



● AC Solar Power System



● Ordinary DC Solar Power System

AC Solar Panel Kits

Designing and installing solar power systems has never been easier. By building almost all of the mounting hardware and electrical components into the solar panel itself, it's now dramatically easier to install rooftop solar power systems. With AC Solar Panels the aluminum racking is incorporated into the frames of the panels themselves so the panels can be attached directly to the roof. Two stainless steel splices connect the panels rigidly together at the top and the bottom, and these splices provided a UL approved grounding path. Enphase micro-inverters are built into the back of every single panel—providing safe and reliable 240 volt AC output with panel-level monitoring. Now, without really breaking a sweat, you can install a full 3kw system -- from truck to roof with a two-man crew -- in less than a day.

Sell More Systems

Because built-in micro-inverters optimize the output of every single panel, the performance of ACSolar panels are better than anything else on a system-wide basis. We estimate that most AC Solar Panel installations will put out at least 5% more energy on a per installed watt basis and up to 25% more energy if there is significant shading.

- AC panels produce 5-25% more energy than ordinary DC systems
- Expand your market to include sites with partial shading
- AC Solar panels look great on a roof- no dangling wires or obtrusive racks.

No More Inventory Hassles

- Complete solution means reduced Inventory - 80% fewer parts to buy and store
- No more kitting
- No DC wiring components

Easy Design and Engineering

- Never worry about string sizing or temperature coefficients again
- Add a panel? No problem, plug play and walk away
- Modules do not need to be installed at the same orientation

Faster and Safer Installations

You'll save a tremendous amount of money by drastically reducing your installation time on a job. Since AC Solar panels come packed either 4 or 13 in a crate that loads right into a van, you don't have to un-box and recycle mountains of cardboard. Each AC Solar panel is ready to go right up onto the roof. No more moving a 15-foot long racking box from your loading dock to your truck to your customer's roof. No clips to attach each panel to the rack. No wiring, grounding and zip tying of extra wire. No rooftop DC combiner boxes, fuses or USE-2/THWN wire transitions. All you need to do is attach the roof mounts through to the underlying rafters (flashings are provided), attach the panels to the roof mounts, ground the panels and inverters as required by local codes, and connect the AC wiring for each panel.

- No racking
- No wiring
- No panel-to-panel or rack grounding
- No disconnects, conduit, combiners or fuses
- No inverter installation
- No conduit runs
- No more hazardous 600 volt DC wiring

AC Solar Panel System Components

AC Solar Panel 4-Pack or 13-Pack

Includes 4 or 13 complete *AC Solar panels* with built-in racking, wiring, grounding and micro-inverters. Panels are ready to go up onto the roof. Order the *Roof Kit* (below) that corresponds to your roof type in quantities that match the number of panels you order.

AC Solar Panel System Kit

Includes a pigtail that goes from the last panel to an AC junction box for transition to home run AC wiring, and end cap to seal the unconnected panel opposite the pigtail connection. Also includes an *installation wrench*. One *AC Solar Panel System Kit* is generally needed per installation.

Pro Installers Kit

Includes a *Long Splice Driver* (2 drivers to speed panel assembly) and *Step Blocks* (2 blocks to simplify panel leveling).

Roof Kits

Available for Composition, Flat Tile or S/Barrel Tile roof types. Order a *4-Pack Roof Kit for each AC Solar Panel 4-Pack*; Order a *13-Pack Roof Kit for each AC Solar Panel 13-Pack*. We recommend that you order an extra Roof Kit (for spare parts) and Pro Installers Kit for your first system. Contents of each Roof Kit is specified below:

- Composition Roof Kit - includes Cobra Mounts (raised roof flashings), 3" Serrated L-brackets, Splices, T Bolts, 3/8-16 flange nut, 5/16 x 4.5" Lag Bolts, Fender Washers and Wire Management Clips.
- S or Barrel Tile Roof Kit - includes Tile Mounts, 3" Serrated L-brackets, Splices, T Bolts, 3/8-16 flange nuts, 5/16 x 4.5" Lag Bolts, Fender Washers and Wire management Clips.
- Flat Tile/CAL PAC Roof Kit - includes Flat tile Bracket, Universal Tile L Bracket, Splices, T Bolts, 3/8-16 flange nuts, 5/16 x 4.5" Lag Bolts, Fender Washers, Wire Management Clips.

Optional Energy Management Unit

Enables power line carrier (through the building's AC lines) monitoring of up to 180 AC Solar panels in a system.

The Energy Management Unit (EMU) can also be connected to an internet hub or router so that system output can be monitored on the internet. The EMU is required for monitoring and troubleshooting your system. Without the EMU the only way to verify system output is with a separate AC power meter connected to the solar circuit. Systems include 90 days of free internet monitoring, after which a Monitoring Extension (see below) is required.

- Monitoring Extension – A per panel monitoring extension provides another 5 years of internet monitoring (after the 90 day free trial) for systems equipped with the EMU.
- Power Line Carrier Boosters - Useful in situations in which the EMU is connected far from the dedicated AC Solar panel circuit. Boosters are sold in pairs.

In addition to the components listed above, you may also need:

- Junction box and wire strain reliefs to transition from the AC Solar Panel Pigtail to the home run wiring.
- Home run wiring to go from the AC Solar Panel Pigtail to the dedicated circuit breaker for the solar power system; sized for the correct current carrying capacity and rated for outdoor use if exposed to the elements.
- 8 gauge bare copper grounding wire from the solar panels to an earth ground (generally a grounding rod near the service panel).
- Roof flashing or transition to provide a weatherproof passage for the home run wiring from rooftop to inside the building.
- 220 volt circuit breaker, designed for your service panel, to provide a dedicated current protected circuit for your solar power system.
- AC solar panel systems are new and unfamiliar to many utilities and building inspectors. Certain jurisdictions may also require, among other items, an AC disconnect between the home run wiring and circuit breaker, a separate 8 gauge bare copper wire connected to each micro-inverter, marking labels indicating the presence of a solar power system, and system drawings.

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