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# Emriver Battery Adapter

## Instructions for Use

### Battery Information

Here are a few tips on finding the right battery:

1. Make sure it's a "deep cycle" battery. Car and motorcycle batteries won't work. They are not designed to be deeply discharged, and they will be damaged if they are.
2. Make sure it's a sealed battery that can be tipped, even used upside down, without spilling acid. These batteries are designated "SLA" for "sealed lead-acid." Another designation to look for is "UB" for "universal battery." These are very commonly used for computer backup systems (they're inside that big black UPS box) and to power alarm systems during power outages.
3. Get a battery with at least 12 amp-hours of capacity; this will sometimes be abbreviated as "12ah." The Em2/Em3 pump uses only about one Amp of power. A good 12 Amp-hour battery should power it for at least four hours.

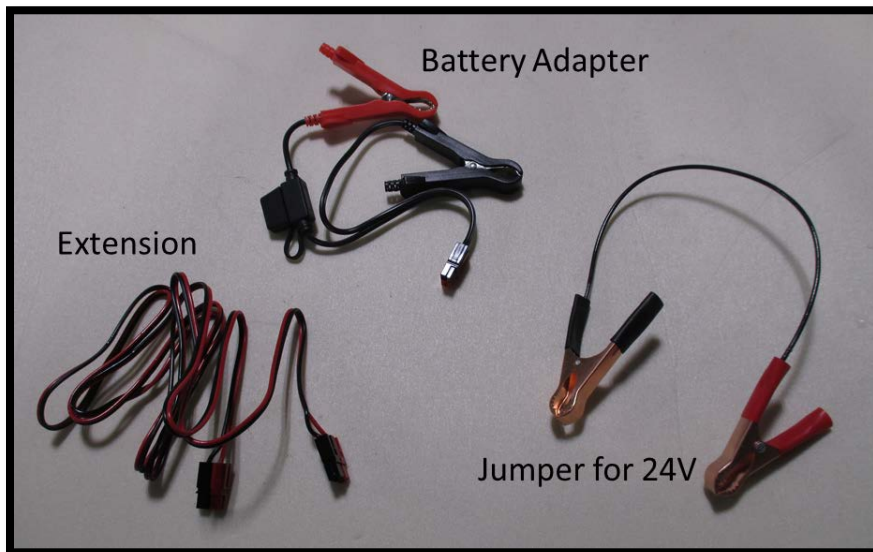
The photo below shows a good choice, a UB12120, or "universal battery" 12-volts, 12 Amp-hours. This battery will weigh only about seven pounds and be 6 x 3 x 3 inches in size. It's very compact and easy to manage. These can be bought locally and online.

Get a charger from whoever sells you the battery, and you're ready for the field! You don't need a large automotive-style charger.

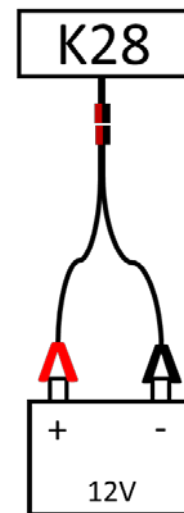


## Using the Battery Adapter for the K28 Controller

- Your kit comes with a battery adapter, extension cord, and a jumper cable.



- The K28 Flow Controller uses 12V DC and does not require the use of the jumper cable.
- Connect the black and red connectors attached to the flow controller to the matching black and red connectors on the battery adapter.
  - The Emriver Battery Adapter comes with an extension that runs between the controller and the battery adapter.
  - To use the extension, plug one end into the black and red connectors on the controller, and the other end of the extension into the black and red connectors on the battery adapter.
- Attach the alligator clips to the battery terminals. Connect the negative (black) clip to the negative terminal, and the positive (red) clip to the positive battery terminal. Battery terminals may be color-coded or use a (+) to indicate positive and (-) for negative. **You can damage the controller if you connect these in reverse.**



You may plug the Emriver system connectors on the battery adapter directly into the black and red Emriver system connectors on the controller, or you may plug one end of the battery adapter extension into the controller.



**Attach the alligator clips on the battery adapter to the terminals on the battery. Connect the negative (black) clip to the negative terminal, and the positive (red) clip to the positive battery terminal. Be careful not to switch the positive and negative!**

**Note:** The battery adapter is fused. The fuse can be checked visually or with a continuity tester if you suspect they are blown. **Do not bypass the fuses!**

### **WARNING**

Be sure you understand how to handle any battery you use.

- Lead-acid batteries produce hydrogen when being charged and can explode.
- Lead-acid batteries must be maintained and kept charged or they will degrade over time.
- Your battery should be in a suitable box to prevent its contacts from shorting on conductive objects, such as the aluminum parts of the box and its supports.

## Using the Battery Adapter for the K500 Controller

- The K500 Flow Controller uses 24V DC.
- You can purchase a 24V battery and connect it to the K500 following the same instructions as for the K28, simply connecting the red and black leads to the battery.
- You may also chain two 12V batteries together as shown, to get 24V.
- Connect the black and yellow connectors attached to the flow controller to the black and red connectors on the battery adapter.
- NOTE: If you connect your K500 controller to a 12V battery, you will not damage the controller, but you will have a lower flow capacity.

