How Long Can A Standby Generator Run Continuously?

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Table of Contents

How Long Can A Standby Generator Run Continuously? – An excellent piece of equipment for any home to have is a standby generator. In the event of a prolonged power outage, these equipment can give access to electricity, allowing you to run your home's key systems and equipment for safety and comfort. How much time can a backup generator run? In this article, we'll go over how long your generator can run continuously, how many hours of electricity you can expect from it, and what you can do to extend its life.

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Standby Generators

In the event of a power outage, a standby generator serves as a backup power source for your company's operations, commercial & industrial applications, or facilities. Standby generators are often stationary and require a concrete pad as a basis, which is typically located outside your business.



Standby Power Generators (Reference: electricityforum.com)

When there is a prolonged power outage, standby generators are a reliable alternative that, depending on the fuel type and generator setup, can supply power for days. Standby generators, as opposed to prime or continuous generators, are only used in emergencies, such as power outages brought on by bad weather, natural or man-made calamities, or recurring blackouts caused by the deteriorating power grid. Building regulations may demand automated standby generator systems for critical safety systems such as elevators in tall buildings, fire protection systems, backup lighting, or medical and life support equipment. Home appliances like refrigerators, stoves, and water heaters as well as security and HVAC systems can all be powered by residential standby generators as a backup source of electricity.

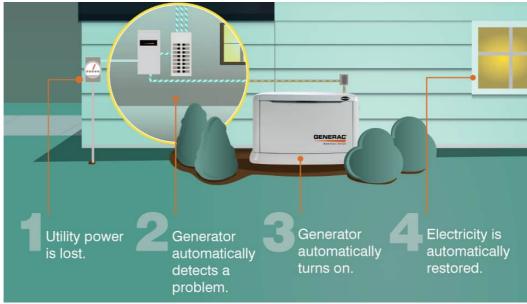
How Do Standby Generators Work?

Commercial standby generators are powered by an external fuel source, such as diesel or natural gas, and are directly connected to your facility's electrical system. In terms of commercial generators, what can be powered and for how long depends on the generator's size and fuel type.

Most frequently, standby generators are used in conjunction with an ATS (Automatic Transfer Switch), which triggers the standby generator to start up immediately in the event of a power outage. After a power loss, the switch in an ATS disconnects your building from the primary utility power system. The switch activates the generator and causes it to start generating electricity for the facility's electrical panel after the facility has been safely and totally disconnected from the power grid.

The automated transfer switch instructs the generator to shut off when the facility is once again connected to the main power grid. The single most important safety benefit of using a generator with an ATS is that it prevents electricity from being fed back into the grid. Back feeding, when the generator sends electricity to the main grid, is dangerous and can cause fires, gravely hurt or even kill utility personnel who are working on the power lines to restore power to your area.

The default MTS (Manual Transfer Switch) is an option if you decide against installing an ATS with your generator. This switch needs to be physically pushed by someone standing next to the generator. Additional contingency plans, such as having an employee on call to turn on the generator when power goes out and turn it off when power is restored, would need to be put in place in the case of a power loss. In addition to raising the possibility of back feeding, this might also put the employee in danger due to road dangers, bad weather, natural disasters, etc.



How Does a Standby Power Generator Work? (Reference: norwall.com)

How Long Can a Standby Generator Run Continuously?

The majority of standby generators can, in theory, run indefinitely as long as there is fuel. If necessary, a home can be supplied by a standby generator for extended periods of time. However, you don't want to leave your standby generator running indefinitely, because your equipment will wear out sooner than it should. Usually, it's advised to restrict continuous usage when possible and to give the device time to rest and cool down. If required, you can operate the generator for a week, but it is advised that you shut it down every day, let it cool, and check the oil. Several factors can radically affect the type of consecutive runtimes you can expect. The type of fuel and cooling systems your generator employs are particularly important.

Depending on the model, a standby generator can run continuously for a different length of time. On average, a standby generator can run for up to 3,000 hours powering a medium-sized home, though it is advised that you not run a generator for more than 500 hours nonstop. This means that if necessary, a standby generator can be used as a reliable power source for over three weeks during extended power outages. Although the generator can be run continuously for extended periods of time, doing so increases the risk of the generator or the wiring and electrical items in the home being damaged.

A portable generator, on the other hand, can run for up to 2,000 hours. In contrast to standby generators, portable generators are made to run for shorter periods of time, usually between 6 and 18 hours depending on the model. While these devices will be useful for RVs going on camping trips or for powering some household appliances in an emergency, it is not advised to use them for prolonged power outages.

Standby Generator Lifespan

Depending on the model you have installed at home, you can usually run a generator for a total of 1,500 to 3,000 hours. Standby generators work better than portable gas-powered generators since they are designed to be used for extended periods of time and in emergencies.

In most cases, standby generators won't need to run continuously. The generator may only need to run for a few hours a year to power the home during brief power outages sometimes and for maintenance. A standby generator's lifespan is strongly related to how often it is used and how well it is maintained. They often last between 20 and 40 years.

Standby Generator Fuel Options

In theory, a generator can keep running as long as it has fuel. However, some fuels might be more challenging to maintain a steady supply of in the event of a natural disaster or other emergency. So the fuel supply for a generator will also affect how long you can run it continuously. When buying a standby generator, you have a few different fuel

options to select from. Depending on the type of fuel your generator works on, a running generator will burn up fuel, which could be a limiting factor.

Generators are powered by the following fuels:

- Propane is the most commonly used fuel for generators. Among the numerous fuel sources, propane has the longest shelf life, so you won't have to worry about the supply in the generator depleting over time.
- Natural gas generators can run constantly if gas lines are operational since they link directly to your gas line, eliminating the need for a fuel tank. These, however, are sometimes impractical during natural disasters because gas lines are the first to be cut off because of the danger of burns or other risks.
- Diesel generators can be useful, however the amount of diesel available and stored in a tank is limited, and diesel gas might be excessively expensive.



Natural Gas Standby Power Generator (Reference: pramac.com)

Generators that run on diesel or propane do not have the luxury of being hooked up to a fuel source. The fuel tank of diesel and propane generators needs to be refilled. In the event of a power outage, it's a good idea to have at least one propane tank or an extra diesel fuel tank full in storage so you can add more fuel to your generator if you require continuous power.

Maintenance Can Lengthen The Life Of A Generator!

The length of time that a standby generator can operate for can greatly affect how long your equipment will last. Follow these maintenance recommendations to extend the generator's useful life:

- 1. Run the generator once a week to maintain the machinery. Run the system for 30 minutes every week, which adds just 26 hours of use annually due to maintenance.
- 2. If you use your standby generator to power your house, it's a good idea to cut it off occasionally so the engine can cool. Oil should be checked and added as necessary.
- 3. Maintain your generator on a monthly as well as after any prolonged times of use. Routine standby generator maintenance entails maintaining the surrounding area clean and clear of debris, checking oil and coolant levels, evaluating batteries, testing the battery charger, and tightening any weak wiring connections.
- 4. Schedule professional service for your standby generator once a year. To ensure optimal performance, a professional will inspect and maintain crucial systems.

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