

Off-Grid Kit

Please read these instructions fully and ensure that you have all necessary equipment before starting installation.

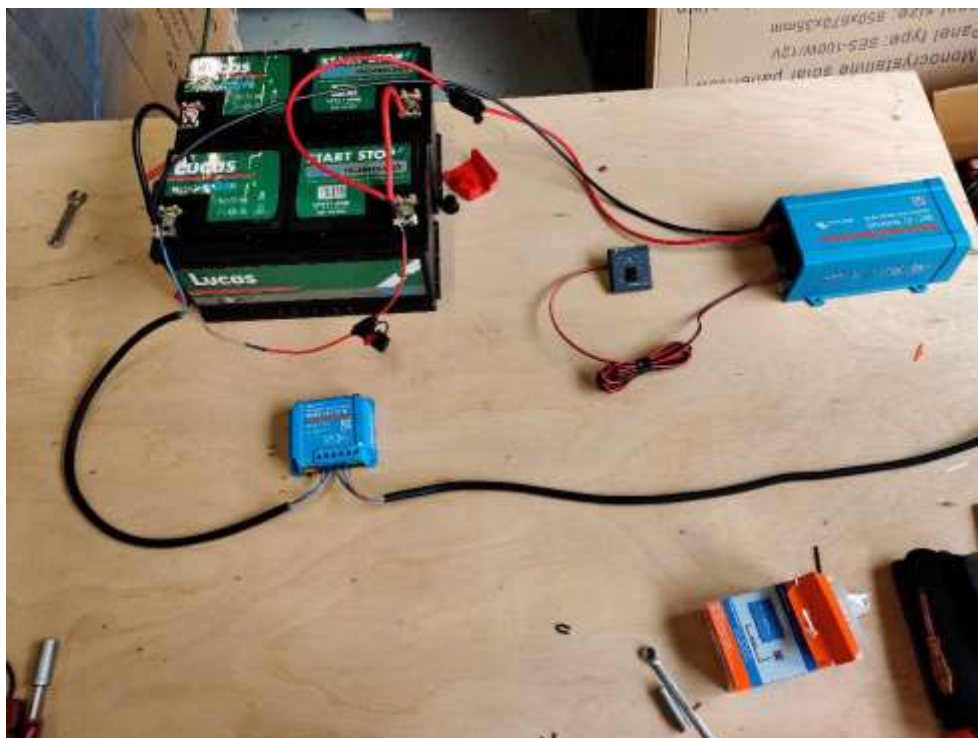
Connecting solar:

1. Position the panel and mounts on the roof in your desired location, this would ideally be south facing with no shading on the panel. If that is not possible you will want to find a position that maximises the sunlight on the panel throughout the day. You can fix the panel in place now.
2. Find a suitable entry point for the solar cable, on a roof installation this would usually be under the eaves with a natural drip loop on the cable.
3. Lay the cable from the solar panel through the entry point. Ensure that you have enough cable to reach the desired area with approximately 1m to spare. If you require more cable, please contact us. ***Do not try to stretch or extend the cable.***
4. Position the charge controller indoors within 1m of the battery. Consult the controller's manual for mounting instructions.
5. Cut off the length of wire needed to reach from the controller to the battery with a little slack. Strip back the outer sheath exposing the brown and blue inner wires leaving enough exposed so that each battery terminal can be reached.
6. Strip off 5mm of the brown and blue sheaths to expose the inner cables.
7. Cut back the positive wire (brown) so that the fuse holder supplied can be placed in-line between the wire from the controller to the battery.
8. Strip off 5mm of the brown wire's sheath and crimp on the supplied in-line connector.
9. Strip off 5mm of the red wire's sheath from the fuse holder and crimp this onto the other end of the in-line connector.
10. Push the included blade fuse into the fuse holder and close the lid.
11. Crimp one ring terminal on to the unused end of the fuse holder, and one ring terminal to the end of the blue wire for easy connection to the battery terminals. ***Do not connect the battery yet.***
12. At the other end of the solar cable, strip back approximately 5cm of the sheath exposing the inner blue and brown wires, and strip off 5mm of each coloured sheath before crimping one of the supplied pin terminals to each of the wires for connecting to the charge controller.
13. Insert the pin on the blue wire into the negative battery terminal on the controller and tighten with a small screwdriver, repeat this procedure with the brown wire into the positive battery terminal.
14. Loosen the clamps on the battery terminals and attach the ring terminals (brown wire with fuse holder is positive, blue wire is negative). Your battery is now connected, and your controller will be active.
15. You can now download the Victron Connect app on your phone to monitor the system – the password for connecting is set as 000000 by default. On first opening, we would recommend going through the settings to make sure the voltage for the battery etc. is right. If there are any updates for the controller they will be applied now so long as your phone is connected to the internet.
16. At the solar panel, strip back the sheath of the solar cable revealing 10cm of the inner wires.
17. Strip back 1cm of each coloured sheath exposing the inner cores.

18. Fit your MC-4 connectors to this end of the cable (follow included MC-4 connector instructions).
19. At the other end of the cable from the solar panel repeat steps 12 and 13. Once the pin connectors are fitted to the wires, insert the pin on the blue wire into the negative panel terminal on the controller, and the pin on the brown wire into the positive terminal. Your panel is now connected, and your system should be charging (conditions allowing).
20. If you check your Victron Connect app now you will be able to see the power generation of the panel and the input into the battery to ensure that the system is working.

Connecting your inverter:

1. Position the inverter indoors within 1m of the battery (consult the user manual of your inverter for mounting instructions).
2. Strip back approximately 5-10mm of the black 10mm cable exposing the inner wire. This will go into the black screw terminal on the back of the inverter.
3. At the other end of the black cable strip back a similar amount and crimp on the 10/8 cable lug included.
4. Repeat steps 2 and 3 for the red 10mm cable.
5. Select a suitable position for the midi fuse holder on the red 10mm cable for the inverter (closer to the battery than the inverter).
6. Cut the red cable at this point and strip back 5-10mm of the sheath from both cut ends and crimp the supplied 10/5 cable lugs onto these ends.
7. Put the included midi fuse into the holder and then place each of the 10/5 cable lugs connected to the red cable on each of the 5mm posts on the fuse holder.
8. Use the supplied nuts on the 5mm posts to tighten and secure the fuse in-line.
9. Connect the black 10mm cable to the negative battery terminal using the connected cable lug, and the red 10mm cable to the positive battery terminal.
10. You can now turn on the inverter to test it. Once you have ensured that it is working, turn the inverter off.



Connecting the inverter remote switch:

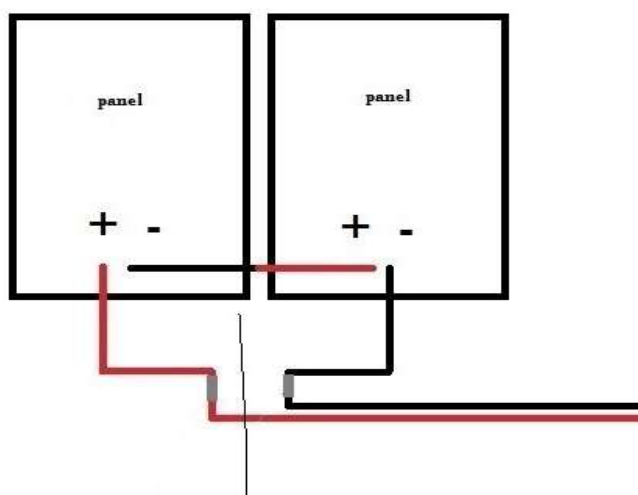
1. Position the remote switch where you wish it to be and measure the distance of cable you need.
2. Cut a length of cable (either from the length supplied with the switch or from a similar cable sourced by yourself) and wire into the two terminals on the back of the remote switch. Please refer to the Victron diagram for the switch if needed.
3. Disconnect the black link wire from the green "remote" terminals on the back of the inverter.
4. Connect the two wires from the remote switch to the green terminals on the inverter.
5. Set the power switch on the inverter to on – you can now use the remote switch to turn the inverter on and off when needed.

If the inverter switch fails to light up, then the wires to the green terminals are probably reversed. If you swap these around the switch should operate correctly.

If you need any help or advice on your installation please email us at info@sunstore.co.uk or ring 01903 213141 for any technical support.

Adding another panel:

To add an additional panel to your system you will need to connect the panels in series. To do this simply connect the male MC-4 connector from panel 1 to the female MC-4 connector on panel 2. You would then connect the solar cable leading to the controller to the remaining male and female MC-4 connectors on the panel as per the diagram below.

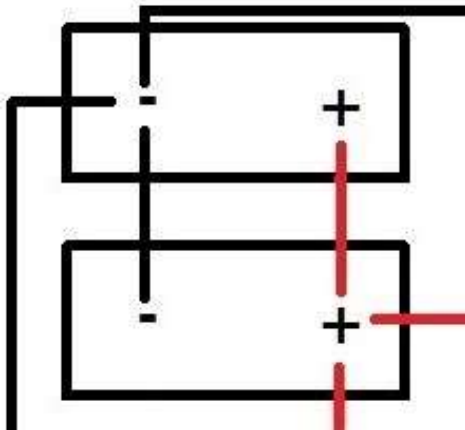


This connection is made with the tails from the panels, with no additional cabling. The cables would be underneath the panels when on the roof.



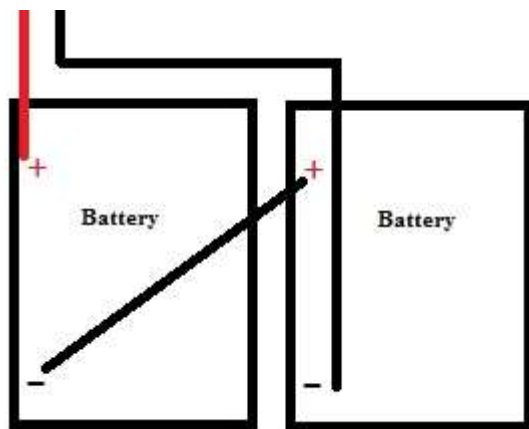
Adding extra battery capacity:

To double the capacity of the system, you will need another battery of the same voltage and capacity. The batteries would connect in parallel with battery link leads (positive to positive & negative to negative) as shown in the image below.



Setting up a 24V battery bank:

If your system is 24V you would need to connect 2 identical batteries in series. This should be done by using a battery connection cable to connect the positive terminal on Battery 1 to the negative terminal on Battery 2. This will make your system 24V, the capacity (ah) will remain the same. All connections to the 24v battery bank would need to be made “across” the battery bank as shown below. Please note that you will need to go into the Victron Connect app and check the settings of your controller to ensure that it is set to 24V for the battery battery.



Please note that Sunstore cannot be held responsible for any damage caused or resulting from the fixing of the panel or poor installation, please seek advice from our technical team should you require it. This product is installed at the risk of the owner. No product supplied by Sunstore is individually hazardous however misuse or faulty installation may result in damage. It is recommended that you seek professional advice from an insured installer.