

Troubleshooting Guide



Main Components of your Solar PV system

SAFETY FIRST

Please do not attempt to repair, disconnect or remove your PV system. Always consult Eco2solar or a qualified electrician before carrying out any work.



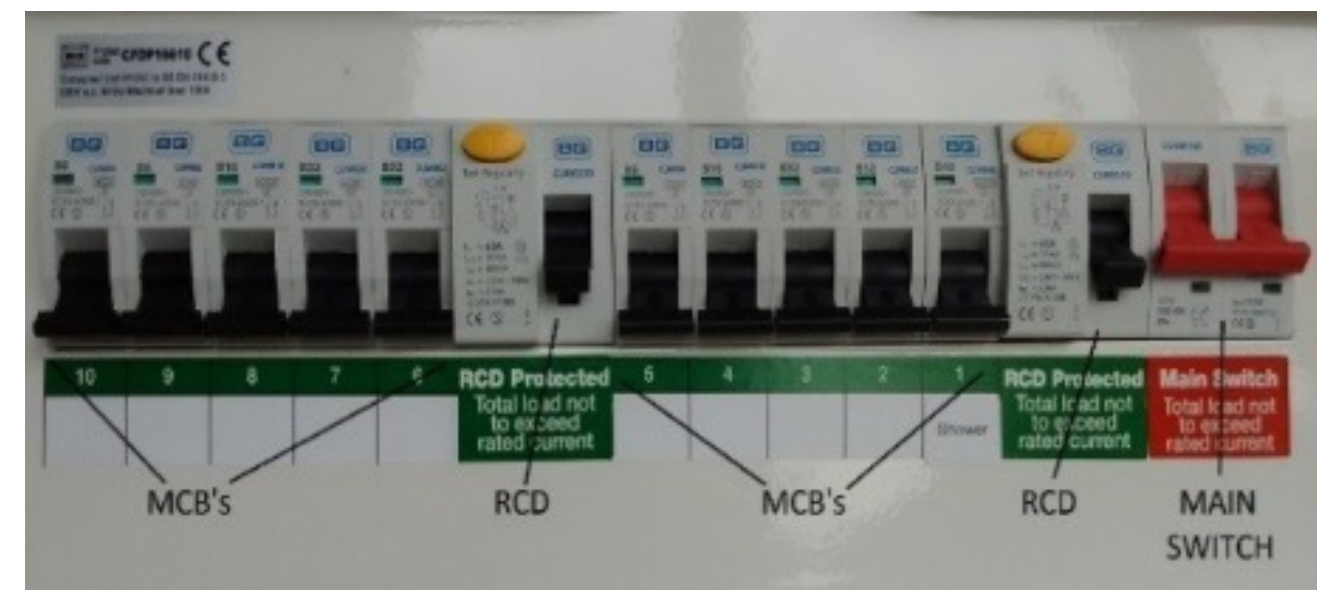
Generation Meter (GM)

This unit will show you all the energy that the Solar system has generated. It is also a useful tool for troubleshooting.



Inverter**

Sometimes referred to as the 'brain' of the system, this is generally located in the loft space.



Consumer Unit (CU)

Every home has one and it is where all your domestic electrical supplies are powered from.



Example 1. Fuse board and isolation switch



Example 2. - Inverter and isolation switches in loft space

Electrical Isolators

These allow you to switch off the electricity safely.

** Only access the inverter if it is safe to do so. Make sure there are no obstructions with access or egress and ensure there is plenty of light especially when working at height.

Familiarisation of your system

Generation Meter (GM)

The meter will have a flashing red light when your system is generating and this frequency will increase on sunny days. At night the red light will be constantly lit.

Inverter

The 'brain' of the system, this is generally located in the loft space and it is basically maintenance free. Once the inverter detects sunlight it will start up and begin to generate electricity. During start up you may hear several distinct clicks. This is the inverter synchronising with the network and this is normal.

Consumer Unit (CU)

The 230V Mains Supply from the CU to the inverter will be clearly indicated by a 'PV' label. It's important to remember, if your inverter has no mains power then it will NOT send electrical energy back into the CU or network. This is a built-in safeguard which protects engineers while working on the Network during a power outage.

Electrical Isolators

These are used in the unlikely event of an emergency or for safe isolation. The electrical isolators are ON when the switches face upwards to the 12 o'clock position. The A.C. isolators are clearly labelled 'PV System – Main A.C. Isolator'. One isolator will usually be located by your domestic Consumer Unit and the other one is next to the Inverter. The grey and black Isolator is for the D.C. solar panels supply, again clearly labelled as 'PV Array D.C. Isolator' and is located by the inverter.

Power Outage

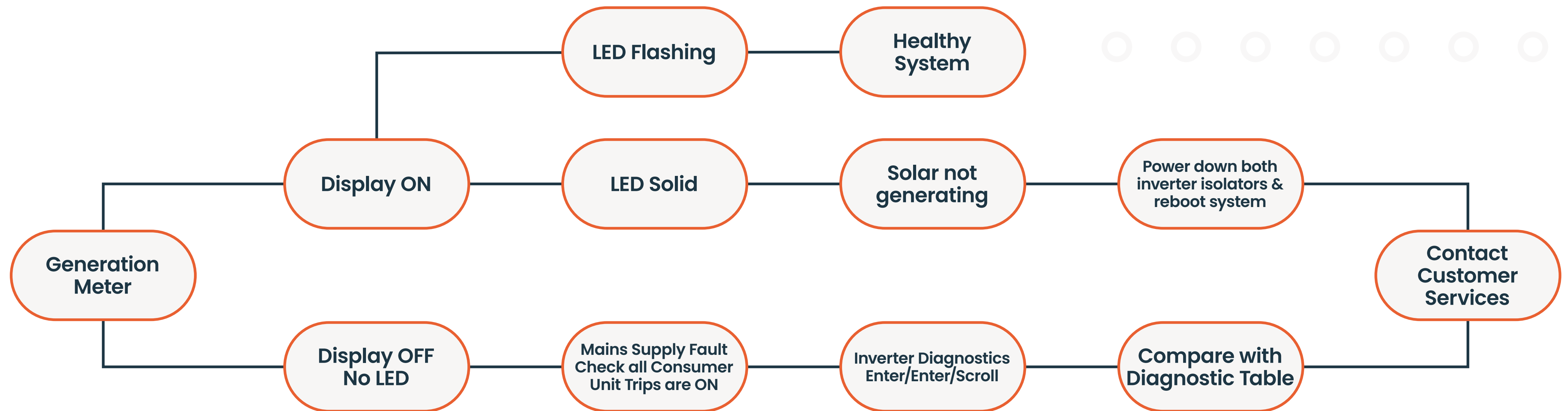
If the mains supply is disrupted to your home the system requires no intervention and will automatically restart.

Troubleshooting table

ID	Device – Description	Healthy State (arbitrary values only)	Mains A.C. fault	D.C. fault / night time	Home Owners Values?
01	Generation Meter – Display	On	Off	On	
02	Generation Meter – LED	Flashing	Off	Solid	
03	Inverter – LED	Red / Green	Red / Amber	None	
04	Inverter – Display	On	On	Off	
05*	Inverter – V_DC1	300V	300V	~	
06*	Inverter – I_DC1	8.4A	0.00A	~	
07*	Inverter – V_DC2	300V (if applicable)	0000.0V	~	
08*	Inverter – I_DC2	8.4A (if applicable)	00.0A	~	
09*	Inverter – V_Grid:	235V	000.0V	~	
10*	Inverter – I_Grid:	5A	00.0A	~	
11*	Inverter – Status:	Generating/Waiting	No Grid	~	
12*	Inverter – Power:	1350W	0000W	~	
13*	Inverter – F_Grid	50Hz	00.00Hz	~	
14*	Inverter – Total Energy	1234kwh	1234kwh	~	
15	Inverter – Alarm Message	~	~	~	

* Diagnostics and fault finding can only be carried out during the daytime when the system is generating electricity. Only access the inverter if it is **SAFE** to do so. To access the inverter information screen, press ENTER twice and the screen will auto-scroll, please see table. Use this table to record and check your observations on your solar PV system.

Troubleshooting schematic



Supplementary Information

The classic approach to all electrical systems should be taken. First – turn everything off, wait for 1 minute and turn everything back on again. Remember that your inverter will take up to 3 minutes to reconnect to the Grid.

If all the switches and isolators are on and you're still not getting any power from your solar PV system and have checked all of the steps above then please send us an email at customerservice@eco2solar.co.uk with your details and photographs of both your generation meter and inverter. Eco2solars highly skilled Customer Service team will assist in getting your system back online and minimise any downtime and if necessary, arrange for an engineer to visit and inspect your system.

Nuisance Trips

If your PV system appears to be causing the household electrics to trip then you should isolate the PV for 7 days. Whilst isolated, please monitor your RCD. If the RCD does not trip whilst the PV is isolated, we would need to attend and investigate. In this instance, please can you report your concern and send us a photo of your consumer board showing the device that is tripping to customerservice@eco2solar.co.uk.

Insurance

We suggest that you contact your insurance provider and add the system onto your current policy.

Fire Brigade

In the event of a fire occurring in a solar powered home, INFORMATION can reduce the risk to fire fighters and allow them to do their job without being impeded.

Informing your local fire services that you have a solar power installation will allow them to be ready to deal with the situation in the best way they can when they arrive.

We recommend you inform the local fire department that your building has been fitted with solar modules. Often, fire fighters only learn that the building is equipped with a solar system when they arrive on the scene. This is a problem because solar rooftop installations demand a different approach both in terms of safety and because traditional extinguishing methods do not apply to electrical systems. Not only does the rooftop position, risk of falling glass and slippery surfaces of the modules need to be considered, but so too does the system's high DC voltage.

In the absence of any kind of national database of systems, the responsibility falls to the owner of the system to inform the local fire department about the location and type of PV on their buildings, preferably as soon as the system is installed and at the very latest when the emergency call is made.

Note: The policy of both the manufacturing and the installing company is not to use any materials that are hazard to the environment.

Specification is subject to change without notice.