R35solar Presents What professionals use

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This is the basic information on equipment I, and many professionals use, and are installing today. This book is not comprehensive due to the fact that the market is always changing and improvements being made. However, there are brands that stand out with professionals due to long term use and reliability. I say long term use as one particular brand, **Schnieder Electric, now called Conext** in the Solar system world, has been around for more than 2 decades. In those 20 plus years schnieder – xantrex their original name, has been performing flawlessly in installations all over America. I know of other pro's who live off grid and use this brand without failure for 18+ years. That's a long time for any electronic equipment to last without failure.

Schnieder manufactures Inverters, charge controllers, power distribution panels among other add-on devices for the above mentioned equipment. They also make Square-D brand of circuit breakers in many homes.

As of May, 2025 **Schnieder / Conext** has discontinued their famous line of inverters, the SW and XW models. These have been in service in one form or another for well over a decade. These models are discontinued and being replaced with a single inverter model called the 7.7kw model HY8K1NA1

This newer inverter hopefully will perform as well as it's predecessors, the XW and SW. This means the professionals will soon be installing these so we'll have to wait and see if they are going to live up to the schnieder/conext quality standard.

NOTE: For those who wish, today, June 1, 2025 to purchase the original SW or XW models, NAZ electric bought the entire remaining stock of SW and XW systems from schnieder and as long as supplies last you can buy them directly and save hundreds if not thousands of dollars. Below is a link to get started:

https://www.solar-electric.com/residential.html

That little bit of information can save you a lot of money as they sell to the public for virtually the same as wholesale pricing.

On to the other brands the pro's use.

Generac, this brand has been around for a long time also, but mostly in the home / commercial generator market. They have introduced a newer technology that is causing some reliability problems in there solar systems. What is this newer technology? They introduced a high voltage solar panel charging system. We're talking 300 plus volts DC

coming in from the panels to the charge controller. What this does is allows for much smaller gauge wire to be used connecting the solar panels to the charge controller. This saves money and simplifies the system design. By the way, Schnieder has been doing this for a long time and they don't have the reliability issues others are experiencing. But for most other companies, running 200 plus volts in from the solar panels is new technology.

My suppliers are telling me that they don't like to sell Generac because of failure issues. Again, their generators seem to be ok for low to mid range equipment. But I've heard of issues with the solar systems.

MidNight Solar from Australia is widely used in the charge controller part of the system along with their surge protectors. They manufacture a full line of components for the solar industry and are well recognized for quality and reliability. Highly recommended.

Outback Power also from Australia is considered a very good brand that is rugged and reliable. My personal experience with this brand is good, but not quite the same as Schnieder/Conext. Both of these Australian brands are quality products as many people rely on these brands for every day living in the 'outback'.

Giandel is also from Australia, making power inverters for those who live in the outback. This brand is readily available here in this country. This is NOT considered commercial grade by the pro's but I have experience with this product and it's reliability so I've included it here as a brand I would recommend that is not Chinese with the potential of having rogue devices in them.

Somewhere in near the middle of 2025, a news article came out exposing hacked and malicious device's installed in Inverter and battery technology from china. This is a concern to all of us, especially those who live off-grid. While investigating this issue I have found some proof and a lot of not so easy to prove information. Talk is cheap and just because someone says something doesn't make it a fact. Good engineering practice demands proof. All I can say is that some brands / devices have been found in grid tied inverter/charger systems, but mostly it's programming code that could make the system fail, be remotely controlled, or otherwise cause issues. Please read the website article for the most up to date information on this issue.

There are at least two dozen other brands that I'm not covering here because they are Chinese made. I cannot recommend any system / device that I am unsure of and right now the Chinese have been found to have issues with some of their products.

Some simple advice: Try to stay with brands that don't come from China. Of course that being said, China makes the majority of 'chips' that are used in a lot of brands and I have

not done the research to purchase and disassemble brands to inspect them. I'm not sure it would do any good anyway as you could embed a rogue device into a chip at manufacture and simply keep it hidden until needed. However there are other ways to protect your equipment even if it does have rogue equipment inside it.

However, from all the information I have read so far, the 'hacked' equipment is mostly grid-tied meaning it either charges from the grid or can sell energy back to the grid or do both. Those systems could cause a real problem to the power grid.

Solar Panels Most companies are installing the most affordable solar brands they can purchase. Most solar panels are made the same way, and out of the same materials so the quality is usually quite good from one brand to another. And the market is seeing brands come and go rapidly here in this country so its impossible to recommend one over another.

One of the brand's l've used that does stand out is Heliene. This brand is also used by the military and have a frame that is extra heavy duty on them. This is unusual but not a requirement. It does make for a panel that is more robust, and most of their models are bi-facial, adding to their efficiency.

Many people ask me how long do solar panels last. The manufacturers list spec.s that show performance 20 years in service with outputs some 20% lower than new. That's not terrible as most systems have that much loss in them when new. I can say from experience that they are a lot more robust than I ever thought. I've seen a 400 watt panel completely shattered, there wasn't a 2 square inch area anywhere on it that didn't have a crack in the glass. I measured it's output and was shocked to find it was still producing 200 watts with that much damage.! A friend took it home and it runs his water pump now for 2 years and a tree fell on it and put a big 'dent' in it. He took his foot and pushed the glass back in to make it level and it's still working.... I don't know how much power it's still producing but he tells me it's still charging the battery to run his water pump. And some times that 100 watt pump runs all day long... 10 hrs would be 1kwh... So I don't get too concerned any more about damage. Most panels are designed to withstand 1 inch hail at terminal velocity. What's that? It just means it can withstand 1 inch size hail falling as fast as it can in air without causing damage.

I hope this has been informative for you. If you liked this document, drop me a note on my contact page and tell me.

Thank you R35solar.com