SOLAR PV SYSTEM OWNER'S MANUAL

For advice, technical support and service you may Phone or Whatsapp: 087 385 1001

Introduction

Congratulations on the installation of your solar PV system!

You have made a good decision in terms of future cost savings for your home or business, and you have also reduced your carbon footprint to secure a greener future.

Please take the time to read and understand this solar power system user manual.

Please keep this user manual in safe place for future reference.

Your solar PV system has been designed and certified to meet all relevant conditions and codes.

As with all electrical systems we strongly recommend that only qualified personnel will be permitted to work on your solar PV system.

How Your System Works

Solar PV systems convert light from the sun into electricity. The amount of electricity produced will depend on the size of solar PV system you have installed.

The amount of electricity produced should be registered on the check meter located in your distribution board, the inverter readout should also display the amount of electricity produced, there will also be an indication on your utility bill, and if you have selected to provide internet connectivity for the app, this will also display a variety of technical information relating to your solar PV system.

All grid-connected solar PV systems are entitled to be paid a feed-in credit under the terms of the Microgeneration Support Scheme (MSS) or the Small-scale Renewable Energy Support Scheme (SRESS).

Night-time operation

At night your solar PV system automatically shuts down due to the absence of sunlight. This is normal. The inverter will power up again when the solar PV system meets minimum conditions.

Power Outage or Grid Failure Event

In the event of a power outage or grid failure event, the inverter will automatically shut down the system.
This feature is called "anti-islanding", is usually mentioned in the technical specifications, and is a safety feature included as standard in most inverters, which protects maintenance personnel that may be working on the power grid.

System Performance

During daylight hours, your solar PV system will generate electricity depending on the weather conditions.

The greater the amount of sunlight directly incident on the solar array over time, the greater the amount of electricity generated; therefore variables like cloud cover, seasonal solar angle variations, shading or soiling of the solar array, will have an effect on the output from your system.

By learning how your solar PV system performs, many customers also learn to reduce their use of expensive grid power by scheduling equipment such as power washers, washing machines, dishwashers and other electrical consumers to operate at times when maximum free solar electricity is being produced.

Factors Affecting Performance

Various factors affecting the performance of your solar PV system will have been discussed during the process.

Temperature
Components used in your solar PV system are temperature sensitive. This means that both the ambient temperature and the temperature of your solar PV panels, and inverter will affect the output of the entire system.

Angle of incidence of the sun
Your solar PV array will produce it's maximum output when light from the sun is directly incident on the array.
You will have been provided with a simulation of how your system performs, month-by-month, and the figures contained should give an accurate representation of your system performance from year to year.

Shading and soiling
Due to our equipment selection and design process, shading of your solar PV system will have been accounted for from the first site-visit, and steps have been taken to minimise this.
Partial shading of a single solar PV module or a number of modules will proportionately affect the output from your system.
Shading, or over-shading is a component that can change over time as adjacent trees and shrubs will mature and grow, and new buildings may be erected which can all impact the output from your solar PV system.
These factors which influence shading should will be discussed during your annual Operations & Maintenance site-visit.

Soiling of your solar PV array may happen due to dust or dirt, bird fouling, falling leaves, or other items which contribute to shading on a solar PV module. These can be minimised with an annual cleaning of your solar PV array, which can be included in your annual Operations & Maintenance site-visit.

Solar Power System Start-up & Shut-down Procedures

Your solar PV system may have one or more AC isolators and one or more DC isolators, depending on the size of your system.

Your solar PV system will have the following switches; MCB in the consumer unit, an AC isolator located near the consumer unit, an AC isolator located adjacent the firemans switch, and one or more DC isolator switches, which may be on the bottom of the inverter, or close to the inverter.

Switching system ON

Switch On AC isolator(s)
Switch On DC isolator(s)
Switch On the DC switch located on the Inverter
Switch On the Battery (if present)

After the solar PV system is switched ON, the inverter will run through the initialisation routine. The inverter will then commence normal operation, and this will be indicated on the main screen.

Switching System OFF

Please follow this procedure when turning your solar power system OFF.

Switch OFF the AC isolator(s)
Switch OFF the DC isolator(s)
Switch OFF the DC switch located on the inverter
Switch OFF the Battery (if present)

Operating & Safety instructions

Your solar PV system is designed for automatic operation with no need for user interaction. There are no moving parts and, apart from normal performance monitoring, there is no need for the owner to intervene in its operation.
In the case of a grid failure event the inverter will automatically shut down, this is called anti-islanding, and is a safety feature previously mentioned.
Once the power has been restored, the inverter will be automatically perform a re-initialisation.
If you receive an email via the app or otherwise notice an alarm on your system, please contact the above number and one of our technicians will be scheduled to investigate and resolve the issue.
Do not attempt to service the system yourself – contact the number above
All service work must be carried out in strict compliance with all relevant codes and standards.
Review and follow all safety instructions supplied with all components of the solar electricity system.
Avoid working on the system in wet or damp conditions
The solar array will generate electricity during sunlight. The array should be covered or disconnected prior to servicing.
Be aware that power may be present at any point in electrical circuits despite the opening of circuit breakers.
Circuit breakers can trip automatically if problems occur. If the circuit breaker is switched back to the closed or “on” position and it immediately trips back to the open or “off” position an ongoing problem is indicated.
Do not substitute materials supplied with the solar electricity system.
Appropriate precautions must be taken when working at heights in accordance with all approriate health and safety regulations.

Maintenance

Your solar power system requires little maintenance, as there are no moving parts to fail or adjust. For your safety, we do not recommend that you attempt any self-service unless you are suitably qualified.
The solar panels work best when clean. In Ireland, regular rainfall will ensure that panels are kept clean provided there is a slope on the panels. However, if they become soiled by bird fouling or foliage, they can be cleaned with cold water. It is recommended to check that the solar panels have minimal shading from new vegetation or surrounding objects.
We strongly recommend that you do not climb onto the roof, or attempt to move any modules. Working-at-heights should always be carried out by qualified and trained persons acting within all relevant Health and Safety legislation.
Plant and tree growth that can cause shading at different times of the year should be monitored and dealt with. Likewise, leaves and other debris coming to rest on the solar modules should be removed.

If you notice your system is not operating correctly, please contact us immediately and we will send a technician to resolve the problem. If you need to shut down the system, please follow these steps in the “Solar Power System Shutdown Procedure”

1. Switch off the Solar Supply Main Switch in the main switchboard or meter box.
2. Switch off the AC isolator(s), the DC isolator(s) and the DC switch on the inverter.

Following these steps will isolate the solar array. To switch it back on, you simply reverse the procedure.

Always remember that your system is a live electrical system, that generates electricity during daylight hours, and care should always be taken to eliminate the risk of electric shock.

Maintenance Intervals

The following minimum maintenance schedule is recommended

Check the inverter weekly to ensure your solar PV system is functioning correctly

Check every six months for seasonal vegetation growth that may cause shading on the solar PV array, and arrange for this growth to be managed.

Remember to book your annual Operations & Maintenance inspection.

DANGER The inverter operates at very high voltages. There is risk of fatal electrical shock if the inverter is opened during use. The inverter must never be opened by the customer. The inverter must never be opened during operation. The inverter can only be serviced according to the manufacturers warranty conditions.

DANGER Your solar PV system has several DC components which operate at very high voltages. Do not touch or pull any of the electrical cables around the solar PV array.

DANGER: Do not touch or pull any of the electrical wiring cables around the inverter. Do not remove the front cover of the inverter. Do not switch the system on if there are damaged or exposed electrical cables due to risk of fatal electrical shock!

DANGER: Do not touch or come in contact with a solar module if it is found to be broken or has cracked glass, as this could result in a fatal electrical shock.

WARNING: We recommend using only professional services when working at heights. Only qualified and trained personnel should be permitted to work at heights, and all Health and Safety regulations should be observed.

Warranties

The benefit of all warranties have been passed through to the customer on completion of the solar PV system installation.

Solar PV modules – see appropriate warranty document
Inverter – see appropriate warranty
Mounting system (roof, wall, or ground mount) – see appropriate warranty

This warranty does not cover the following conditions:
Your existing electrical installation, wiring, and switchboard or fuse box.
Any malicious damage.
Any damage caused by vermin, animals or pests.
Any consequential or other loss suffered by you in connection with the installation of our products or our products failing or breaking.
Any damage to your property (other than products we sold you) caused by our products failing or breaking.

Warranty Exclusions
These conditions shall cause the system warranty to become void.
Any work associated with rectification of these conditions may incur a service charge and costs for parts should they be necessary.
Any service required to electrical wiring. Major variations or faults in electrical energy supply, causing damage to the Inverter or other supplied equipment.
Accidental breakage is not covered by this warranty, and should be added separately to your general household insurance policy.

IMPORTANT REMINDER
Keep this owner's manual in a safe place with all other documentation supplied with your solar PV system.
In the case of a service being required, please supply all the documentation to the service technician as the information contained therein will be useful to that technician. Note that the manufacturers' warranties may be voided if the system is serviced or interfered with by an unqualified person.