



## Concerned about power outages?

### Are you in the dark when the power goes out?

Severe weather, whether it is a hurricane, a common summer thunderstorm or a winter snowstorm can cause a major disruption in the delivery of power by utility companies, showcasing the absolute dependence we all have on reliable power.

## THE SOLUTION: RELIABLE AND EASY TO USE BACK-UP POWER FROM SOLAR ELECTRICS

A solar powered back-up power system insures the continued operation of critical equipment in a home, such as: Refrigerators, lighting, radio/TV/computer (to keep the household tuned to the latest news and the kids happy), gas furnace blower (keeps the pipes from freezing during a winter storm), water/septic pumps in homes that depend on a well and septic for their water supply and waste water disposal, sump pumps to keep the basement from flooding, garage door, so you can get the car out, kitchen appliances and power tools.

## FEATURES

- ✓ Completely automatic operation
- ✓ Silent round the clock power
- ✓ Models from 3KW – 48KW continuous output
- ✓ High surge capacity to start refrigerators, pumps and furnace fan motors
- ✓ Three-stage charger with battery type selector
- ✓ Automatic Low-battery protection
- ✓ Fast switching for standby power system installations (16 msec)
- ✓ Available in 120/240 VAC, three wire power

### **Convenience:** Homeowners enjoy the continued use of standard home electrical appliances during a power outage.

The back-up system converts battery and solar power into standard electric power (120 volts AC) for lights, refrigerator, Microwave oven, freezer, TV, computers, security system, high-speed internet connection, furnace fan, well/septic pumps, hand tools and more.

**Automation:** When utility power fails, transfer to back-up power is automatic and typically within the blink of an eye (16 milliseconds). When utility power returns, the built in transfer switch transfers the electric circuits from back-up power back to utility power.

**Protection:** For optimum battery charging, charge voltage is adjusted automatically to battery temperature. An adjustable over-discharge protection circuit protects the batteries. Other features protect against undercharging.

**Easy to use:** The front panel has easy to understand display that provides status information and adjustments which control functions such as load sensitivity, over-discharge protection, maximum charge rate and more.

**Rugged:** Designed for maximum service: Powder-coated chassis, stainless-steel fasteners, conformal-coated circuit board and gold-plated connectors reduce moisture and the corrosion that results. AC wiring terminates cleanly inside the cabinet.

**Versatile:** Remote home prime power, utility back-up power systems, industrial applications, standby power systems, portable power.

**Tax credit eligible:** Solar powered backup power qualifies for 30% federal **tax credit** on all equipment and installation.

## BACK-UP SYSTEM COMPONENTS

### Electric Panel:

A distribution point for electric wiring (also called a circuit breaker panel or breaker box). All the wiring in a home or office terminates at a main electric panel and is supplied with electricity from a common source. A **sub-panel**, a smaller secondary circuit breaker panel, it is used to power those circuits that are connected to a backup system.

### Storage Battery:

Stores energy for use during a power outage. The size of the battery bank determines how long you can run your appliances during a power outage without recharging. The power rating of the inverter determines how many appliances you can use at one time. We use sealed deep-cycle batteries, which are easy to install, and are maintenance-free. Non-sealed batteries may also be used, but require special installation and regular maintenance.

### Inverter/Charger:

Inverters are the brain of a solar system. They regulate the flow of power from the solar panels into the home during the day and convert battery power to household power during a power outage with an efficiency rating as high as 96% and are noise and maintenance free.

### Solar Array:

Converts sunlight directly into electricity to recharge the storage battery and provides reliable backup electricity even during the longest outages. When utility power returns the solar electricity is conditioned by the inverter and fed into the home, thus reducing utility bills. The solar array can be installed on the roof or in the back yard.

With the solar option, the back-up system pays for itself, unlike conventional generator back-up systems.

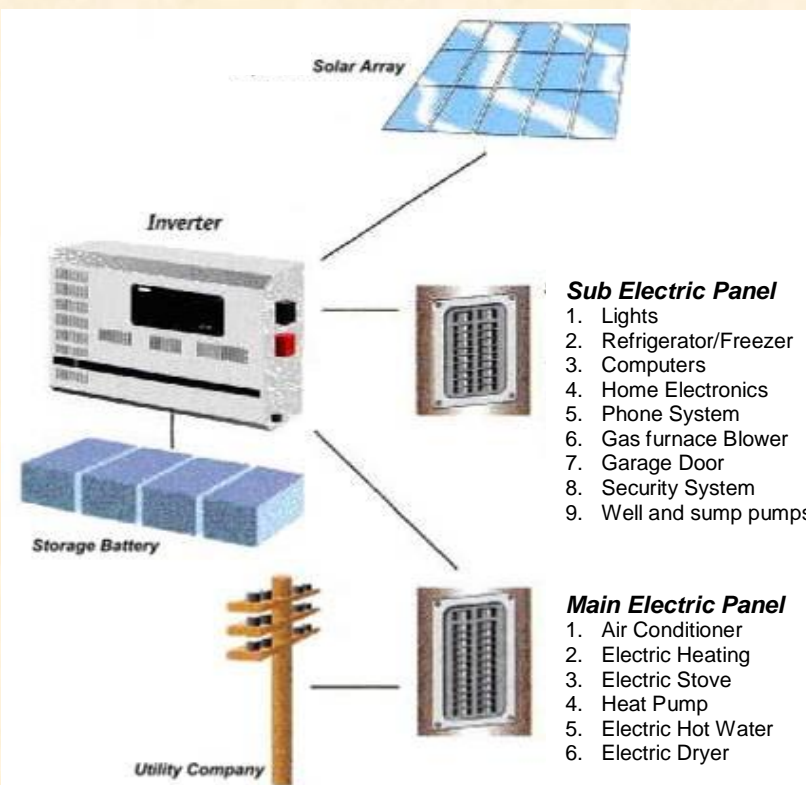
Solar is one of the most reliable means to generate your own electricity; solar panels can generate power for decades **without requiring any maintenance**, unlike generators.

## WHERE DO THE SOLAR PANELS GO?

Solar panels can go on the roof, in the back yard or as a canopy. They reduce the home's utility bills while providing all of the power needs during an extended power outage.



## HOW DOES IT ALL CONNECT?



- ✓ During the day, the inverter feeds solar generated electricity from the solar array into the main and sub electric panels, reducing electric bills and at times of surplus running the electric meter backwards.
- ✓ At night, power from the utility company feeds the main electric panel and flows through a transfer switch in the inverter to the sub panel.
- ✓ During a power outage, the inverter draws power from the battery and if available, from the solar array, to power the sub panel.

### EQUIPMENT CABINET INCLUDES

- ✓ 13 Kwh deep cycle, maintenance free battery with 10+ year life
- ✓ 3.6kw Inverter
- ✓ Solar charge controller
- ✓ 3 Stage battery charger
- ✓ Circuit breakers and bypass switches

