UK

NX SOLAR KIT MANUAL

The photovoltaic solar kit allows you to produce electricity from solar radiation.
The NX photovoltaic kits comprise high efficiency solar panels, long life and high performance batteries of the lead-crystal or cyclic duty gel type, PWM or MPPT controllers and fixing accessories. The NX solar kits are designed to operate on 12 or 24V. If you wish to operate 230V appliances then the addition of a 12/230V or 24/230V power converter will be essential.

OPERATING THE SOLAR KIT

A solar kit consists of one or more photovoltaic panels, one or more batteries, a regulator or charge controller and fixing accessories.
The photovoltaic panel captures solar radiation and transforms it into electricity (direct current) to power your appliances. The energy produced depends largely on the power and quality of the photovoltaic panels.
The batteries ensure that all the electricity produced by the panels is stored and is delivered exactly when needed. The capacity of the batteries determines the amount of energy that can be stored.
The controller ensures the optimal management of the system. It regulates the charging of the batteries and prevents overcharging and deep discharges. The fixing accessories are used to connect the different components to each other, and assist the installation of your kit.

The daily production indicated for your solar kit is an estimate. Its actual production depends on several factors, the most important of which are
- Your geographical location
- The orientation and angle of inclination of your solar panels
- Possible shading

IMPORTANT

- To take advantage of the full performance of your batteries, you should fully recharge them one by one before installing them on your photovoltaic kit.
- Point your panels due south at an angle of inclination of 30 to 45 degrees to optimise electricity production.
- Make sure your panels are not in the shade (trees, walls...).
- Turn off appliances when not in use.
- Keep the surface of your solar panels clean. Feel free to wash them with clear water when necessary.

INSTALLATION OF THE PHOTOVOLTAIC KIT

1. CHOOSING THE CABLE CROSS-SECTION :

The cable cross-section you need for your installation will depend mainly on the voltage (V), the current (A) and the length of the cable.

Please refer to the following table:

12V INSTALLATION				
Length of the cable	Current	5A	10A	20A
0m < > 5m	Cable Cross-section	1.5 mm²	1.5 mm²	1.5 mm²
5m < > 10m		1.5 mm²	4 mm²	4 mm²
10m < > 15m		2.5 mm²	6 mm²	10 mm²

24V INSTALLATION				
Length of the cable	Current	5A	10A	20A
2m < > 5m	Cable Cross-section	1.5 mm²	1.5 mm²	2.5 mm²
5m < > 10m		1.5 mm²	4 mm²	6 mm²
10m < > 15m		4 mm²	6 mm²	16 mm²

We recommend not to have more than 10 meters between the devices (panels, regulator, batteries and inverter) in order to avoid important power loss in the cables.

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2. FIXING THE PANELS

Start by covering the solar panels with a blanket. Your panels will need to remain covered during the entire installation. Do not remove the covers until installation is complete.

- If your panels are not pre-wired, open the connection box of the photovoltaic modules at the back of the panels and connect the cables.
- Fix the solar panels to the location provided. Choose an unobstructed area, square to the sun's rays, facing due south and at an angle of inclination of 30 to 45 degrees.
- If necessary, connect your solar panels in series or parallel to obtain the voltage and current you need. (refer to series connection or parallel connection diagrams).

3. FIXING THE CHARGE CONTROLLER

Mount the regulator vertically on a non-flammable support, with the power terminals facing downwards. The regulator and battery should be installed close together **(within 2 metres)** in a dry and easily accessible environment.

4. BATTERIES CONNECTION

If necessary, connect your batteries in series or parallel to get the voltage and current you need. (Refer to series connection or parallel connection diagrams).

5. CONNECTIONS

Leave the cover on the panels when making electrical connections and protect the ends of bare cables to avoid short circuits.

CONNECTION BETWEEN THE CONTROLLER AND THE BATTERIES

- Connect your batteries to the charge controller, respecting the +/- polarity. Make sure to use the slots provided for the current output for the battery.

CONNECTION BETWEEN THE CHARGE CONTROLLER AND THE PHOTOVOLTAIC PANELS

- Make sure to have cables with the necessary length to cover the distance between your regulator and your panels.

It is not advisable to have more than 10 metres between devices (panels, regulator, battery, and inverter) to avoid high power loss in the cables.

- On the controller, identify the current input slots indicated by a solar panel pictogram. Connect the cable with the male MC4 connector to the negative (-) terminal and the cable with the female MC4 connector to the positive (+) terminal at these slots.

Branch connectors

- Then connect the cables you have just attached to the regulator to the ones prefixed to the solar panels, respecting the +/- polarity.

For parallel connections, it will be necessary to add branch connectors between the cables coming from the controller and those coming from the panels

- If your kit contains a converter, connect it to your battery with the correct polarity. The inverter should also be installed close to the battery to avoid power dissipation in the cables.
- Check that the cables are connected and that all the devices are well linked together.
- Remove the panel covers, switch on your inverter and your kit is ready for use.

WARNING

- **Make sure that the cables remain secure, and protect them or attach them if you see that they risk being damaged in any way. A short circuit is dangerous and can cause a power failure or fire.**

- **Always connect the batteries to the controller first before connecting to the solar panels.**

- **It is not advisable to have more than 10 metres between devices (panels, regulator, battery, and inverter) to avoid high power loss in the cables.**

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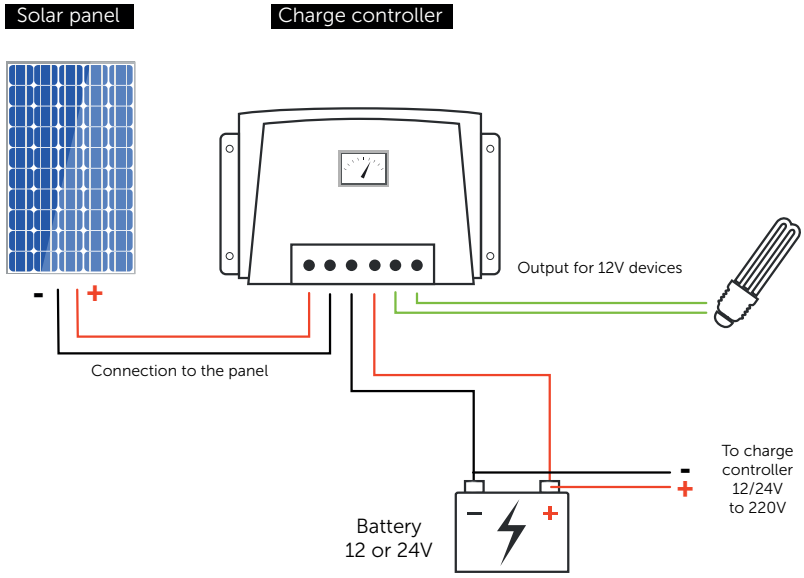
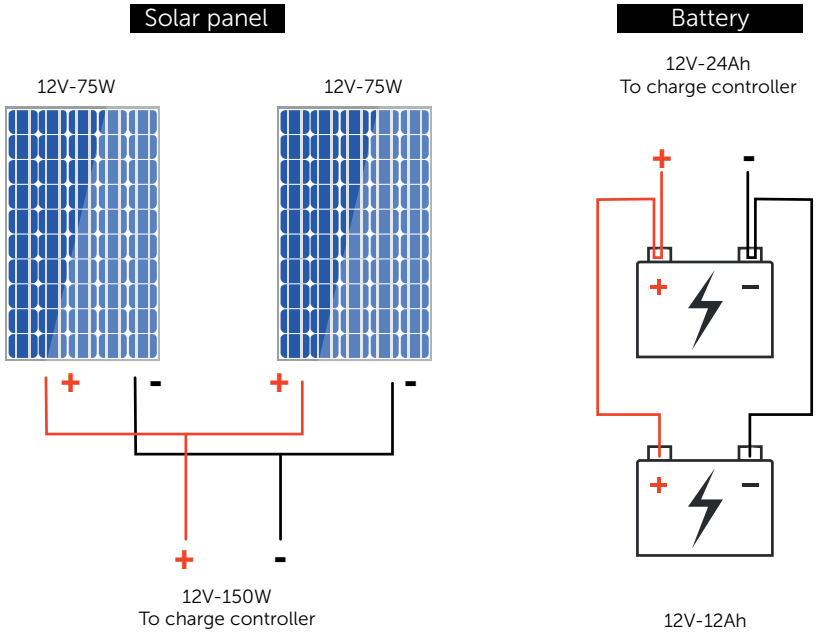
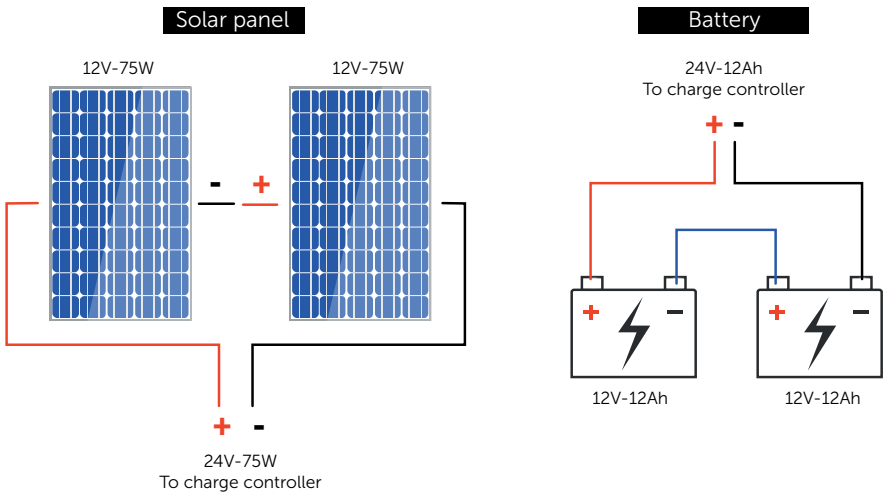
CLASSIC CONNECTION



PARALLEL CONNECTION



CONNECTION IN SERIES



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