



SOLAR (PHOTOVOLTAIC) ELECTRIC SYSTEMS - GRID TIE by Chuck Guyer

I wrote in another blog about the feasibility of solar electric systems, and why you should look at this option. Now let's look at the specific system that

Romtec uses. A "grid tie system" means that the building's electrical system ties into the local power grid and has a solar tie-in. As part of this type of solar electric system, Romtec uses the Honeywell "Solar Smart Grid" PVAC module system. We chose this system for its ease of installation and product quality.

PVAC (photovoltaic AC) panels offer efficiency and affordability. Honeywell installed the inverter (converts DC to AC) in the back of each photovoltaic panel. What this does is make the installation of the system extremely easy. With the Honeywell system you simply have one wire that all the panels tie into on the roof, using a special connector clamp. The single wire runs into the building, passes through an (optional) disconnect, and then ties directly into the main breaker panel, via a 20 amp breaker. This makes the system extremely easy to install, saving time and money.

The Romtec grid tie solar system is both practical and efficient. Let me explain. Each panel produces up to 240 watts. There are two panels per system,

for a total of 480 watts. If you take a standard Romtec 2061 building, which is 24' x 20', consisting of two multi-user restrooms and a mechanical room. Install two Harris lights (Romtec standard) in each restroom, three outside (one at each door) and two Lithonia fluorescents in the mechanical room, for a total of nine

lights. Each light uses 20 watts per hour (when in use) multiplied by the number of lights (nine) and you come to a grand total 180 watts.

The nice thing is that you are always producing electricity, even when your building does not require power. So you are either selling power to the local utility company, or you are off-setting the cost of the power you pay for. With a 25 year warranty on the solar panels you have ample amount of time to recoup your investment.

