SŌL

POWERED
BY THE SUN

FAQ

BATTERIES

What kind of battery should I get?

Sol - Powered by the Sun packages from Sol Prepped to Tier 2 do not come with a battery included. For higher tiers, our fifth wheels come with lead acid batteries. You can learn more about different types of solar energy batteries and shop for your own through various battery dealers.

How many batteries do I need? How long can I run my RV on battery power?

The number of batteries you need will depend on how much power you plan to use when you're relying on solar energy exclusively. Some campers may only use their appliances at specific times of day to cut down on their energy use and battery needs, while other campers may prefer to house more batteries and have greater leeway in how much energy they store.

To calculate how many batteries you'll need to accompany your Sol - Powered by the Sun solar kit, it requires a bit of math. The basic equation is:

Hours of continuous power x watts = Total watts.
Total watts / DC volts = amps needed.

So for example:

2 hours of continuous power needed x 1500 watts = 3000 watts total needed.
3000 watts / 12 volts DC = 250 total amps stored to give you the power you need.

Then, you calculate how many amps your inverter can pull in per hour.

You can learn more about different solar energy batteries and how many you may need through various battery dealers.

What is the difference between 12, 24, and 48-volt DC battery systems? Which one do I need?

Solar batteries come in 12V, 24V and 48V varieties. The numbers refer to the capacity of the battery when it comes to converting volts to amperage.

If you're only looking to supplement some of your energy use with solar power or you travel for short periods of time, 12V batteries may work fine for your needs. If you spend months traveling in your RV, love to camp off-grid or prefer to use a lot of appliances in your RV, you may decide to upgrade to 24V or 48V batteries. Various battery dealers offer a wide range of solar batteries to help you optimize your solar energy system to meet your needs.

How do I determine my system's amperage?

Most RVs run on 30 amp systems, although some use 50 amp systems. In Heartland units, you can easily find this information on your RV's VIN tag. By comparison, a sticks and bricks home uses a 200 amp system. Using more amps than your RV can handle at one time will cause a circuit to overload and the power will go out.

So how do you determine whether or not you'll use more than 30 amps at one time? On the back of every appliance is a label listing the wattage used by that device. From there, we can use these formulas to understand how much your RV electrical system can support:

Watts / Volts = Amps
Amps x Volts = Watts
Watts / Amps = Volts

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INVERTERS

What size inverter should I get?

To calculate your ideal inverter, add up the total wattage requirements of all the equipment you want to power and add 20 percent to the total as a safeguard. Some appliances will surge when they first start up, like microwaves, so we recommend you calculate your wattage requirements based on the high surge value to be safe.

For example, if you add up the wattage of all the appliances that would be running at the same time and it's 3000 watts, then add another 20%, you get 3600.

For the purposes of RVing, a 2000-4000 watt inverter should be sufficient to power your coach consistently and account for surge loads. Our Sol - Powered by the Sun packages that include an inverter use a 2000 watt model.

How do I hook up my power inverter to my batteries?

Take a look at our handy video references to learn how to hook up your power inverter and batteries. .

How do I calculate what battery size I need for my inverter?

To calculate the battery size you need for your inverter, take the hours you plan to continuously run your inverter and multiply them by the number of watts the inverter is built for. Then divide by DC volts (12V) and you'll get the number of amps you'll need in a battery.

Run time (hours) x Inverter wattage = Total watts / DC volts = amps required.

Then head over to our partner, AIMS Power RV, to learn more about how to select a battery to best fit your needs.
Then head over to our partner, AIMS Power RV, to learn more about how to select a battery to best fit your needs.

SOLAR PANELS

How do solar panels work?

Solar panels work by converting sunlight into energy that can be stored in batteries. First, sunlight activates the panels, made up of silicon cells which absorb the sunlight. The cells inside the panels create an electrical field when sunlight strikes them, and the motion of atoms inside the cells creates an electrical current. This is Direct Current (DC) electricity, which needs to be converted into Alternating Current (AC) electricity by an inverter before you can use it.

So next, the DC electricity charges your RV's solar batteries, and then when you draw upon those batteries, the current runs through an inverter to convert it to AC. You can use multiple solar panels in a solar array, and have more than one battery that stores DC electricity for future use.

How do I install solar panels on my RV?

When you purchase a Sol - Powered by the Sun solar package, we'll include instructions detailing everything you need to install your solar panels, inverter, batteries and more.

And as always, if you have questions during your installation, you can always reach out to Heartland customer support.

QUESTIONS?

Heartland Customer Support - 877.262.8032
AIMS Power RV