for maximum power and it is best to move the panel from time to time during the day to track the sun

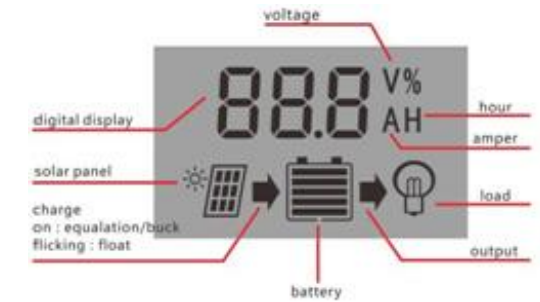
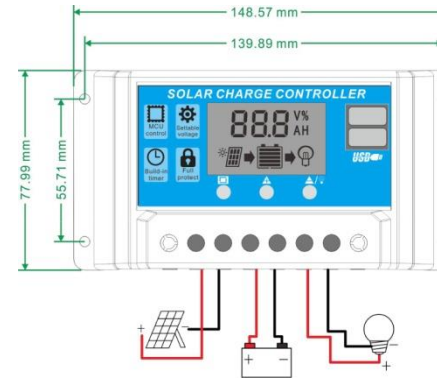
Solar panels work by converting light to electricity so it is very important to position the panels so that they are not affected by shade. Shade on any part of the panel will reduce the power generation substantially. A cloudy sky will also reduce the amount of power generated although the panel will still generate electricity.

## Connecting a load (12V appliance):

Load can be connected direct to the battery or through the Solar Charge Controller. If you connect it through the Solar Charge Controller your battery will be protected by the low voltage disconnect feature which prevents damage to the battery through deep discharge. When the Solar Charge Controller detects that the battery voltage is lower than 11.5V it will disconnect the load until it reaches 12.5V again and the reconnect the load. To avoid any voltage on the wires connect the wires to the load first then to the controller. Make sure that the wires are connected with the correct polarity. The minimum wire size should be 4mm<sup>2</sup>.

The Solar Charge Controller has a maximum load current of 10 Amps and also has an Over Current/Short Circuit protection which will switch off power to the load when it detects an overload or short circuit. When this happens switch off all loads and remove the short circuit. The controller will automatically switch on power to the load after approx 1 minute.

## Solar Charge Controller:



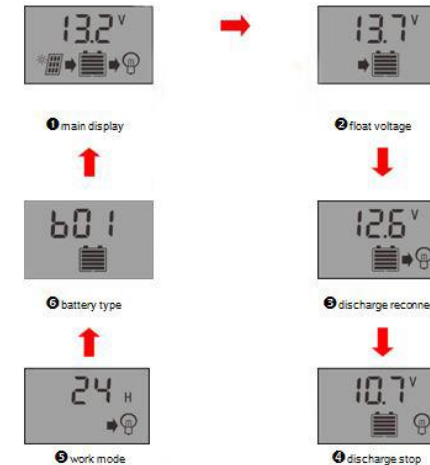
Menu - Switch between different display or to enter/exit setting by long press



Up - Press to increase value



Down/Off/On - Press to decrease value



## Browsing Interface:

- Press Menu to browse the different interface

## Setting Parameters:

- In interface 2-5, a long press of MENU enters setting
- Using [UP] [DOWN] to set the parameter
- Long press MENU again to exit.
- Long press [DOWN] to restore parameter