



## How Many Hours Can Your Battery Last

- The primary complaint with batteries going dead too quickly results from the battery not being fully charged when you start out. A deep cycle battery can take 24-36 hours to fully charge all depending on your charge rate. Always plug in your unit at least a day before you leave to ensure you are starting out full.
- If you have a Battery Disconnect installed, ensure it is turned on when plugged in to 110 or traveling down the road. If it is turned off your batteries are not charging.
  - An RV battery is rated in terms on amp-hours.
  - A standard RV deep cycle battery would be rated at around 100-amp hours. What this really means is your appliances can use either 1 amp for 100 hours or say 2 amps for 50 hours, 4 amps for 25hrs, 8 amps for 12.5 hrs., etc. (if the battery was 100% charged).
  - So, how many amps are your appliances going to draw? It depends on the appliance's watts ratings. Below is a random list of AMP draw for common devices. Devices such as Hydraulic Pumps and Slide Motors have a heavy amp draw but usually used at setup and take down only. When these devices are in use, low or dead batteries will lead to error codes and possible resets when batteries are brought back to full.
  - Thus, if all of your devices or appliances take say around 5 amp then the 100 amp-hour battery would last for around 20 hours or so, 10 amp would last 10 hours (on a fully charged battery).

<b>DC Current Usage Chart (use per hour)</b>	
<b>Device</b>	<b>DC Amps</b>
Fluorescent light, double, 30 W	2.0
Fluorescent light, single, 8 W	0.7
Fluorescent light, single, 15 W	1.2
Incandescent light, double, 1141 bulb	2.5
Incandescent light, single, 1141 bulb	1.5
Incandescent light, double, 1003 bulb	1.8
Incandescent light, single, 1003 bulb	0.9
<b>TV, color, 13"</b>	<b>6.4</b>
<b>VCR/DVD player</b>	<b>2.5</b>
<b>TV booster</b>	<b>0.2</b>
<b>Schwintech Slide out Motor</b>	<b>26.9</b>
<b>AM/FM Radio</b>	<b>1.0</b>
<b>Hydraulic Pump (Leveling and slides)</b>	<b>40-50</b>
CD/Tape player	2.5
<b>Refrigerator - on gas</b>	<b>0.4-0.9</b>

<b>Refrigerator - on 12V mode</b>	<b>35.0</b>
Fantastic Fan	3.0
<b>Fan motor, 750 CFM</b>	<b>2.6</b>
Fan motor, 1000 CFM	5.5
<b>Furnace, forced air</b>	<b>8.0-10.0</b>
<b>Roof vent fan</b>	<b>2.5</b>
<b>Water pump</b>	<b>6.0</b>
<b>These ratings are approximate. For a more accurate calculation check the current draw on each device in your RV.</b>	

- Another option is to connect multiple batteries in series connection to get more hours. One can also have multiple batteries but use one at a time, this helps in planning if you have longer time to cover.

## Why Does the RV Battery Not Charge?

- Check for loose wiring connection. If that seems okay, then check for fuse. This normally happens when the battery is not hooked up correctly which blows the fuse.
- Your battery disconnect is turned off.
- Clean your battery connections (posts).
- If you have 2 batteries and one battery is bad it's best to change out both batteries. If you keep one of the older batteries your battery life can be cut in at least half.

## Do RV Batteries Freeze?

- It is imperative that you make sure the battery stays charged fully during winter. You may want to check on it every 30 days or so, and if necessary, top off the charge. An idle kept battery loses around 5% per month.
- It is advised to store your batteries in a shop or garage (not directly on cement). This is preferred vs storing in your RV.
- If batteries are completely drained, they will freeze at 32 degrees Fahrenheit. Even fully charged batteries can freeze if the temperature is extremely low. The lower the temperature the higher the risk of freezing of electrolyte. With freezing, the electrolyte expands and results in damage.
- Always make sure the batteries are fully charged before putting into storage.

## RV Battery Maintenance

- **Maintain electrolyte levels in flooded-cell batteries.** Over time, flooded-cell batteries lose water with each charge cycle, and this water needs to be replenished. You must use

distilled water to help reduce the chance of sulfation, or the formation of sulfate crystals that can occur when the battery plates are exposed to air. Check the batteries at least once per month, and ensure that they're fully charged before performing the necessary maintenance.

- **Clean battery terminals** to remove any corrosion that has built up. You can use a mixture of one cup of baking soda to a gallon of water or a commercial battery contact cleaning solution, and utilize a toothbrush for scrubbing.
- **Allowing your batteries to get too low in charge can also increase sulfation.** When your batteries fall below 80%, or 12.4 volts, sulfation can begin. Thus, always recharge your batteries in a timely manner after using them.
- **Try to recharge your batteries often.** For example, if you discharge your battery to 50% every day, it'll last twice as long as if you'd discharged it to 20% each day. However, also keep in mind that **overcharging and hot temperatures also have negative effects on batteries over time.**

## Voltage and charge relation in an RV battery

- Understanding the state of charge of a RV battery is not difficult. But, it's not that straight forward either. A 12V battery when fully charged has a voltage of around 12.6- 12.8 volts.
- That's not true, a fully discharged battery will have a voltage of around 12V. A battery that is reading 12.4 V means it is drained 50%.
- So, the voltage rating isn't a direct indication of how charged your RV batteries are. You can test the voltage reading by unplugging the batteries and removing the surface charge.
- Another method of testing batteries is by hydrometer method but its little difficult. A multi-meter test gives good reading if the said steps are properly followed.