Installation & User Manual

(Model Type SpectraLeisure 75, 110, 150)

Thank you for purchasing this solar panel. To enjoy maximum satisfaction from the product we strongly recommend you read the following instructions!

Important Information

This manual contains important installation and safety instructions – please read and follow carefully.

- ***Always observe the correct polarity when making electrical connections. Reverse polarity connection to a battery is a fire hazard and may damage your solar regulator/charge controller.***
- ***Do not walk or drop objects on the panel. Always handle with care.***

1. Check you have received

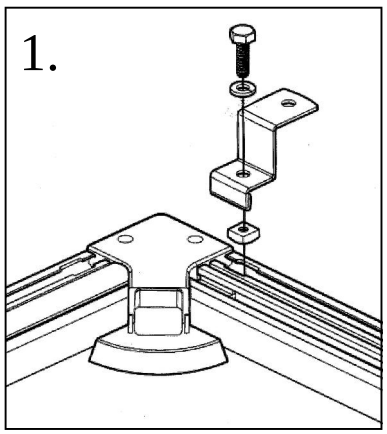
- 1 x Solar Panel
- 1 x Power Cable
- 1 x Screw Mount Kit - (6 x "S" Brackets, M6 Bolts, Square Nuts, Washers.)
- 1 x Glue Mount Kit - (4 x Corner Mount Pads, 2 x Side Rail Mount Pads, M6 Bolts, Square Nuts, Washers.)

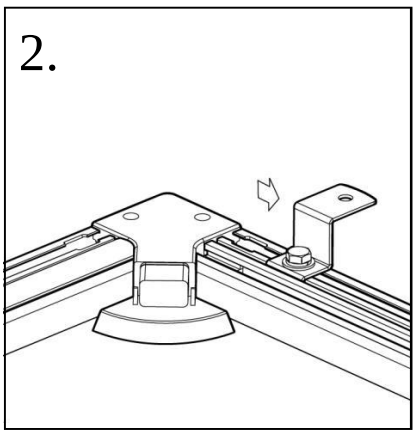
2. Mounting

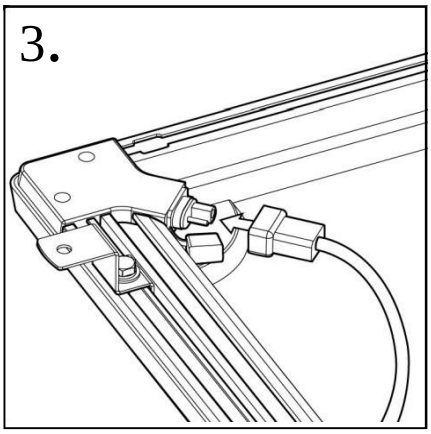
- Choose a location that is free from shade and as close as possible to South facing (in the Northern hemisphere). Always fix to a solid and supportive surface capable of withstanding all expected loads including the weight of the panel as well as those imposed by wind and snow.
- For optimum performance tilt the panel at an angle of 15º plus the location's latitude from horizontal. On a boat or caravan it is usually more practical to install it flat.
- Two mounting options are provided with this panel. Choose which method of fixing to use depending on the surface the panel is to be fixed to.

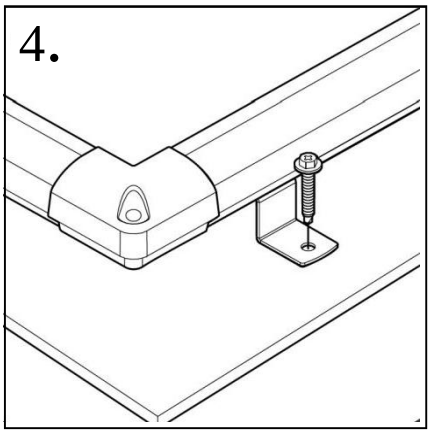
a) Screw mount brackets.

- Attach the "S" mount brackets to solar panel frame using fasteners supplied. Use two brackets on long sides and one bracket on short sides (6 in total) of panel.
- Assemble bolt, spring washer and square nut together with "S" bracket. (Fig.1.)
- Position bracket on frame by inserting square nut through channel opening and sliding complete assembly along track. (Fig.2.)
- Tighten bolt to secure bracket to frame. Repeat for other five brackets. Connect power cable to solar panel connector. (either side may be used as convenient) (Fig.3.) Using 6 screws supplied (or your own fasteners to suit) secure panel to surface. (Fig.4.)



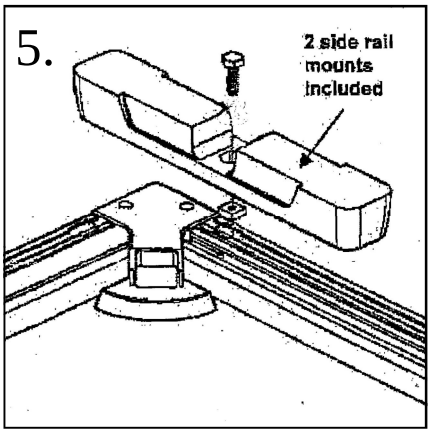


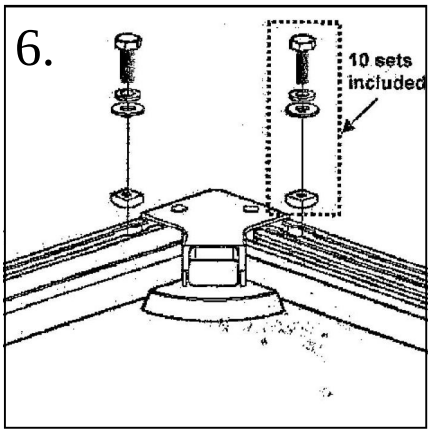


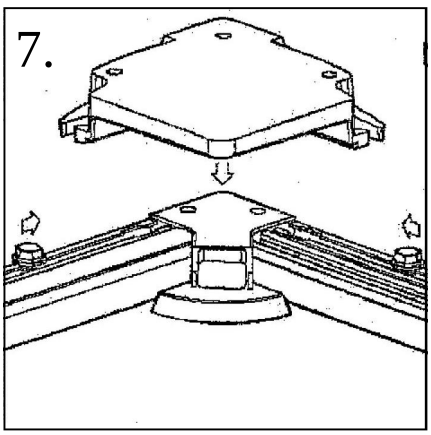


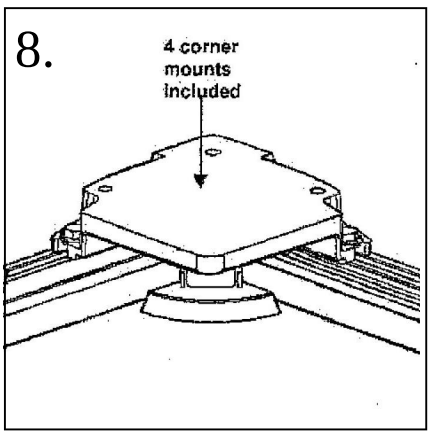
b) Glue mount brackets.

- Assemble side rail mount pad, bolt and square nut together loosely (Fig.5.)
- Insert square nut into channel opening on panel near corners on long side of panel. Slide the whole assembly along the channel, position in centre of frame, push down into slot and tighten in place using 10mm socket. Repeat on other side of panel.
- Assemble two bolts, spring washers, flat washers and square nuts together loosely. Insert square nuts into channel opening near corner and slide away from the corner. (Fig.6.)
- Position the corner mount pad on panel. Slide the nut and bolt assemblies back into the slots in the corner mount pad ensuring the washers are on top of the slot (Fig.7.). Once the pad is in position tighten bolts securely. Repeat for the other three corners. (Fig.8.)
- Select a flat surface to secure the panel to. Clean the areas where gluing to thoroughly. Apply and cure the adhesive in accordance with manufacturer's instructions.



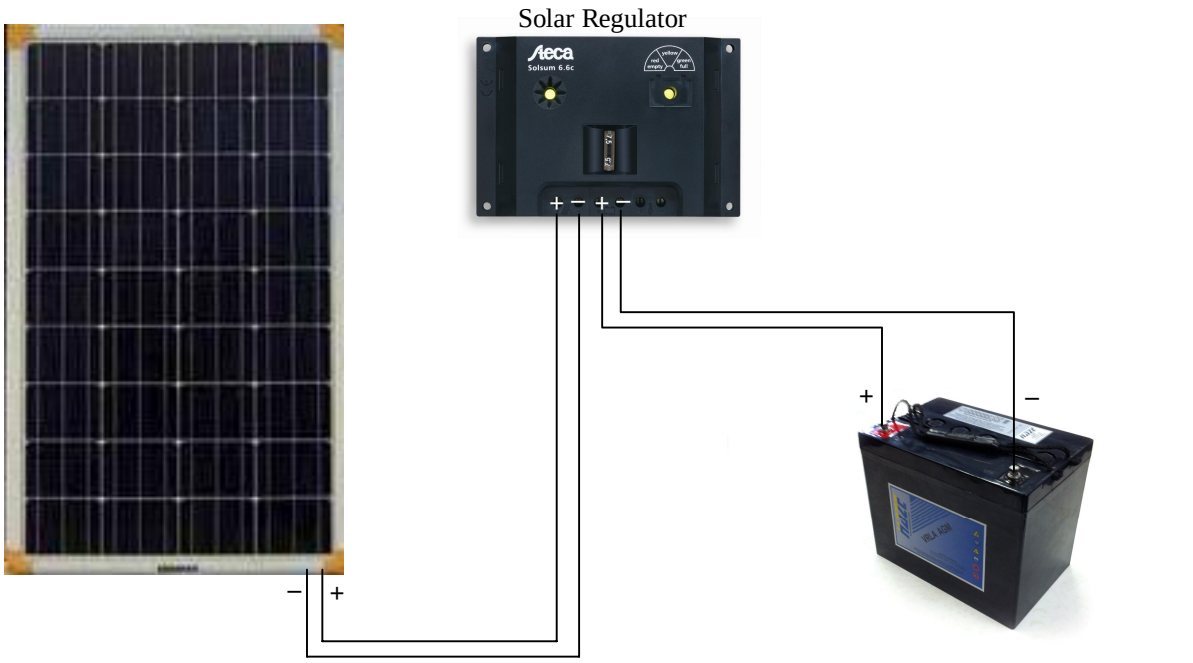






3. Electrical Connection

- Always observe the correct polarity (Red +VE/Black –VE)!
- Spectra solar panels are suitable for use with sealed and non-sealed 12V lead acid batteries. For best results use good quality Gel or AGM type batteries.
- To avoid short circuits and sparking, cover the panel when making electrical connections.
- It is strongly recommended that a Solar Regulator/Charge Controller is used when battery charging to prevent over charge and optimise the charging process. Always refer to manufacturer's instruction manual for installation and operation. If a solar regulator is not used then a blocking diode must be fitted between solar panel and battery.
- Always use good quality battery clips NOT crocodile clips.
- If the distance from solar panel to regulator exceeds the 3m of output cables then use cable of sufficient diameter to avoid unnecessary voltage drop.
- The Solar Regulator should always be located in a cool, dry, well ventilated, easily accessible area as close to battery as possible.
- More than one panel may be used together in parallel to give higher output current. Use blocking diodes as necessary.



4. Maintenance

- Occasionally wipe the solar panel with a damp cloth (use only water and mild detergent) to remove the build-up of dirt, salt, etc.
- Non-sealed batteries should be maintained in accordance with manufacturer's instructions.
- All wiring and connections should be regularly checked for integrity and corrosion.

5. Troubleshooting

If your Spectra solar panel does not seem to be performing properly start by addressing the following points:-

- Inspect all electrical connection for any sign of corrosion or loose wiring.
- Test the panel's open circuit voltage (Voc). To to reduce risk of sparking cover the panel before disconnecting. Using a multi-meter set to DC Volts, measure the voltage across the +ve and –ve terminals of the panel. In bright sunny conditions a reading of approx. 18—22V should be seen.
- If an Ammeter is fitted in circuit then a reading of close to the panel's peak operating current (see Current at Pmax (Impp) in table below) should be seen in bright sunny conditions.
- Verify the condition of the battery. Over time a battery will lose its ability to recharge, especially after repeated heavy cycles of charge and deep discharge. Contact the battery's manufacturer for more detailed guidelines on battery testing.
- Make sure your system is properly sized for your power requirements. For further assistance contact your supplier.

6. Warranty

- Spectra solar panels carry a 2 year warranty providing free replacement cover for all defects in parts and workmanship from date of purchase.
- A valid proof of purchase will be required if making a warranty claim.
- Defective products must be returned pre-paid to your dealer or to Marlec Engineering Co. Ltd., Trevithick Road, Corby, Northants, NN17 5XY.
- This warranty is void in the event of improper installation, modification, owner neglect, misuse or damage caused by natural disasters and does not extend to batteries, regulators, inverters or other ancillary equipment.
- No responsibility is assumed for incidental or consequential damage or damage caused by the use of unauthorised components.
- Your statutory rights are not affected.

Electrical Specification

Model	Maximum Power (PMax)	Current at Pmax (Impp)	Open Circuit Voltage (Voc)	Voltage at Pmax (Vmpp)
SpectraLeisure75	75W	4.5A	21.5V	16.5V
SpectraLeisure110	110W	6.5A	21.5V	16.5V
SpectraLeisure150	150W	9A	21.5V	16.5V

Specifications are subject to change without notice.

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