

## *Frequently Asked Questions*

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### 1. Can an AC-75 be installed in a front-wheel drive vehicle?

- Maybe. The problem with front-wheel drive vehicles is the clearance between the CV shaft and the end bell of the motor. The main thing that needs to be done is do your research. This website has a bunch of information that will assist with your decision making. Dimensions are listed in all of our drawings. If you still have questions, please call us. The following are known to work or not work:

1. In our 2008 Scion xB, the motor fit, but barely!
2. Newer model VW Beetle, the motor will NOT fit!

- We will add more to this list as we get more information
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### 2. When I receive my new conversion kit from HPEVS, do I need to set-up the controller?

- No, the controller will come to you already pre-programmed with the software that will be needed to run your vehicle. The system is basically a plug and play system.

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3. How many Lithium Ion Phosphate battery cells in series can I use with my conversion based on the controller voltage?

- The number of lithium ion cells that can be used with our systems is limited by the Curtis controller. The controllers can only handle a certain amount of voltage and if the voltage exceeds that limit, the controller will go into a cutback situation. With that being said, the amount of lithium ion cells that can be used with the different controllers we sell are:
  1. 72 volt systems: 28 cells maximum
  2. 96 volts systems: 36 cells maximum
  3. 144 volt systems: 48 cells maximum

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4. What is a 3-phase AC induction motor?

- An induction or asynchronous motor is a type of AC motor where power is supplied to the rotor by means of electromagnetic induction, rather than a commutator or slip rings as in other types of motor. A 3 phase induction motor has a simple design, inherently high starting torque, and high efficiency.

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5. What is an electric vehicle(EV)?

- An EV (electric vehicle) is a motor vehicle propelled exclusively by electricity. While generally used in reference to electric powered automobiles, a great many non-road going vehicles including forklifts, burden carriers, and golf carts are electric powered. As an extreme example even the Lunar Rover used by the astronauts on the moon would be considered an EV.

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6. What is Regen?

- Regen is short for regenerative braking. This basically is a system by which the energy of a decelerating EV is harnessed, either by using the drive motor as a generator, or by driving a separate generator. The electricity created by this process is fed back into the drive battery pack, restoring some of the charge. Regenerative braking seldom has a significant effect on overall range, but it does improve driveability, and reduces brake wear. Most AC drive electric vehicles include this feature, but it is only rarely found on DC drive EV's.

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## 7. What type of contactor should I use?

- You should use the Tyco LEV-200.

DO NOT USE THE TYCO SERIES EV-200 CONTACTORS. These have a PWM economizer board on them and the motor controller's PWM output will interfere with the circuit resulting in the contactor not closing.

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## 8. How much does it cost to convert an engine driven automobile to EV?

- Conversions have been done for less than 5000USD, but that is not the norm. As with many aspects of conversion, what you want from the vehicle affects the cost.

A high performance EV needs a controller that can put a lot of amps into the motor for high torque, and a high voltage battery pack for high speed. The need for high current leads to the selection of advanced AGM batteries, which in turn drives the requirement for sophisticated charging and battery balancing technology. Each of these selections drives up the cost.

An EV for everyday use runs the middle of the road. Depending once again on how many features are designed into it, these conversions can cost from 6000 to 10,000 not including the cost of the base vehicle.

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## 9. Do higher speeds affect range?

- YES. The faster you go with a gas-powered vehicle, the more gas you will use. It's the same with a battery-powered vehicle.
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## 10. How do I decipher the error codes from the controller's LED display?

- You can find information on this website about what the flashing LED lights on the controller mean. Follow this [link](#) to the pages containing information on how to read the flashing LED's and the corresponding error codes.
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## 11. I have an issue that when I depress the throttle for my car or motorcycle, the vehicle is hesitant to move and jerky. What is happening?

- More than likely the problem is with how the controller is programmed in relationship to the throttle type that you received. Unless otherwise specified, the controller will be programmed for a throttle type 3, 2-wire, 0-5K ohm potentiometer such as the Curtis PB-6. This only pertains to auto and motorcycle conversions.