**What should the Voltage be for an Electric Vehicle Wiring Harness?**

To begin, it's important to understand that there is no single correct answer for this question.

The main battery could be 350–800 volts, and some wires in the harness may have to carry that voltage. Each wire in the harness will be specified to carry some amount of current, and insulated to withstand some amount of voltage. Same for connectors on the harness. They will each be designed for specific currents and voltages.

There are two basic types of HV connectors used on EV wiring harnesses:

◆ Connectors with male pins inside a female socket (like USB) — these are called Molex or JST pinsets, and they're used for high currents and voltages. You can get them in single-row or double-row configurations. They're good for carrying everything from 12V up to 800V!

◆ Connectors that use screw terminals — these are called spade terminals and they're good for carrying 12V up to 48V only.

The only way to know what wire size you need is to know what you're going to run through it (current) and how much heat it's going to generate (voltage).

In practice, electric vehicles are built using a wire harness. A wire harness is an assembly of wires that goes from the battery to other places in the car. It is possible to use a single wire for everything, but it’s not very practical.