WHOLE HOME BACKUP GENERATORS

ALWAYS ON GUARD

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WHAT A GENERATOR SYSTEM CAN DO

- Detect the absence of utility power, automatically turn on the generator, and switch from utility power to the emergency power source.
- Power part or all your home in the event of a utility outage.

GENERATOR

- A typical installation uses a 13kW-26kW air-cooled generator.

TRANSFER SWITCH

- Senses utility power loss, starts the generator, and transfers your home load from utility power to generator power.
  - These are a critical safety component as well.

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TRANSFER SWITCHES

- Prevent a generator from back feeding the utility lines.
- This prevents the injury/death of linemen repairing the electrical grid.

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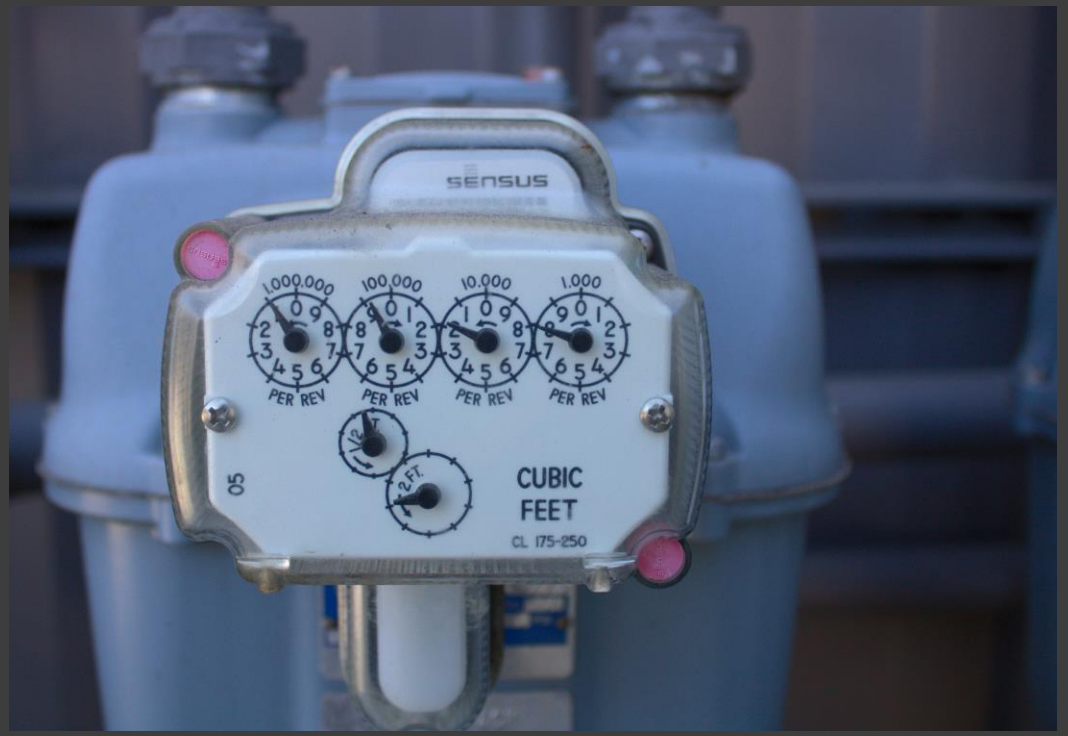
TRANSFER SWITCHES

- Installed between your home's meter and electrical panel or between the main panel and a dedicated loads panel.
- Detects the loss of utility power, send a signal to the generator to start, then change the load's source of power from utility to the generator.
- All this is done automatically, normally within 8-15 seconds.
- When utility power is restored, the switch will return to utility power and shut down the generator.

FUEL SOURCE

- Air-cooled models operate on natural gas or propane.
  - Propane fuel is the most efficient.
  - Rated power of the generator is reduced when using natural gas.



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FUEL SOURCE

- Running at 50% load, a 20kW generator will consume about 1.5 gal/HR of propane or 204,000 BTU/HR of natural gas.
  - Run for about 11 days before emptying a 500-gallon propane tank.
- Running at 100% load, a 20kW generator will consume about 3 gal/HR of propane or 300,000 BTU/HR of natural gas.
  - Run for about 5.5 days before emptying a 500-gallon propane tank.

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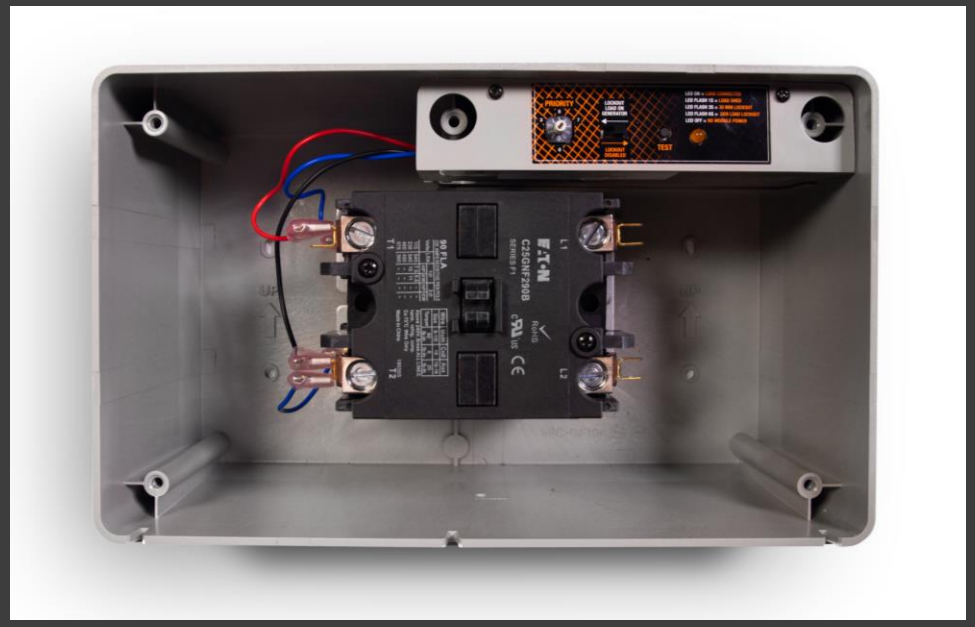
FUEL SOURCE

- If you are using propane for your fuel, we recommend at least a 500lb tank.
  - In emergency situations, if the utility can't restore power, it is unlikely the propane company can make it out to refill the tank.

LOAD SHEDDING

- These devices automatically turn off unnecessary home loads if the generator senses it may be approaching an overload.



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GENERATOR BRANDS

- Sentry Electric sells and services Cummins, Kohler, and Generac air-cooled generators.
- Typical home models are available in 7kW (29A)-20kW (83A) by all brands and are fueled by natural gas or propane.

Cummins®

KOHLER®
IN POWER. SINCE 1920.
Authorized Dealer

GENERAC®
AUTHORIZED DEALER

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- Kohler and Generac also offer a 26kW (108A) model.
- If more power is desired, all companies offer liquid-cooled options with larger kW ratings.
- The costs of the generator, maintenance, and operation increase significantly on liquid-cooled generators.

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HOMEOWNERS BEWARE!

- Never allow a generator installation without a transfer switch or interlock.
- Never buy or make a generator cord with two male ends.
  - These do not exist for a reason. They are a danger to you and others.

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EXERCISE PERIOD

- Home generators have an exercise function to ensure proper generator operation in case of an emergency.
  - Programmed to exercise weekly, bi-weekly, or monthly (depending on brand).
    - Will power up and run for a designated amount of time (1-20 minutes) before powering back down into standby mode.
    - Allows the generate to cycle fluids, ensure the battery is good, and allow the customer to know it is ready for an emergency.

WHAT CAN SENTRY ELECTRIC DO?

- We will meet at your home to determine the following:
  - Your expectations of the system.
  - The setup of your existing electrical service and loads being served.
  - Our recommendation on the size of generator and type of installation.
  - Assist in finding an acceptable location to install the generator.

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WHAT CAN SENTRY ELECTRIC DO?

- Your expectations of the system:
  - Are you expecting to live normally when the generator is running?
    - Will you be running the washer/dryer, cooking, turning on the electric garage heater?
    - This is possible but can be expensive.

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WHAT CAN SENTRY ELECTRIC DO?

- Your expectations of the system:
  - Can your family conserve energy while the generator runs.
    - Can you save the laundry and large dinners for later? Can your garage heater be turned off during utility outages?
    - If that is acceptable, you can have the convenience of being able to live mostly normal (turn on any light in the house or use any receptacle) without overloading the generator by using load controllers.
    - This is the best combination of convenience versus cost.

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WHAT CAN SENTRY ELECTRIC DO?

- Your expectations of the system:
  - Do you only have certain loads that need to run and aren’t worried about convenience?
  - By using a dedicated loads panel and a smaller generator you can save money.

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WHAT CAN SENTRY ELECTRIC DO?

- The setup of your existing electrical service and loads being served:
  - Do you need a 100A, 200A, or 400A transfer switch?
  - What size of dedicated loads panel do you need?
  - What loads will be installed in the sub panel or installed on load controllers?

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WHAT CAN SENTRY ELECTRIC DO?

- Our recommendation on the size of generator and type of installation:
  - Based on your expectations of the system, we can determine the generator size that will meet your needs.
  - We will also determine the materials needed to integrate the generator with your current electrical system.

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WHAT CAN SENTRY ELECTRIC DO?

- Assist in finding an acceptable location to install the generator:
  - This is based on a combination of your preference, the clearances required by the manufacturer, and accessibility of the fuel source and electrical service.
  - Typically, generators must be at least 18” away from a structure and not within 5’ of a window.

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WHAT CAN SENTRY ELECTRIC DO?

- Determine if your whole home can be powered using a transfer switch before the main panel:
  - If this cannot be accomplished, we can help designate emergency loads and install a separate panel to be fed by the generator in an outage.

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WHAT CAN SENTRY ELECTRIC DO?

- In some installations, whole home backup is possible, but there is a risk the generator could be overloaded.
- Load shedding devices automatically turn of specific loads if there is a risk of the generator overloading.
  - We can look at the existing loads in your electrical panel and determine circuits to control with load shedding devices.
  - This will allow you the option of running any device/appliance in your home with the safety net of load shedding to prevent an overload.

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WHAT CAN SENTRY ELECTRIC DO?

- For natural gas installations, we will obtain a price from a local company and include those costs in our overall bid. You will not need to do any coordination of the fuel installation.
- On propane installations, we ask the customer to contact their local fuel supplier for the tank and gas connection to the generator. The customer will coordinate and pay for this directly with the fuel supplier.

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WHAT CAN SENTRY ELECTRIC DO?

- These generators are capable of being monitored by the customer with a hard-wired connection to your home router.
- There is the ability for Sentry to remotely monitor the generator and check any error codes to assist in troubleshooting.
- Sentry Electric will determine the feasibility of installing the network cable to add this function to your system.

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WHAT CAN SENTRY ELECTRIC DO?

- Sentry Electric's technicians are trained and certified to service and repair all generators we install.
- Sentry offers a generator maintenance program that includes bi-annual inspections, standard maintenance including oil changes, and testing the system under load.
- From the beginning to the end, Sentry Electric will do all it can to provide you with a safe reliable generator system.