

Motorhome Solar Panel Kit with Glue Mounts & LCD Display



INSTALLATION GUIDE for

55 Watt Kit – 05002DK03

115 Watt Kit – 05002DK04

175 Watt Kit – 05002DK05

Kit Contents

VICTRON solar panel fitted with approximately 0.9m cable pair, ending in waterproof MC4 connectors.

Pair of 3m extension cables with MC4 connectors.

10A Victron PWM-LCD&USB charge controller.

Pair of 1m fused battery cables with ring terminals.

Corner glue mounts x 4 with Sikaflex 70ml marine glue included.

Straight glue mounts x 2 for the 115W and 175W kits.

Twin cable entry grommet.



SOLAR PANEL

PANEL CABLING

REGULATOR

FUSED BATTERY CABLE

GLUE MOUNTS

CABLE GLAND



SOLAR PANEL

REGULATOR

BATTERY

12V APPLIANCE

Solar power for your motorhome, caravan or boat! These kits are designed to charge your 12V batteries, containing everything you need for the installation and are very simple to fit. Intended for permanent mounting on a flat roof, these kits include a monocrystalline framed solar panel, 10A charge controller and mounting accessories.

Victron solar panel with high transmission glass front, aluminium frame and weatherproof junction box with screw terminals.

- Panels include bypass diodes to minimise the effect of shadows.
- 25-year module power output and performance warranty.
- 10A Victron PWM-LCD&USB charge controller supplied with each kit to ensure that your batteries will not be overcharged.
- Comes with 3m of cabling between panel and controller, with MC4 waterproof connectors.
- Battery cables with ring connectors to fit to a 12V battery bank.
- Glue mounts and cable gland that allow you to securely bond your panel to your motorhome roof, or preferred location, with the tube of Sikaflex included in the kit.
- No soldering or difficult wiring is required – we have done it all for you!

1 - Preparation

Our solar panels are supplied already pre-wired for easy installation.

- Before fixing the solar panel to your motorhome or boat, it is usually best to plug the 3m extensions cables into the connectors fitted to the cable coming from the back of the solar panel. This allows you to position the panel without having to worry about access to rear cables.
- The cables are identified as ‘-ve’ and ‘+ve’ by both tags and colour.
- The cross-sectional size of the extension cable is 4.0mm², should you wish to extend them further.

2 – Siting of Panel

- The position of your solar panel should be carefully considered allowing for the physical requirements of its mounting obstructions on the surface being mounted on and proximity to where you will fit the charge controller. It is also recommended that you consider your wiring route prior to making any holes in the roof.
- You should leave a minimum clearance gap of 10mm beneath the panel for heat dissipation from the panel. A panel becomes less efficient when it becomes too hot.
- For the purposes of these instruction we have assumed that the four ABS corner brackets supplied are being used to mount the panel to the roof. Please note that both the 115W and 175W kits also include two straight brackets for the long sides.
- Subject to your roof type, the panel can now be fixed to your motorhome or boat, as appropriate.
- Please take care that there is sufficient roof structure to permit the secure fixing and to withstand loads generated when travelling.
- As each application is different, it is the ‘fitters’ own responsibility to ensure the panel is securely fixed to the roof or structure. Please also note that an appropriate sealant or barrier should be used to prevent moisture ingress inside the motorhome or boat.

At an appropriate point on the motorhome roof the twin cable entry gland housing should be installed, with the cable entry gland/glands facing down.

- Assemble the housing and glands, ensuring that glands are secure and tight to the body.
- After making an appropriate sized access hole in the motorhome for the cabling, bond the plastic housing to the motorhome/boat, using the sealant provided. It may be easier to feed the wiring through the housing and glands, prior to bonding the housing, depending on your situation. Follow the manufacturer’s instructions and safety guidelines for the sealant.
- Ensure cable glands are tightened and that cable is secure.

During use please be aware of shadows cast from surrounding buildings and trees etc., as this will affect the efficiency and power generated from the solar panel.

It is good practice to keep the panel clean from dirt and debris at all times and cleaned using a mild solution of soap and water.



CAUTION

On exposure to sunlight PV panels immediately generate an electric current and although the voltage produced is generally low, touching bare wires or terminals can cause shock and burns. If preferred place a cloth or card over the module to prevent the panel from generating power, while you are installing it.

3 – Fitting the Charge Regulator

The charge regulator should be fitted in a dry, ventilated environment as close as possible to the battery, to reduce voltage drop. Please refer to and follow instructions that come with the regulator supplied.

- Before installing the charge regulator be sure to unplug the cables from the solar panel.
- The stripped and tinned ends of the extension cables are connected via screw terminals to the base of the regulator.
- Please ensure that the '+ve' and '-ve' leads are connected the correct way round, observing polarity at all times
- The fused battery cable can now be fitted in a similar manner, ensuring the correct polarity at all times. Should you need to modify the length of these to reach the battery, please bear in mind that they should remain as short as possible at all times.
- Plug the solar panel cables back together.

The final assembly should look similar to the photograph shown.

Please note that although it is possible to connect a load such as a light directly to the charge regulator, for motorhome and boat applications this is not recommended, due to the load limit on this circuit



IMPORTANT

Connect the charge regulator to the battery first and then connect the solar panel to the regulator.

Warranty may otherwise be affected.



4 - Safety and Handling Precautions

- This kit has been designed for mobile leisure applications and as such ring terminals are provided for the battery connections, as crocodile clips are ONLY suitable for stationary batteries.
- Always ensure the correct polarity.
- Stripped cable ends should always be tinned and always use electrically insulated tools.
- For more information please see our range of downloadable guides, including 'An Explanation of Solar Panel Basics', available from www.selectsolar.co.uk.
- On exposure to sunlight PV panels immediately generate an electric current and although the voltage produced is generally low, touching bare wires or terminals can cause shock and burns. If preferred place a cloth or card over the module to prevent the panel from generating power.
- This product has been designed to be robust. However, we recommend that the module is carefully handled and stored at all times as forceful impacts can cause irreparable damage and void warranty.
- Never twist, bend or otherwise deform the panel, as this will invalidate the warranty.
- Drilling or welding the frame is NOT recommended and will invalidate the warranty.
- Never use a device that concentrates the light on the modules as this could seriously damage them and invalidate the warranty.

5 – Technical Specifications



Panel Characteristics

- Comprising of 36 'Monocrystalline' cells connected in series capable of charging 12V batteries.
- Bypass diodes included to avoid hot spot effect.
- Heavy duty anodised aluminium frame provides high wind resistance and convenient mounting access.
- Cells are laminated between high transmissivity, low iron, 3mm tempered glass and a sheet of TPT material, with two sheets of EVA to prevent moisture entering the module.
- Installation holes for standard bracket systems are provided.
- Weather-proof junction box.
- Panels are manufactured in accordance with IEC 61216 and come with 25 years limited output and performance warranty.

Electrical Characteristics	55W	115W	175W
Typical maximum power (Wp)	55	115	175
Open circuit voltage (Voc)	22.9	23.32	23.7
Optimum operating voltage (Vmp)	18.8	19.0	19.4
Optimum operating current (Imp)	2.94	6.04	9.03
Short circuit Current (Isc)	3.22	6.61	9.98

Standard Parameters

Nominal operating cell temperature (NOCT)	-40°C to +85°C
Current temperature coefficient (Isc)	+0.04/°C
Voltage temperature coefficient (Voc)	-0.25/°C
Power temperature coefficient (Wp)	-0.45/°C
Edge grounding	<=1 ohm
Wind resistance	2400Pa
Maximum system voltage	1000V

This information represents the output of typical panels in 12V configuration. This data is based on measurements made in accordance with Standard Test Conditions (STC) 1000W/m², AM 1.5 with a cell temperature of 25°C.

Standard Parameters	55W	115W	175W
Weight	4kg	8kg	11kg
Size of panel (mm)	668 x 545 x 25	1015 x 668 x 30	1485 x 668 x 30
Monocrystalline panels	36	36	36

Select Solar Ltd

Unit 11a, Sullens Farm, Sunnings Lane
Upminster, Essex, RM14 2DQ

www.selectsolar.co.uk

Telephone: 01708 223 733