Grid tie inverter australia

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By installing a Selectronic Certified inverter as part of your grid-tie solar system you have the reliability and performance of a European inverter with the ability to upgrade at a later time to a fully functional Solar Hybrid or Grid Support power system.

System sizes range from 3kW to 20kW single phase (with up to 30kW of PV solar), 6kW to 40kW split phase (with up to 60kW of PV solar) and 9kW to 60kW three phase (with up to 90kW of PV solar).

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By Finn Peacock, Chartered Electrical Engineer, Fact Checked By Ronald Brakels

Most solar systems installed today are connected to the national electricity grid. And for good reason. The electricity grid can be thought of as an enormous and very cheap battery. When your solar power system generates more than your home can use, the grid will take your excess electricity. When you need more electricity than your solar panels can generate, the grid will happily top you up with all the electricity you need.

Grid connected solar systems need grid tie inverters. These are special solar inverters that will synchronise with the electricity grid. They produce grid compatible 240V AC (sinewave) electricity from the DC voltage that your panels produce. The electricity from a grid tie inverter is indistinguishable from the grid’s electricity. In fact, often it’s actually better quality power than the grid’s!

Here’s what a grid-tie inverter looks like in case you haven’t seen one before:

A grid tie inverter produces sinewave AC electricity that matches the voltage and frequency of the grid exactly. Did you know that the grid’s voltage and frequency varies considerably from day to day? This means that your grid tie inverter actually has to monitor the actual grid frequency and voltage and then adjust its output to match the grid’s imperfect waveform at any given time.

This allows the inverter to feed electricity back into the grid, which exactly matches the electricity being delivered by the utilities.

Most grid tie inverters will shut down if the grid goes down, and they will also shut down if the grid’s frequency or voltage gets too high or too low, such that they are outside of the inverter’s operating limits.

This is a lot more likely to happen if you live near the end of a transmission line or near a factory that draws lots of electricity and hasn’t invested in good power factor correction equipment.

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