



## SKYSTREAM 3.7™

### Building a Battery Charging/ Battery Backup System

Using the Skystream 3.7™ wind generator, you can easily build a battery charging system or connect into an existing renewable energy system. With Skystream's AC output power design, the Skystream will install in your home's circuit breaker just as any other large home appliance, supplying your home's electrical loads. In battery based systems your home inverter and battery will balance electrical demand. While there may be many ways to configure a system, Southwest Windpower recommends the following most common options.

#### **NOTE:**

All battery based systems require a wireless battery sensor for operation and a wireless display for set up.

These options are the same for grid connected systems with battery back up and off grid systems.

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## OPTION A:

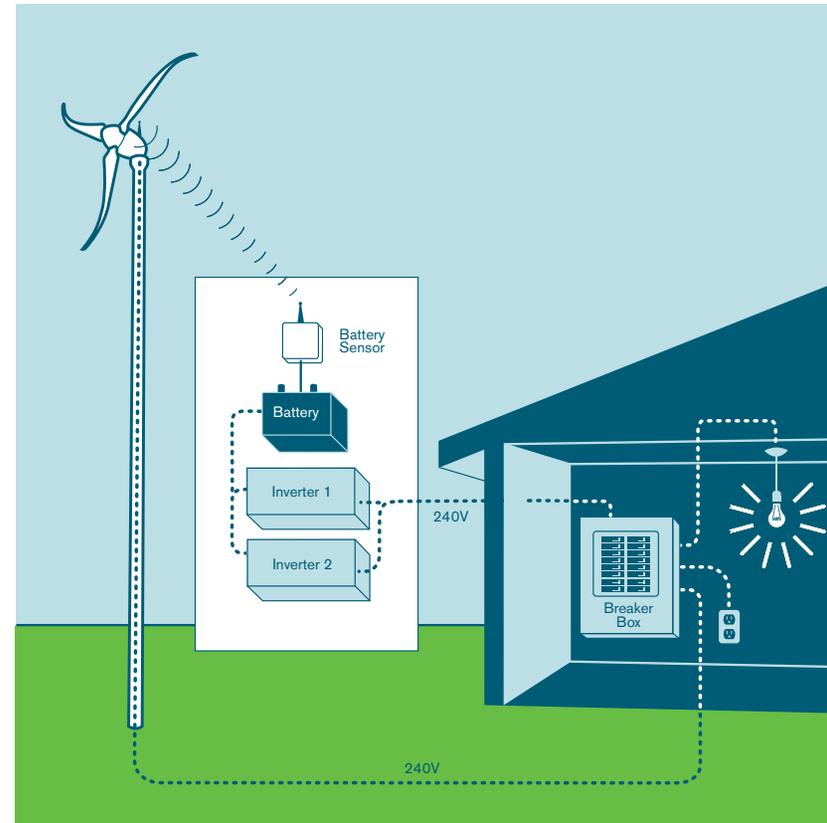
Flexible and efficient, this would be the most popular choice. This system is for either battery-based or grid-connected with battery backup using a 240 volt load (i.e. typical U.S. homes).

### Reasons to select this system:

- The wind generator is the same as the grid connected generator. If the customers no longer need batteries, the system can be grid connected at a later date.
- The 240 volt power transmission allows economical wire and optimum siting.
- Maximum efficiency in higher winds.

### Things to consider:

- If there is no need for 240 volts, a second inverter may add unnecessary costs and some loss of efficiency. (aprox. 20 watts).



## COMPONENTS

Skystream 3.7

Part # 1-SSL-10-240 Land unit/1-SSM-10-240 Marine unit

Wireless battery voltage sensor

Part # 2-SSUP-102-02

Skystream Communications Kit

Part # 2-SSUP-101

2 inverters in series providing 240 volts AC, split phase.

(Outback FX series and Xantrex SW series inverters recommended.)

## OPTION B:

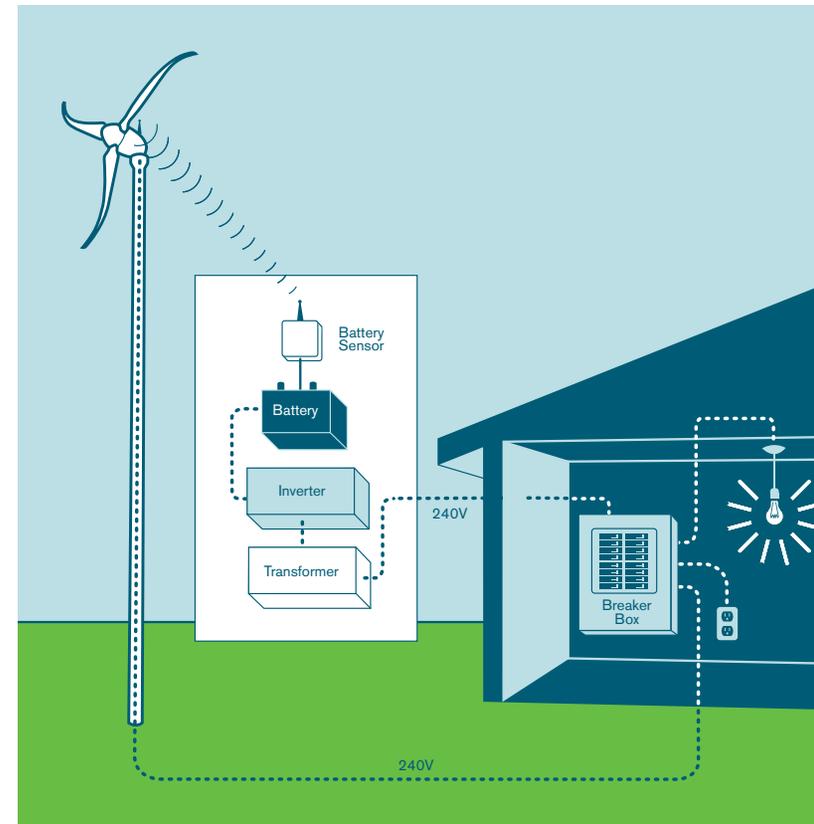
For battery based, or grid connected with backup batteries using a single inverter. (i.e. more common for off-grid homes)

### Reasons to select this system:

- The wind generator is the same as the grid connected generator. If the customers no longer need batteries, the system can be grid connected at a later date.
- The 240 volt power transmission allows economical wire and optimum siting.
- Cost of adding a transformer is significantly less than the cost of adding a second inverter. Good choice for existing one inverter systems.
- Maximum efficiency in higher winds
- Transformer allows use of both 120V and 240V loads.

### Things to consider:

- The transformer may add system cost and some loss of efficiency (aprox. 10 watts)



## COMPONENTS

Skystream 3.7

Part # 1-SSL-10-240 Land unit/1-SSM-10-240 Marine unit

Wireless battery voltage sensor

Part # 2-SSUP-102-02

Skystream Communications Kit

Part # 2-SSUP-101

This system requires an approved 120 to 240 transformer

Outback PSX240/ Xantrex T240

1 inverter providing 120 volts AC, split phase.

(Outback FX series and Xantrex SW series inverters recommended.)

## OPTION C:

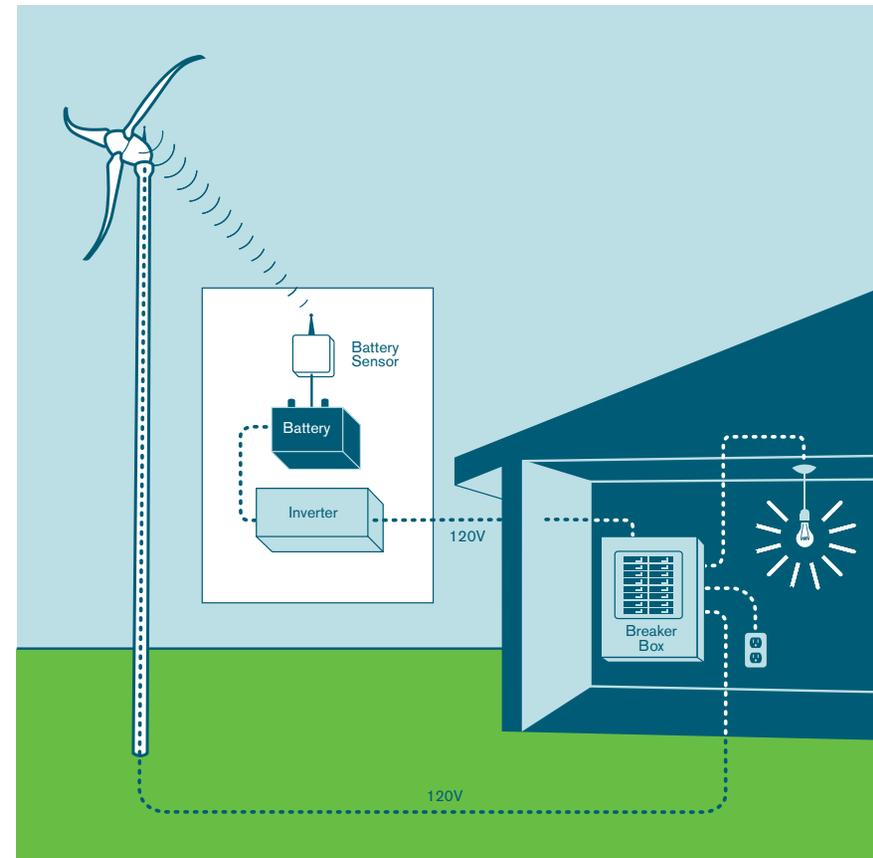
A more economical choice for battery based, or grid connected with backup batteries using 120 volts loads. (i.e. more common for off-grid homes)

### Reasons to select this system:

- The turbine uses only one inverter
- There are no added costs or loss of efficiency from additional components such as a second inverter or transformer.
- Maximum efficiency in lower winds

### Things to consider:

- Peak power from the wind generator is reduced. In higher wind areas, this will reduce energy produced (above 4.5 m/s average wind, the 240 volt system nets more energy)
- 120 volts power transmission requires heavier wire and is not practical for long distance transmission.



## COMPONENTS

Single Phase Skystream 3.7

Part # 1-SSL-10-120 Land unit/1-SSM-10-120 Marine unit

Wireless battery voltage sensor

Part # 2-SSUP-102-02

Skystream Communications Kit

Part # 2-SSUP-101

1 inverter providing 120 volts AC, split phase.

(Outback FX series and Xantrex SW series inverters recommended.)