

Chapter 1

Power Types Answers



I Definitions of AC/DC

DC, or direct current, is a super consistent, linear voltage **delivery system** that lends itself well to batteries and solar.

AC, or alternating current, can actually flow in different directions using magnetic polarity, and its wave-like motion lends itself well to long distances and **high draw** appliances.

The majority of appliances in your RV have to be able to run off **12-volt DC** batteries for those times when you're not plugged in at home or a campground.

I 12-Volt DC

List the major 12-volt appliances in your RV:

- **Lights**
- **Fans**
- **DC or USB plugs**
- **Water pump**
- **Monitor displays**
- **Tank sensors**
- **Power jacks**

List the 12-volt appliances that supplement with propane:

- **Furnace**
- **Water heater**
- **Refrigerator**

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I 120-Volt AC

120-volt AC power is used for high voltage appliances like your air conditioner or microwave, and to run household style outlets.

You can run these appliances off shore power:

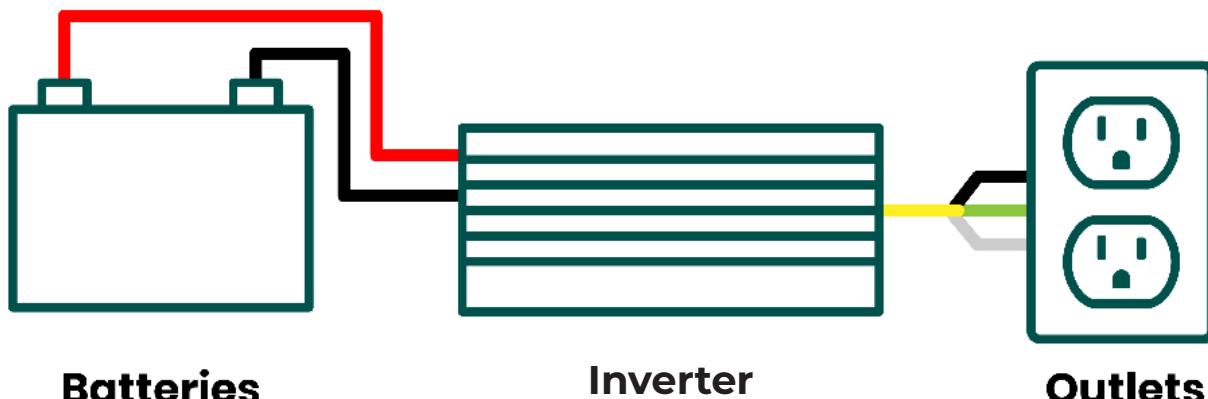
- Air conditioner
- Refrigerator
- Water heater
- Microwave
- Convection oven

30-amp connections are limited to 30 amps and 3,600 watts.

50-amp connections are limited to 100 amps and 12,000 watts.

When staying in the RV and not hooked up at a campground, your unit goes into low power mode.

Household style outlets require an inverter to work off your batteries when not plugged into shore power.



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I 120-Volt AC (Continued)

The size of your **inverter** and **battery storage** will dictate what you can run on these outlets.

Inverter power loss: 120 volt is **10 times** more than 12 volt.

Unless you've installed a big, expensive solar and battery upgrade in your new RV, you have to be careful about what appliances you use and when you use them. As much as manufacturers want you to believe this is your home away from home, it's a self-contained system that has its limits.

If your outlets suddenly stop working, check the **GFCI** plugs.

I Propane

Propane is a **clean burning** fuel that can be stored in sealed containers.

List the items in your RV that use propane:

- **Stove**
- **Oven**
- **Refrigerator**
- **Water heater**
- **Furnace**

Propane power usage:

A propane based furnace only uses about **5** amps per hour directly off your batteries.

A small electric ceramic heater uses about **100** amps per hour off your inverter.