Solar Installation Simplified for Homes and Businesses

Finding ways to reduce cost and streamline operations is crucial in today's increasingly competitive market of residential and small business grid-tied, solar installation. Traditionally, solar electric systems involve design, documentation, sourcing of individual components, off-site receiving and staging, and one-of-a-kind on-site installation. This method is complex, prone to error, and time consuming. Solar electric system packages are a more efficient approach, saving installers substantial time and money.

Complete, Packaged Systems

Solar electric systems are designed by solar engineers and include all the appropriate drawings, installation manuals and documentation to assist with permitting. Everything needed is included. Time and effort is saved by not having to generate a bill of materials nor having to order multiple items. A single part number gets the whole system shipped right to the shop or the job site with no staging or double handling. Moreover, a pre-designed system eliminates the possibility of errors in ordering or in loading the truck. Since systems are drop-shipped to the installation site, all the components arrive at the same time. The job never comes to a halt because something is missing.

Engineered Systems are Permit-Ready

Complete packages are fully engineered and documented systems. Installers have everything they need to obtain a permit and facilitate an inspection. There is no need to create CAD drawings or pay someone else to create them. The electrical and mechanical drawings included with pre-designed systems eliminate the time to create a submittal package for the local building department or obtaining interconnection approval from the utility. The resources usually expended in design, engineering and documentation can go right to the bottom line or be redirected to revenue generating activities.

Proven Reliability

Solar engineers also ensure that systems comply with Federal, State and local requirements using the appropriate UL approved components. System packages can be installed on any type of composition or tile roof. The array is securely attached to the roof of the building with the mounts in compliance with US building codes. Proper components and supplied installation manuals ensure a reliable, long lasting system for the homeowner or small business owner.

(continued)

SunWize Sales Offices

Remote Applications: Bruce Wilson, tel: 410-480-7175 • **Residential Systems:** Sam Thompson, tel: 855-249-8158

www.sunwize.com

Solar Installation Simplified for Homes and Businesses

Standard Systems: Increased Installation Efficiency

Crews that continually work with standard solar electric systems quickly move through the learning curve and become very skilled, reducing installation time. Multiple systems can be installed for higher power output and systems may also be expanded in the future as budget or electrical requirements grow.

A Successful Business Formula

In summary, complete systems are a simple alternative to designing systems. With many configurations to choose from, installers can select a system size using a wide variety of module and inverter options. Solar electric systems make sense for newer installers as well as experienced installers by providing a well-established business success formula saving time and money.

Glossary of Terms

AC—alternating current: sinusoidal electric current in which the polarity of flow is reversed at frequent intervals; 60 cycles per second in the United States, 50 cycles per second in most countries in the rest of the world.

Amp—ampere: unit of electric current.

array: a group of solar electric modules wired together to produce a specific amount of power.

array tilt angle: the angle of inclination of an array structure measured from the horizontal used to maximize energy harvesting.

DC—direct current: electric current in which electrons are flowing in one polarity.

efficiency (of a solar module): the electric energy produced in full sunlight in ratio to the amount of solar energy reaching the module.

insolation: the solar energy in kWh/m2/d that reaches the earth's surface over the course of one day at a particular location.

load: any device using power.

module: a number of solar electric cells wired together, sealed with an encapsulant, and having a standard size and output power; the smallest building block of the power generating part of an array.

PV—photovoltaic: the direct conversion of light into electricity; photo = light, voltaic = voltage.

voltage: the difference in potential allowing electrical current to flow through wires.

watt (W): the unit of electric power or amount of work; one ampere of current flowing at a potential of one volt produces one watt of power.

Wp (Watt peak): the maximum amount of power in watts a solar array will produce at standard test condition (STC) at 1000 W/m2 solar irradiance and 25ºC solar module temperature.