Malabou
SOLARIMMERSION

SolarImmersion MkIV

AN INTELLIGENT SOLAR POWER DIVERSION MANAGER

Certified Electrical Compliance for Australia, New Zealand, Europe & UK

3.8kW
Load Capacity

SIMPLE, EFFICIENT, AFFORDABLE

WHAT IT DOES

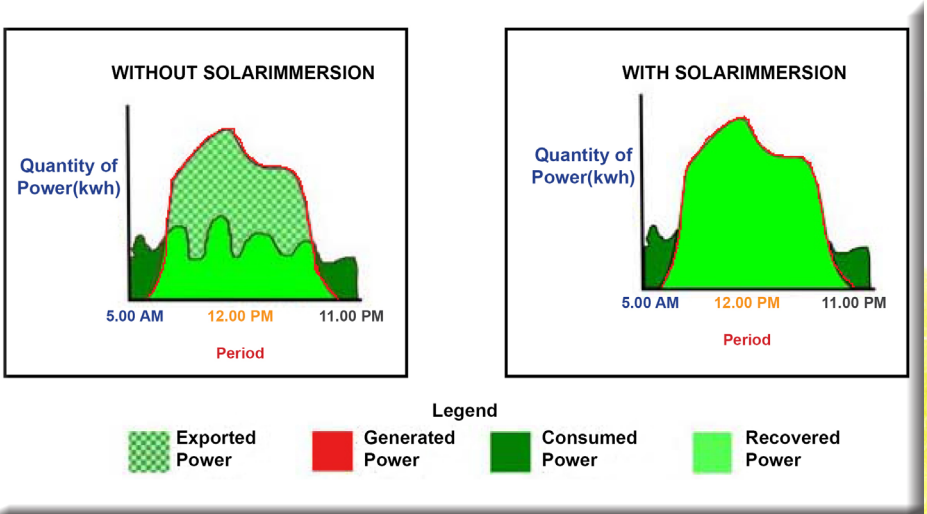
SolarImmersion optimise's the efficiency of solar power generation systems by preferentially diverting the FREE surplus power to your hot water cylinder or other resistive devices (e.g. spa pool heating, under floor heating, swimming pool heating, battery storage).

SolarImmersion electronically disconnects these loads from the grid and then diverts self generated surplus power to them throughout the day thereby maximising the use of your FREE generated power and minimising export.

If needed, the system will be overridden with two programmable boost functions or manual override, thereby allowing grid top up only when necessary.

With solar PV, almost 50% of the energy is exported to grid

Utilise close to 100% of your FREE generated power by installing a highly efficient SolarImmersion unit.



Why you need SolarImmersion?

- Uses almost 100% of your FREE generated power
- Reduces your energy costs and bills
- Works with solar panels, wind and hydro
- Doesn't affect the solar PV system warranty
- No plumbing alterations required
- Maintenance free with no moving parts
- 1 year return to base warranty
- Easy installation by registered electrician
- Silent operation
- Works with grid tied solar installations

HOW IT WORKS

Your hot water typically accounts for around a third of your energy bills. Most hot water usage occurs when you are generating very little or no solar power, i.e. first thing in the morning and in the evening. Under normal circumstance you hot water cylinder will start reheating immediately from grid power as soon as the temperature drops and you will be getting almost zero benefit from your solar installation.

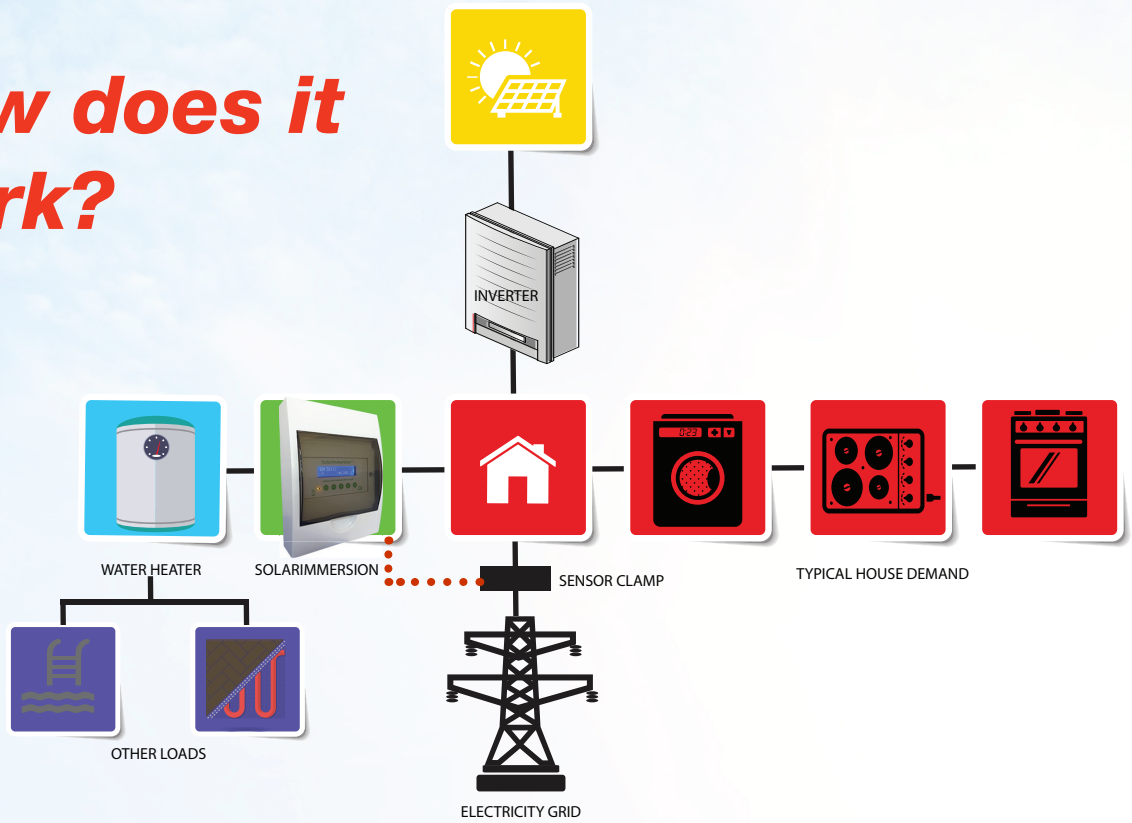
The SolarImmersion unit electronically disconnects your hot water cylinder from the grid and monitors import/ export power via a sensor clamp (current transformer) connected to your grid power infeed.

Self generated power will first go to fulfil household needs. As soon as the unit detects that there is surplus power (as little as 20W) it will divert this to your hot water throughout the day. With a single load system the surplus will flow back to the grid once the water is hot and the thermostat cuts off.

To further improve the efficiency of the system you can connect a secondary load (load 2) to the SolarImmersion unit. Once the hot water cylinder has reached temperature the unit will stop diverting for 3 minutes and then it will start diverting any surplus to load 2 for a nominated time (either 30 or 60 minutes) before switching back to load 1 to see if it requires topping up. If load 1 does not require any topping up, after 3 minutes the surplus will switch back to load 2 for the nominated period.

If neither load 1 or load 2 require any power, the surplus will be exported back to the grid.

How does it work?



CONNECTING LOADS TO SOLARIMMERSION

The SolarImmersion unit is ideal for resistive loads (e.g. heating elements) and also charging batteries as the unit diverts incremental amounts of power depending on how much surplus is available. It is not suited to digital circuits or inductive loads (e.g electronics and electric motors).

The maximum load that can be connected to the SolarImmersion is two circuits of up to 3.8kW each (most hot water cylinders are less than this).

Loads can be connected in parallel on the same circuit up to a maximum of 3.8kW e.g. underfloor heating for a bathroom and ensuite can be connected as long as the total load is less than 3.8kW.

SINGLE AND THREE PHASE SYSTEMS

- If you have a single phase system you divert surplus power to two dedicated circuits.
- If you have a three phase system you can install a SolarImmersion unit on each phase, allowing you to divert surplus power of up to 6 dedicated circuits.

ELECTRONIC DISCONNECT FROM THE GRID

In order to maximise the utilisation of your FREE generated power, the SolarImmersion electronically disconnects dedicated loads from grid power and diverts surplus power to these loads.

As the unit electronically disconnects the dedicated loads from the grid, and you are relying on your surplus generated power to feed these loads, please ensure that your solar generation is sufficient to meet your needs and also that these dedicated circuits feed only the appliances you want controlled by the unit. The hot water is almost always on its own dedicated circuit.

If needed the system will be overridden by two programmable boost functions. It is highly recommended that you use both programmable boost functions as they will only draw grid power to top up if necessary. At any time you can override the system temporarily by pushing the override button (OVR).

SPECIFICATIONS

- Industry leading 2 x 3.8kW load capacity
- Manual override function and programmable boost facility
- Multiple loads - single or dual sequential loads (up to 3.8kW each)
- Works with PV systems starting from as low as 500W - recommended minimum 2kW (there is no upper limit)
- Designed and made in the UK
- SolarImmersion is the leading solar power diversion manager (SPDM) manufactured in the UK.

It is IMPORTANT to Maintain your Hot Water Cylinder at MINIMUM 60°C

The SolarImmersion unit will optimise the use of your free generated PV by diverting surplus power to your hot water cylinder. If you have a large hot water cylinder and a small solar PV system, or for the few days a year when there is very little solar generation, you can still utilise the programmable boosts and if necessary the manual override button to maintain your water temperature. You will still get the benefit of any surplus power being diverted to hot water storage offsetting some grid power.

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