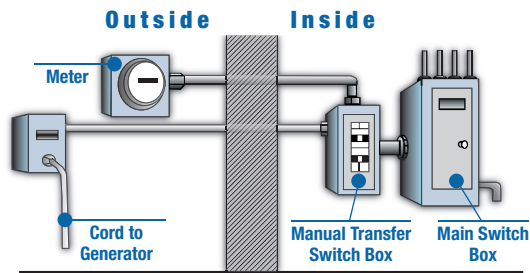


## GENERATOR INSTALLATION

Below is an example of a properly installed generator.



To help determine your power requirement needs, use the table below to approximate the wattage of your appliance. Check the nameplate on your appliance to get the exact rating.

### COMMON APPLIANCES

Appliance	Wattage
*Furnace Fan	600 (1/4 HP)
*Washing Machine	750
*Air Conditioner	3800 (24,000BTU)
*Clothes Dryer (gas)	700
*Clothes Dryer (electric)	5750
*Refrigerator	600 (average)
*Well Pump	1000 (1/2 HP)
*Freezer	2500
*Sump Pump	1050 (1/2 HP)
Electric Range element (8")	2100
Electric Range element (6")	1500
Television (color)	300
*Microwave 750 Watts	750
Hair Dryer	800-1700
Coffee Maker	1200
Space Heater	1000-1500

\*Be sure to consider induction motor start-up needs in determining generator size. These requirements are often significant.

#### Consider:

Watts = Amps × Volts

Amps = Watts ÷ Volts

Volts = Watts ÷ Amps

Consumers Energy

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**Before the storm approaches ...** make sure your generator is installed correctly. Contact a licensed electrical contractor for help.

# HOME GENERATOR SAFETY

Consumers Energy

Count on Us

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# HOME GENERATOR SAFETY

## INTRODUCTION

A home generator can be very useful in the event of an extended power outage. Choosing a generator that will suit your needs is very important. Various size (output) generators are available in permanent and portable models. There are several safety considerations when selecting a generator.

Typically, a generator produces 1,000 watts of power for every HP of motor output. It is important to choose a generator that produces 25 percent more power than the total load to be connected. Adding up the power requirements of the appliances and equipment you desire to use during a power outage will help you determine the size generator needed.

Connecting the generator is another important consideration.

**An improperly connected generator poses a serious risk to you, your neighbors and to utility crews restoring your power.**

**Before permanently installing a generator, contact your local electrical inspector and a qualified electrician to obtain the proper permits and connection criteria. Always read the Owner's Manual provided with your generator to obtain specific operating guidelines.**

## PERMANENT GENERATORS

- Permanent generators must meet local, state and national fire and electric codes and should only be installed by a licensed electrical contractor.
- There are several ways to connect your generator to your home's wiring circuit. However, the generator must be electrically isolated from Consumers Energy's distribution system.
  - A double-throw transfer switch, or similarly approved isolation switch, must be installed to isolate the generator from Consumers Energy's distribution system.
- Be sure to obtain the proper electric permits and have your installations inspected.

## PORTABLE GENERATORS

- Never pull your electric meter to disconnect from the utility's distribution system.
- When using a portable generator, connect appliances to the generator using flexible extension cords with current ratings adequate for the appliances being served.
- A double-throw transfer switch is not required when a portable generator serves appliances via a properly rated extension cord, i.e., refrigerators, freezers, space heaters, etc.
- Never plug a portable generator into a wall outlet; you could damage your home's wiring.

## SELECTING A GENERATOR

- Select a generator that produces 25 percent more power than your connected appliances require or stagger their use.

## USING A GENERATOR

- Never operate a generator in your home, garage, basement or any other enclosed area.
  - A generator needs to be at least 3 feet to 4 feet from an enclosed area as well as away from doors, windows and fresh air intakes where exhaust fumes and carbon monoxide can enter the home. Proper ventilation is critical.
  - A temporary canopy can be constructed over the portable generator to keep it dry. Leave adequate room for proper ventilation.
- Always read the owners manual carefully following all manufacturer instructions and precautions before starting and operating your generator.
- By alternating your appliances, you can stay within your portable generator's output.

## HAZARDS OF USING A GENERATOR

- **Carbon monoxide poisoning**
- **Electric shock or electrocution**
- **Fire**

- Overloading your generator can damage it and any connected appliance or component.
- Start your generator before connecting appliances or equipment.
- Before shutting down your generator, turn off connected equipment.

## NEVER

- **Never use a generator in an enclosed area.**
- **Never use a generator near a window.**
- **Never plug a generator into a wall outlet.**
- **Never fuel a generator when it is running. Turn the generator off and let it cool before refueling.**
- **Never operate more equipment and appliances than the output rating of the generator.**
- **Never pull your electric meter.**

## ALWAYS

- **Get your permits and inspections.**
- **Properly connect your generator so it is isolated from your utility's distribution system.**
- **Use your generator in a properly vented area.**
- **Check cords for signs of damage and replace if necessary.**