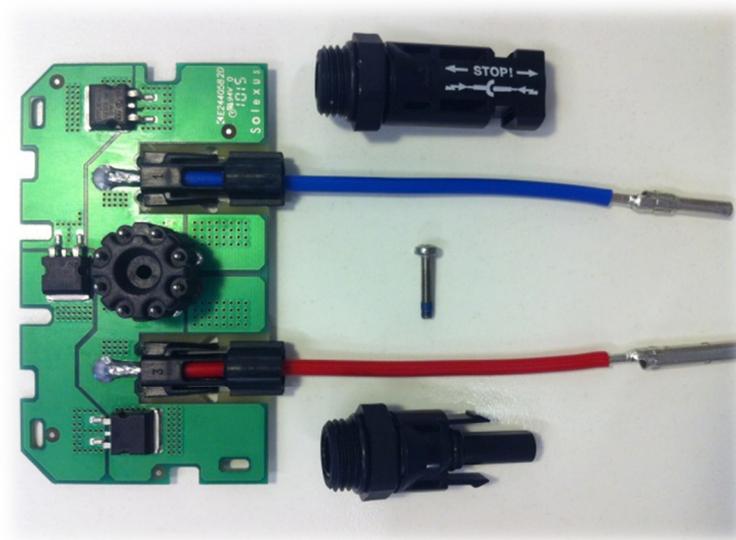


Repair manual

Scheuten Modules Repair-Kit (Solexus Junction-Box)



Patent pending, all rights reserved



new energy systems
Services

De Steeg 3 | 6333 AT Schimmert | The Netherlands
T +31 (0) 45 404 04 14 | www.junctionboxrepair.com

1. Introduction

This repair manual describes the repair of the **Solexus** junction-box of ScheutenSolar solar panels with the Scheuten Modules repair-kit of New Energy Systems Services. This repair is necessary because of the fire danger of the original junction-box (Rapex notification no. A12/0133/13). The repair may only be performed by professional solar installers, who strictly have to carry out this manual. Improper, incorrect or incomplete repair of the junction box can lead to dangerous situations. New Energy Systems Services can not be held responsible for incorrect repair of junction-boxes. The repair can be performed in the field, whereby the local (safety) regulations (e.g. for working at heights) should be taken into account. The repair should be carried out during dry weather circumstances (non-condensing) and the temperature should be above 5° Celsius. All activities at the junction-box itself should be carried out with **clean hands!**

2. Scope of delivery

ScheutenSolar used two kinds of PCB's in the Solexus junction-box. This depends on the type of solar panel. Make sure you use the right repair-kit before you start with the repair, this is indicated on the packaging of the repair-kit. The 8-pole connector on the PCB also indicates for which type of solar panel the PCB is suitable.

- 1) Repair-kit for standard **Multisol**-modules (8-pole pin length 17,0 till 17,5mm).
- 2) Repair-kit for **Vitro/Integra**-modules (8-pole pin length 19,0 till 19,5mm).

Make sure the pin length of the 8-pole of the removed PCB is identical to the pin length of the 8-pole of the repair-kit. Replacing the old PCB by a PCB with a different pin length is not allowed!

The repair-kit (photo 1) contains the following components:

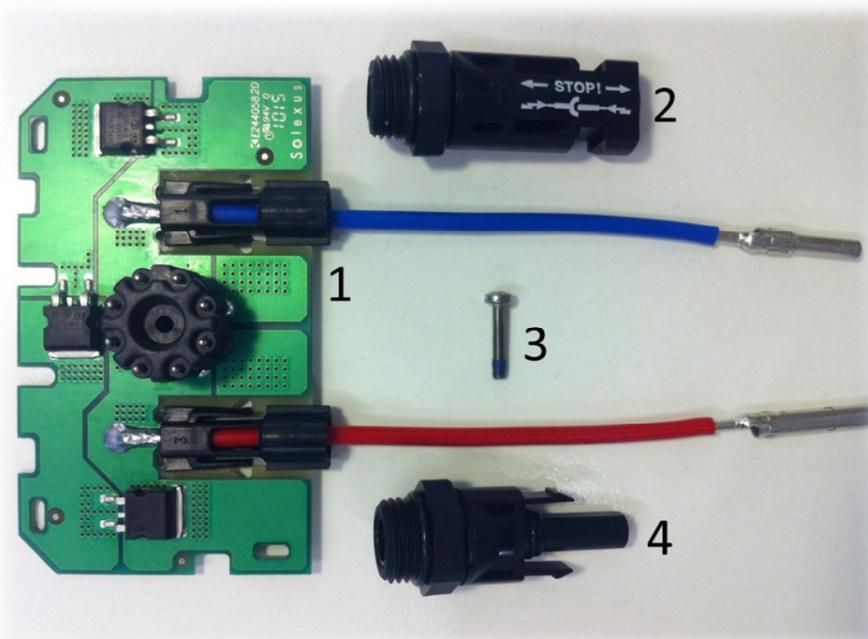


Photo 1.

- 1 PCB with red (+) and blue (-) connection wire.
- 2 (-) connector (chassis part), Multi-Contact order.nr. 32.0077P001 with adapter ring M12/M16.
- 3 Screw fit with PRELOK, type Scotchgrip 2353.
- 4 (+) connector (chassis part), Multi-Contact order.nr. 32.0076P001 with adapter ring M12/M16.

3. Tools

To carry-out the repair, you need (besides standard tools) the following special tools (photo 2):



Photo 2.

- 5 Torque (crosshead PH1) screwdriver, e.g. Facom A.300 MT (4-20 cNm).
- 6 Multi-Contact Wrench, Multi-Contact order number 32.6026.
- 7 Multi-Contact Test-plug, Multi-Contact order number 32.6028.
- 8 Special curved screwdriver (flat head) 4.0x100mm, angle 35° on 35mm from tip.

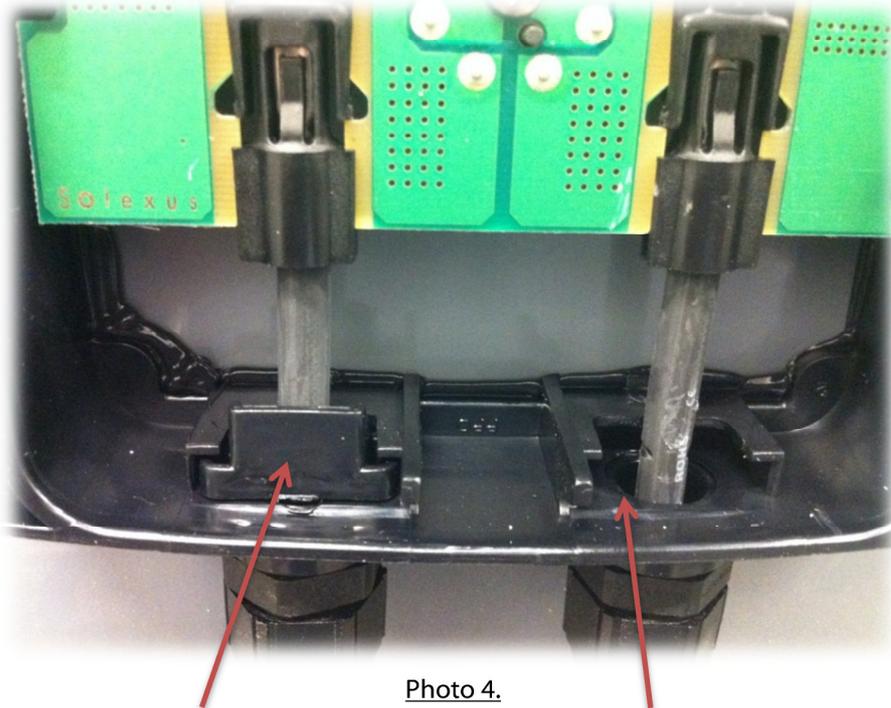
4. Repair

Shut-down the AC- and DC-voltage of your PV-system. Remove the solar panel from the sub structure. The cover of the Solexus junction-box can be clicked off at the 4 corners with a flat head screwdriver (photo 3). Also see the instructions on the cover of the junction box.



Photo 3.

After removing the cover, you can see the PCB from the solder side. The 2 U-shaped mechanical interlocks that lock the cable to the housing (photo 4), must be removed by clicking them out with a screwdriver.



Mechanical interlock not removed

Photo 4.

Mechanical interlock removed

Remove the screw (photo 5) that locks the circuit board.

Warning: do NOT re-use the screw!

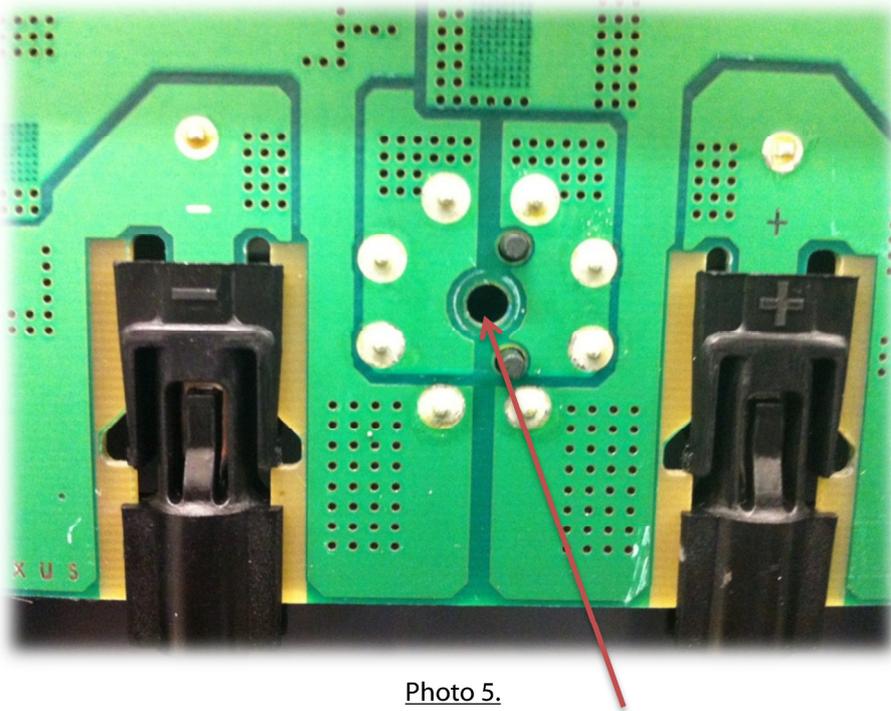


Photo 5.

Position of the screw

Cut the cables behind the swivels (photo 6) and remove the swivels with a wrench (19mm).

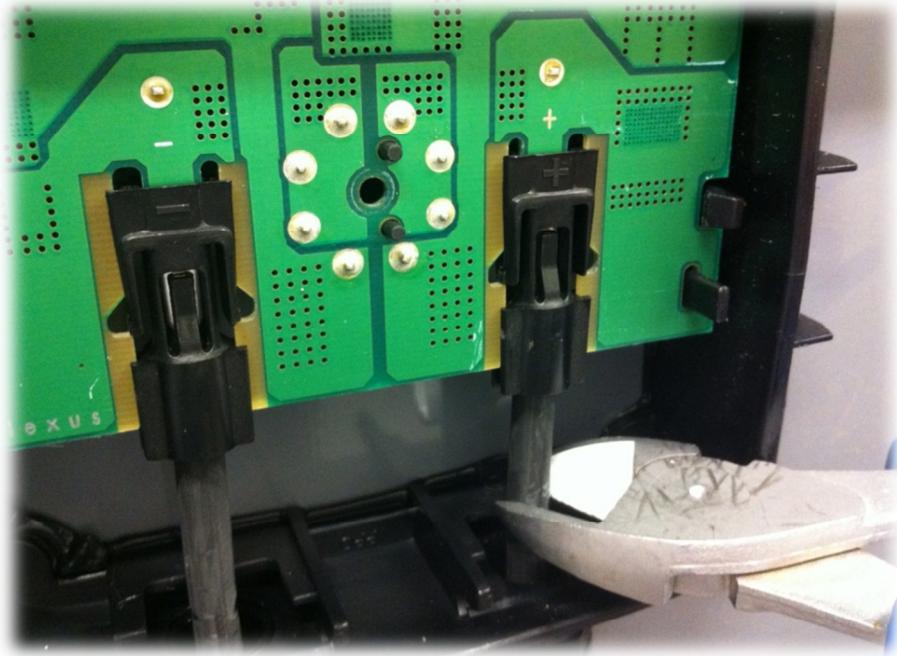


Photo 6.

Now the old PCB can be removed carefully by pressing the 4 latches on the outside of the junction-box. What remains is an empty junction box with the 8-pole female connector visible in the back of the module (photo 7).

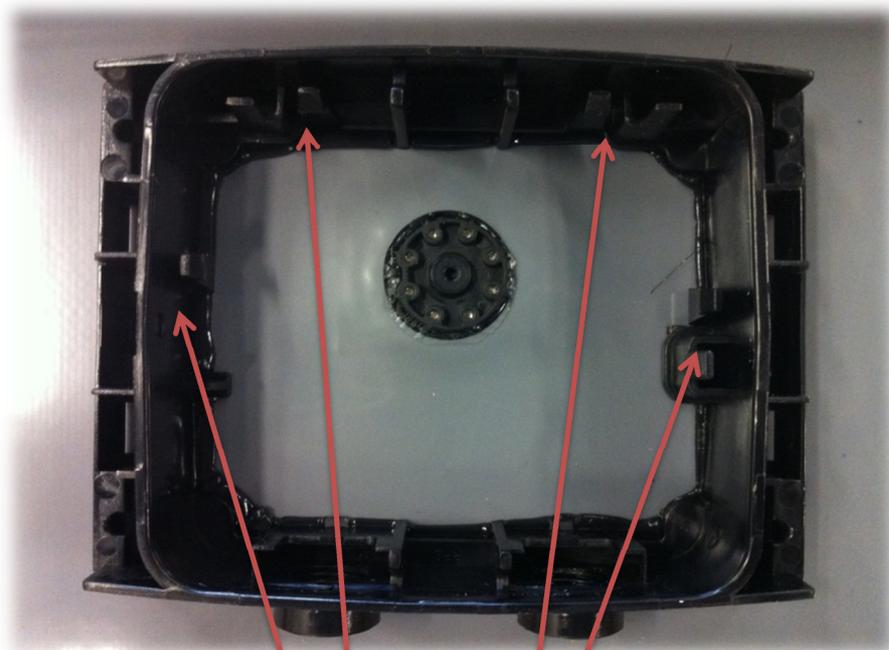


Photo 7.

4 pcs mechanical interlocks

The dismantling of the old components is ready. Now, you can start installing the new components.

First, the 2 Multi-Contact MC4 chassis parts (2 and 4) of the repair-kit can be installed (photo 8). Each chassis part is provided with a M12/M16 adapter ring. The (-) connector (2) should be installed on the left, the (+) connector (4) on the right. The chassis parts must be tightened with the Multi-Contact Wrench (6) and a socket wrench (15mm with torque-control) with a torque of 2,0 Nm.



Photo 8.
(-) connector (2) (+) connector (4)

Install the new, modified PCB (1) of the repair-kit. Make sure that the 4 interlocks on the outside click 'over' the PCB (photo 9). Press the 8-pole connector **firmly**, to make sure that it makes contact with the female connector in the module with no spacing between.

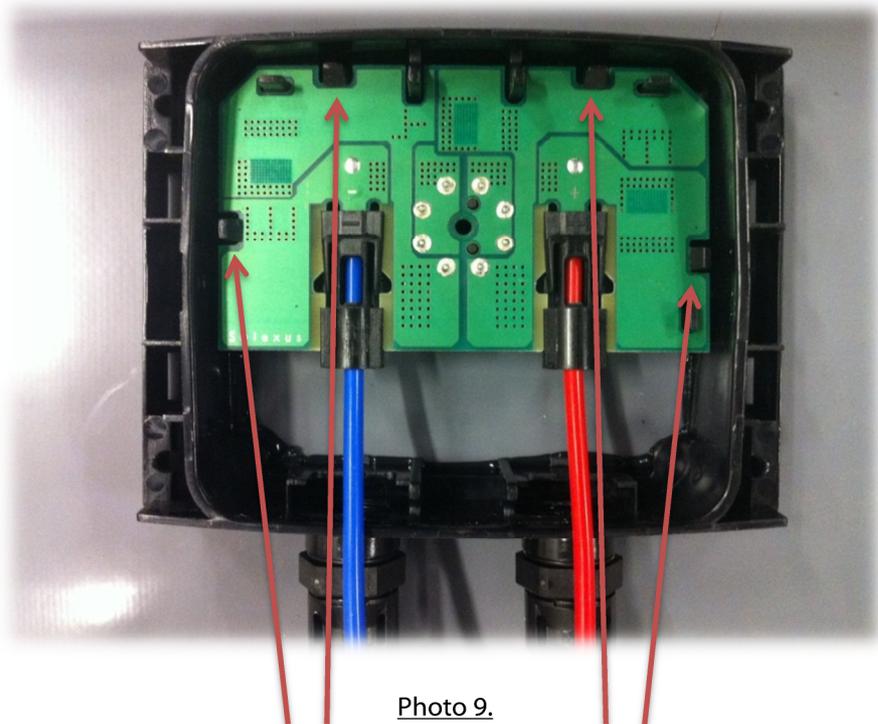


Photo 9.
Mechanical interlocks PCB

Secure the PCB **with the screw (3) of the repair-kit** (photo 10). The screw is already provided with PRELOK (threadlocker) to lock the connection (after tightening). The screw must be tightened with a suitable tool (5) with **0,15Nm**.

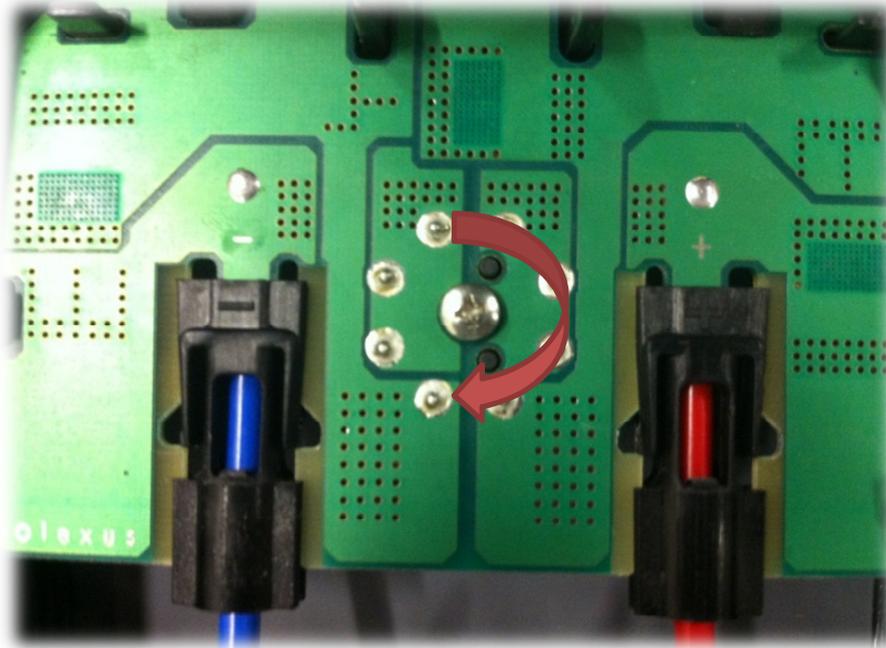


Photo 10.

The PCB is now mechanical locked and the chassis parts are in position. Next, the MC4-inserts must be clicked into the chassis parts (photo 11). This is the most difficult action of the whole repair and should be done very precisely. Before the inserts are clicked into the chassis parts, the wires should be turned into a loop whereby the loop is pointing towards the outside of the junction-box. **After** that, press through the inserts.

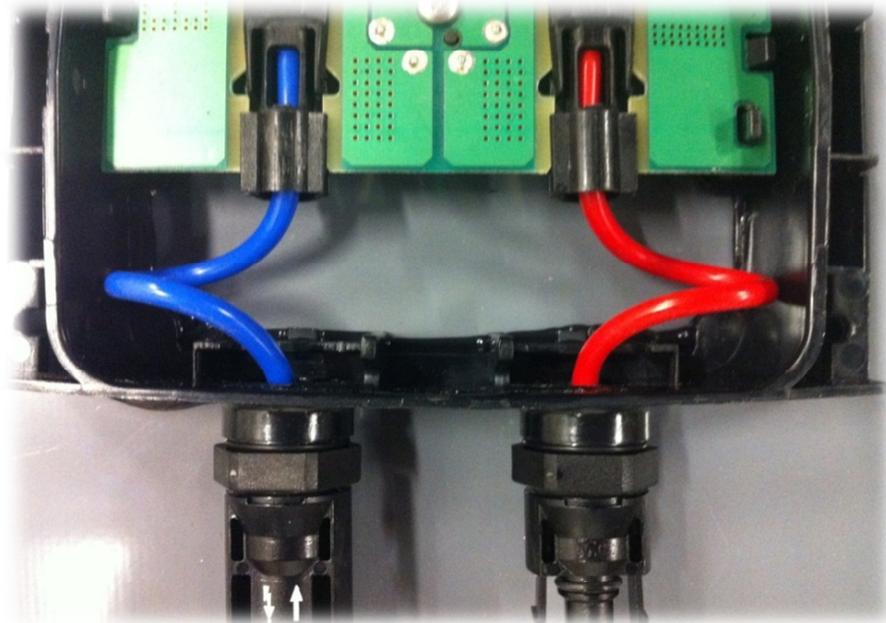


Photo 11.

Press through the inserts in the chassis parts using the curved (flat head) screwdriver (8), until it locks (photo 12). This requires some practice where to pay attention that no parts get damaged (the insert itself, but also the wire, PCB, housing etc.).

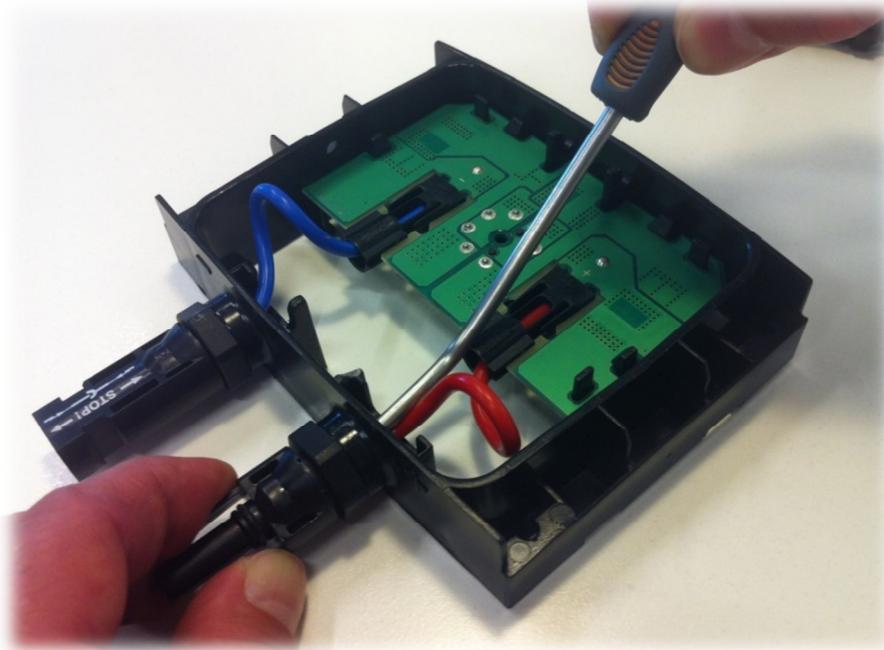


Photo 12.

Make sure the insert is locked well into the chassis part by carefully pulling the wire. Also check the position of the insert from the outside with the test plug (7), on the by Multi-Contact prescribed way. After a last visual check, the cover can be clicked on the junction-box again (photo 13).



Photo 13.

The repair of the solar panel is ready now. The external cables can be connected and the module can be replaced on the sub construction again. **Only use original MC4 Multi-Contact** plugs to connect the solar-panel. Other brands and look-alikes are **not** allowed and can lead to life-threatening situations. New Energy Systems Services can not be held responsible for using incorrect external cabling.