

How To Monitor Multiple Distribution Boards In A Solar PV Installation

We have been made aware recently, there is a belief out there that the monitoring of total power consumption power cannot be done when solar power is feeding in through a second distribution board.

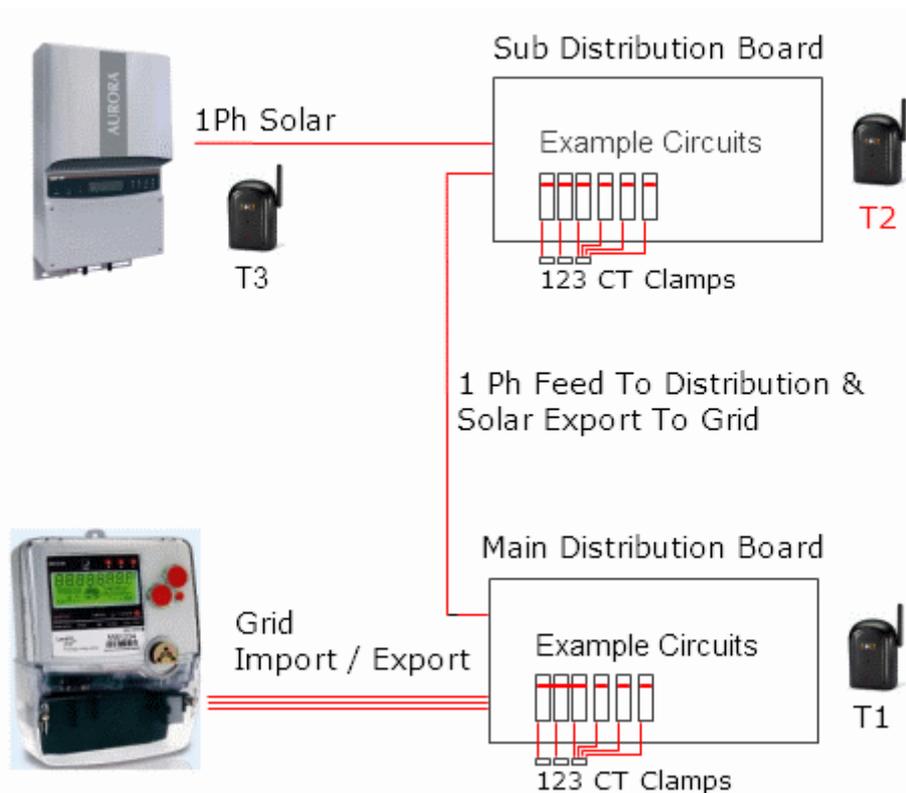
SORRY That Myth Is BUSTED!

And has been for a few years! It is about knowing what you are talking about with all the information at hand. Therefore there may be a lack of correct understanding by your source and please forward this document to them, once you have understood it.

The Secret - What most people are not taking into account is the ability to SUM the data from separate power transmitters. As this can be easily done, there is a solution to monitoring the consumption for both of distribution boards, without the solar power affecting the consumption power readings.

For the following scenario we are going to use three transmitters. T1 & T2 will be SUMMED via an online dashboard, to supply the total power consumption. T3 is the solar power transmitter and gross or net metering will be applied, in the dashboard.

Whilst we have shown a single phase inverter and sub distribution board, if there is three phase going to the sub distribution board with a three phase inverter, this makes no difference as the same rules apply.



So the rules of the game for the correct monitoring of consumption and solar are as follows:

1. Firstly both distribution consumption transmitters are going to be SUMMED into a virtual consumption reading via an online dashboard.
2. The solar power will have it's own transmitter and also be monitored, with gross or net metering being taken into account by the dashboard and overlaid over the virtual consumption data.
3. Important is the fact that any three phase circuits will need to have each phase in one of the three clamps, for any three phase transmitter. It is further important to NOT cross phases into any clamps. So clamp 1 for example must be only used for circuits on phase 1. Otherwise one phase may cancel out the other and skew the power readings.
4. Single phase circuits can go into any of the three clamps and thus are commonly grouped.
5. Whilst we supply 12mm clamps as standard, a 25mm is available on request to add additional clamping area.
6. One Way Traffic is important for clamping. In the above example there are two places where traffic is one way ONLY. On the outgoing side of the breakers / fuses where power is made up of solar and grid power. And the solar power inverter's output where it is fed into the sub distribution board.
7. Two Way Traffic is between the distribution boards and also the meter. Therefore these areas are a NO GO for clamping! Though often thought as a good place by many sparkies, where the monitoring data results are not correct!

This is a proven system where we are 100% sure if you follow the above 7 Rules you will end up with the correct monitoring of the two distribution boards for consumption and the solar power.

This is based on our current power monitoring of similar installations.

Other documentation you may wish to take a look at is on our [SUPPORT](#) page.