

What Size Generator for 50 Amp RV



What size generator for 50 Amp RV? A minimum 3,500-watt generator is recommended for 50 amp RVs, but you might need to consider a different size depending on the number of appliances being used at a time. You might have a higher wattage requirement if you're charging a laptop while running a microwave, TV, refrigerator, or air conditioner. Here's an in-depth look at the issue.

On Linquip, you will find everything you need to know about RV generators. At Linquip, we strive to provide you with a wide selection of the best RV generators on the market, so it's easy for you to find the one that's right for you. In order to gain a basic understanding of what Linquip has to offer you, you may find it useful to take a look at Linquip's "[**What Is Generator?**](#)" page.

Are you looking for an RV generator? If so, what kind do you need? You can search through Linquip's free database of [**Generator Products**](#) on the website, which features a variety of generators. The best prices for RV generator equipment based on your specific requirements can be found here. The Linquip service allows you to quickly and easily find [**Generator Suppliers and Companies**](#) and receive free quotes from them shortly after.

The electrical service in RVs is one of the most confusing aspects of RVs for newbies. In order to run your RV's appliances, you will have to determine how much power you will require. 30 amperes, 50 amperes – what do these numbers even mean?

Let's face it, it's not an easy topic to understand, but once you get it, everything makes sense.

The purpose of today's post is to equip you with more knowledge about RV electrical stuff, which includes an overview of what 50-amp service even is.



50 Amp RV (Reference: decideoutside.com)

50-Amp Service Basics

The experience of camping in an RV is one of the most memorable adventures you can do. Whether you own the RV or rent it every season, your RV needs to be maintained.

In order to make your search for a quality RV generator more effective, you need to take some things into consideration. As RVs and RV accessories become more modern, so do our ways of powering our rigs. With each new need, we have in modern times, 50-amp RVs are becoming increasingly popular, making them a necessity for full-timers as well.

If you want to take advantage of all of the amenities that your 50 amp fifth wheel offers, what can be done?

A generator stops you from having to sacrifice comfort on a long trip. They run for hours on a single tank of fuel, so there's no need to worry about running out of fuel.

The majority of campgrounds these days offer 50-amp hookups, but you may find yourself camping in a remote area or at an old campground with only 30 amps of power.

An RV with 50-amp service has a plug that has four wires – two 120V wires, a ground wire, and a neutral wire. Plugging in the plug to a generator allows you to draw either 120V or 240V.

As a point of comparison, let's also take a look at the 30-amp service. In addition to a weaker amp, the 30-amp service also features a slightly different plug structure. The 30 amp plug has three wires – one for 120 volts, one for ground, and one for neutral.

Now, what do these differences mean for power delivery?

In the definition of the ampere, it is expressed as amperage = wattage/voltage. The maximum wattage for 50-amp and 30-amp services can be calculated by rearranging the formula so that the amperage and voltage (2 x 120V for 50-amp and 120V for 30-amp) are known.

For example, 50A x 2 x 120V is 12,000 watts, while 30A x 120V is 3,600 watts. Understanding this is crucial for understanding what follows.

How Do I Choose a 50 Amp Generator?

Choosing a generator for your RV can be a daunting task. There are a lot of factors to consider, such as power needs, size, portability, and fuel efficiency. You don't want to pick a generator that can't handle your demands.

It is important to keep an eye out for the wattage of a generator for 50-amp rigs; however, there are many other factors to consider. To find the right generator for your 50-amp RV, you should look for the following:

Wattage

Portability/size

Fuel efficiency

Operational quietness

Budget

Don't be intimidated! RVs are designed with your comfort in mind, and once you know how much power your RV consumes on an average day, it is quite easy to figure out. There should be a generator that works for you once you figure out your power needs for your 50-amp generator!

Wattage

Do you want to hook up a generator to power your 50-amp RV? This is a no-brainer! RVs are designed to boondock and be without shore power for long periods of time, so buying a generator is a logical next step.

It won't take you long to understand how your RV's power system works and how much electricity you need.

Calculate how many watts your appliances consume at a given time with a little math: generators will tell you how many watts they can produce, and appliances will tell you how many watts they require.

In calculating the size of your generator, consider the watts you need when your appliance starts up. Often, the startup wattage is higher than the running wattage, so know these numbers before you order your generator.

If you have forgotten about some electronics or power fluctuations, budget for a few more watts. Once you do that, you won't have any trouble figuring out how powerful a generator you will need!

Most RV owners want a generator powerful enough to operate their air conditioner while on the road. This is often a determining factor when they are looking for a generator. In comparison to other appliances, air conditioners require the most power.

If you are choosing a generator, make sure you know the wattage your AC unit uses at start-up. Running wattages for air conditioners are always smaller than start-up wattages. This is a good place to start since your generator needs to be able to compensate for the start-up wattage!

You will need a large generator if your 50 amp rig has two AC units (as many do) and you want them both to be powered simultaneously.

Keeping your needs in mind versus your wants is important. It would be nice to have power for your entire rig and all major appliances at once, but your budget and generator size may prevent that from happening.



Calculating power usage in an RV (Reference: trailertraveler.net)

Portability and Size

There is nothing better than the convenience of owning a portable generator. If you are looking for the right generator, size is important. Portable generators are often equipped with wheels and handles, which make moving them easier.

In order to utilize a 50 amp rig's amenities to the fullest, you will need a large generator. You may have to deal with a heavy and bulky generator, so don't be surprised by its size and weight.

Fuel Efficiency

The fuel capacity of each generator is limited, so if you're looking for a generator that doesn't require a lot of refueling or babysitting, fuel efficiency is a key factor to consider.

With gas, diesel, and propane prices fluctuating constantly, you don't want a generator that guzzles fuel!

Depending on what generator you choose, you may need to bring more fuel with you into the woods, so keep fuel efficiency in mind if you're concerned about fuel consumption!

The fuel type you use will also affect your budget and availability. Gasoline is the most commonly used fuel for generators, but some generators use propane, which may be more suitable for you.

Operational Quietness

Have you ever been camping with a neighbor whose clunky generator is running all night?

You don't want to overly disrupt another camper, but sometimes a noisy generator can undermine the enjoyment of another camper. Take into consideration their needs when in a communal area like a campground.

The right generator can make a big difference during camping trips. There's no point in chugging your generator all night when you're there to relax and enjoy nature!

Budget

It is important to keep your budget in mind when working on your generator shopping list. You can reduce your generator's price by narrowing down your wattage.

Even though it's always nice to be prepared, perhaps a smaller, less expensive model would be more appropriately suited to you if you don't think you'll ever use the full amount of power listed on a generator.

Size of Generator for a 50 Amp RV

A 3500-watt generator is enough to run your RV's essential appliances, such as your air conditioner, your refrigerator, possibly your TV, and some lights. That's what you need to keep your 50-amp RV powered.

Here's an example:

- To start a 15K BTU RV AC unit: 16 amps
- To start an RV fridge: Approximately 8-10 amps
- Five LEDs of 40W each: 1.65 amps
- 55 Inch TV: 1.55 amps
- Overall: 29.2 amps. or 3500 Watts

It is obvious that your 3500W generator will overdraw if all those things start up at the same time. You can start your fridge separately from your AC unit since an active refrigerator uses less power than an active AC. Just be aware that you won't be able to turn on the generator with everything plugged in.

The power of these devices rarely matches up to their advertised specs, so 3500W may not deliver the full 3500W.

What If I Need More Power?

When you use multiple appliances at the same time, like a roof air conditioner, a toaster, and maybe a microwave, you'll need something more than 4000 watts. A unit of about 6000 watts should do the trick, or two generators of 3500W/4000W paralleled together will work as well.

A single generator supplies 30 amps of load. In order to provide 50 amps of load, you will need to run two 3500-4000W generators in parallel or buy a hefty generator.

A 12,000-watt generator can handle the power requirements of large RVs, which almost always contain a fridge, some kind of multimedia system, and several air conditioners.

Are 50-Amp RVs Compatible with 30-Amp Power Sources?

Campgrounds have power sources for RVers very often, but they are usually rated at 30 amps. A common question among new RVers is whether their 50-amp RV can be powered by a 30-amp RV power source.

You can use your 50-amp service fully if you have an adapter, but even then, you will not be able to fully utilize its potential.

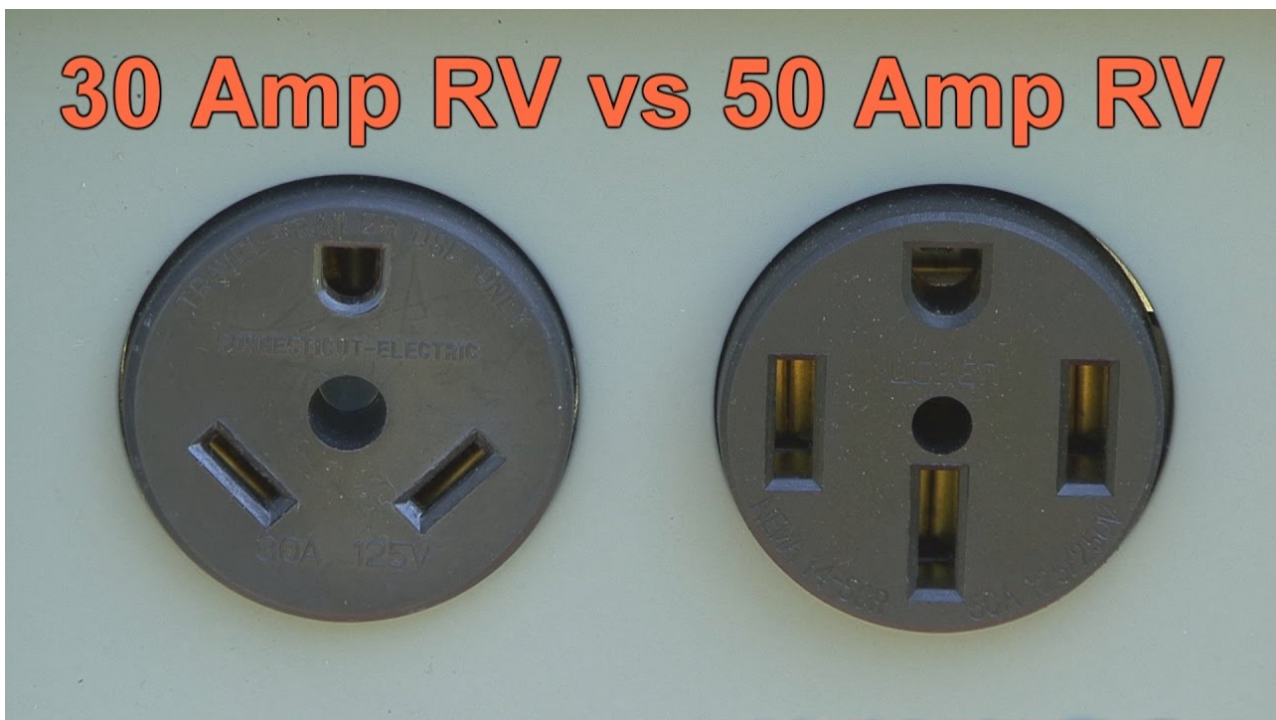
You may recall that the 30-amp service delivered 3,600 watts. Now, if you have RV appliances that consume 12,000 watts of power, will a 30-amp service suffice?

It goes without saying that the answer to this question is a resounding no. So, when you are hooked up to 30-amp service, what appliances you can use in your RV are severely restricted.

The circuit breakers at most campgrounds are designed to operate within a tolerance of +/- 20%. With such a tolerance, a trip would require between 2,880 watts (80% of 3,600 watts) and 4,320 watts (120% of 3,600 watts).

You should remember that when camping at campgrounds with 30-amp service, you can't use the full potential of your RV's electrical system, and if other RVs are hooked up to the campground's power, you will receive less power than 2,880 – 4,320 watts.

It is, therefore, necessary to run all appliances individually or in small groups to prevent destroying the campground's electrical system, regardless of how critical they may be to you.



Comparison of 30 Amp RV and 50 Amp RV (Reference: [youtube.com](https://www.youtube.com))

What Are the Main Power Consumption Sources in Your RV?

The following are the largest power users in your RV:

An air conditioner that uses up to 3300 watts when starting and 2000 watts when running.

A microwave that uses up to 1500 watts for starting and 1500 watts for running.

An electrical grill that uses up to 1650 watts for starting and 1650 watts for running.

It is recommended that you consider if you have these appliances and plan on running them at the same time; they consume 6450 watts when starting and 5150 watts when running. Of course, you need to check your specific appliances for accuracy.

You can easily picture a situation where you are cooking dinner for your friends on a summer evening.

Your RV may have other power users, including the following:

- An RV refrigerator with a starting power of up to 600 watts and a running power of 180 watts.
- A TV that consumes up to 190 watts when started and 190 watts when running.
- Satellite receiver that consumes 250 watts when it is initially turned on and 250 watts when it is running.
- A computer that draws 200 watts when it is starting and 200 watts when it is running
- An electric coffee maker that takes 600 watts when starting and 600 watts when running.
- A blender that starts at 850 watts and runs at 400 watts.
- A hair blow dryer with 1900 watts starting power and 1800 watts running power.

Compared to the major RV appliances, this group's power needs are very small (with the exception of the hair dryer, of course).

In order to estimate what size generator you should buy, you should add around 1000 watts to your main appliance needs.

You don't need to cater to all the minor users of power at once. It is impossible to use a blender while blow-drying your hair at the same time. Be aware of how much power these appliances consume while using them!
