Requirements for level 2 charger

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As a new electric vehicle (EV) owner, you"ve most likely realized that the Level 1 charger (charging cord) delivered to your car is too slow for daily use and not convenient for travel. But driving to a faster public EV charging station can be inconvenient, charging rates are often higher, and waiting lines for charging can be long. So what is the solution? Installing a Level 2 charging station in your home is often the best option and will allow you to fully enjoy the electric driving experience.

Level 2 chargers offer better speeds than Level 1 chargers and are more convenient than public charging stations. But installation requirements of a Level 2 charger can leave homeowners wondering if at-home EV charger installation is the best option for them.

While at-home charging with a Level 2 station is a realistic solution, the installation process might entail a few electrical upgrades to your home depending on the age of your home, current electrical needs, and existing electrical infrastructure.

Learn more about how many amps are needed for Level 2 at-home EV charging and what it takes to upgrade your home with an EV charging solution in our latest electrification article.

Level 2 chargers are available in models that deliver from 15 to 80 Amps. The higher the amperage the faster the charging, but expect 4 to 10 hours of continuous usage to recharge your EV battery.

A Level 2 charger will also require a dedicated 240-volt circuit.

A licensed electrician will install a dedicated 240V circuit rated for the amperage setting of your charger and will ensure the appropriate wires are used and all code requirements are met. Your home may already have this level of service if you have an electric clothes dryer. While utilizing an existing dryer outlet may seem sufficient, there are safety concerns due to the extended time required to charge your EV as well as the need for commercial-grade 240-volt wiring devices that make clothes dryer outlets unsuitable for EV charging.

Simply put, while an outlet designed for a dryer may work for a short-term charging need, it is not designed to safely provide the continuous, high-powered energy needed for routinely charging an electric vehicle.

Breakers protect your electrical circuits from overloads and short circuits by interrupting the circuit in case of a malfunction.

For safety reasons, a circuit"s continuous load shouldn"t exceed 80% of a breaker"s capacity, which means the

breaker should exceed the circuit"s amperage by 20%. For instance, for a Level 2 EV charging circuit designed to handle 80 amps, an electrician should install a 100-amp breaker.

A Level EV 2 charger represents a continuous load of up to 80 amps. In the U.S., most homes run on 100 or 200-amp service. Some older homes still run on 60-amp service, requiring a panel upgrade to charge an EV or provide enough power for other electrical upgrades such as an electric dryer, range, or even central heating and cooling.

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