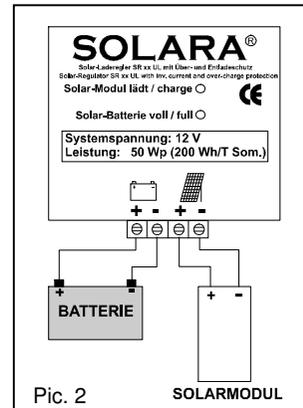




## D) Connection to the regulator and the battery

Read furthermore the instruction of the charge controller.

1. Install the regulator close to the battery.
2. If necessary, expand the module cable with a solar-cable. Now connect the module cable with the regulator as seen on picture 2.
3. ATTENTION: Never mix up plus (red) and minus (blue) from the cable!
4. The regulator should be connected with a cable (2 x 4mm<sup>2</sup>) on a direct way to the battery. (Pic. 2)



### **Tip:**

The solar module needs no further maintenance; it only has to be cleaned with water. It can be cleaned with soap, but only soap without sanding, corrosive fluid or wax. (Do not use car-cleaning soap!)

SOLARA takes no responsibility for damages on the module caused by wrong installation and by not following this installation manual. For any further questions, please do not hesitate to contact us.

# Installation Manual

## SOLARA M-Series SOLARA Power M-Series

**Important notice! Please read!**



**Please read this manual carefully.  
Incorrect installation can damage the module  
and can result in loss of warranty!**

Subject to technical change. No responsibility will be taken for printing mistakes.  
Date: 06.01.2016



### A) Flexibility

SOLARA-M-Series modules are semi flexible. The modules can be installed under a slight curve – maximum 3 cm on a meter module length. It has to be assured, that the module can not vibrate. Heavy vibration can damage or even destroy the module! Use generally all available points to install the module to or glue it perfectly.

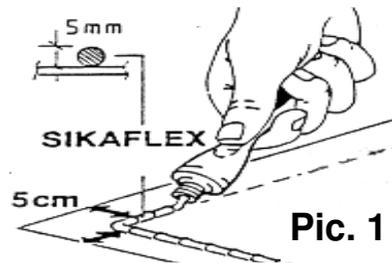


### B) Installation

A SOLARA module achieves highest performance when the sun shines vertical on it. This means that with a horizontal installation on a boat deck or a caravan roof the module loses a part of its efficiency. But in most cases the plain installation is the best compromise.

#### Glue the module

1. Place a connected line of glue around 5 cm inside the marked area where the module should be glued on the roof. (Pic. 1).
2. Do not interrupt the glue line, because the glue is also a sealing and use also adhesive in the middle of the panel in a cross or zig-zag pattern to support the panel and stop flexing.



Pic. 1

#### How to screw a module

Solara modules can also be screwed. For that the stainless steel plate is precut with with holes. Simply drill through the surface and backside coating at these points of the module and screw on the module with stainless steel screws. The modules surface in the area of the cells must not be damaged. Do not drill additional holes in the module. Always use all precut fixing points to screw a module.

**The semi flexible range of panels are designed to be a permanent installation on a non-flexing surface.**

### NOTE:

To get a perfect border for the module you can use the special glue on the edges to make a smooth transition. Another possibility is to seal the ends of the module with the glue to get a perfect connection to the roof/deck.

**After installation, do not put any load on the modules for 24 hours!**

### C) Electrical connection

First take the minus connection off the battery and cover up the solar module to prevent a short circuit. The cable from the solar module should be directly connected with the solar regulator. From there a new cable should be connected on a direct way to the battery. This cable has to be connected to the minus and plus of the battery (see pic.2). For a 24V system you have to install two modules in series. The cable from the regulator to the battery must be protected with a fuse with the double size of the amps witch are produced by the modules (at least it should be significant stronger).

### ATTENTION!

#### PLEASE READ THIS INFORMATION BEFORE INSTALLING

At some of the modules the ending of the cable must be modified with a cell protector. This protector contains a protective circuit for the new high performance solar cells in the panel. The module may solely be handled with the protective circuit, otherwise the warranty ends immediately! The types S 50M36 Marine and S 110P42 Marine can be used without that protective circuit.

Install the cell protector as follows:

On the electronic board are three connections which are marked with red, green and blue. Connect here the three wires from the module cable according to their colours. On the "output"-side of the board connect + and - of the battery cable. In some cases the module should be blocked against compensating current. In this case, please connect at the +\_D and - pole.

Now the cap, the cable fastener and the base plate can be screwed together. The cell protector is only for the use inside. Do not use it outside.

