



Conext RL 5kVA Grid-Tie Inverter



The Grace Family - Residential Solar System

About the Grace Family

Located in Uraidla, close to the Cleland Conservation Park, the Grace family home provides its five residents with all the advantages of country living, while still being less than 15 minutes drive from the bustling city of Adelaide.

Like most Australian families, the Grace's had seen their energy costs more than double in recent years, and with their electricity costing \$3,200 a year, they realised that savings had to be made.

Understanding their Energy Needs

The residence comprises a main building and a recently completed dual-purpose garage and stand-alone art studio. The primary energy source is electricity, which is used to power the hot water system, cooking appliances, air conditioning, lighting, entertainment and computing equipment. The main living areas utilise an open wood fireplace for winter heating.

After discussing their energy needs with electrical contractor and solar installer, RJ Electrical, the Grace's decided on the largest solar system that could fit on their recently built studio, to achieve maximum energy and cost savings. At the time of installation, the solar system qualified for a feed in tariff of 16 cents and a retailer payment of 7.6 cents per kWh for any energy exported back to the grid, up to the 30th September 2016.

SUMMARY

Project Type

5kW solar PV system with remote monitoring

Location

Uraidla, South Australia

Product

Conext RL 5kVA Grid-Tie Inverter
Conext Monitor 20

Customer Benefits

- Reduced energy cost
- Energy efficiency
- Protect against future electricity price increases
- Remote monitoring

Solution

The studio had a north-west aspect and featured a combination roof design. The top part of the roof was pitched at 22 degrees, while the lower part was pitched at five degrees. This design meant that only 8 x 250W panels could fit on to the top part and 12 x 250W panels on the lower.

The solution was the Schneider Electric Conext RL 5kVA Grid-Tie Inverter. Being a dual-tracker type and designed to operate with balanced or unbalanced arrays, it is an ideal inverter for this installation. The Conext RL Inverter is suitable for unbalanced arrays with a ratio of 60 : 40 without any loss in performance or yield.

The Conext RL Grid-Tie Inverter also features an output power rating of 4.95kW, which is the usable power generated by the inverter and one of the highest in the market. The Conext RL features a best-in-class peak efficiency of 97.5% and a low start-up voltage of 100 volts. This means the inverter, produces energy even under low light conditions such as early morning, late evening and cloudy conditions, resulting in higher performance and superior energy harvest.

As the Grace's also wanted to monitor their solar system, within the home and from the office, a Conext Monitor 20 was installed. Featuring an embedded web-browser, the Conext Monitor 20 allows the homeowner to monitor real time energy production, as well as historical data, in a dashboard view on any smart device.

The Bottom Line

The solar system was installed in February 2014 and by November, the energy it generated was measured at 4,016 kWh. As this period coincided with autumn and winter in Australia, where energy production is at its lowest, the solar system was on trend to reach 7,300 kWh over the twelve month period.

At the energy meter, it was found that 2,403 kWh of grid electricity was displaced by solar energy and 1,613 kWh was feed back into the grid. The estimated savings during the February to November period were \$1,186 or 37% of the total energy bill. Even larger savings are expected during the warmer months.

"The solar system delivered what was promised by our electrician. We are now planning to install a battery storage solution once the feed in tariff comes to and end, which will allow us to use stored energy at night time and reduce our energy bills even more" said Paul Grace.



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Dashboard View of Solar System Performance



Conext Monitor 20

About Schneider Electric

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