Ev charging levels chart

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In the past several years, electric vehicles have exploded in popularity. More and more manufacturers have begun ramping up the production of EVs in order to get them into the hands of more drivers.

But with that said, regular consumers and business owners may still be confused about how they can charge their EVs, and how all those charging levels work. In this guide from Electrly, we"ll be going over the different EV chargers and EV charging levels, how quickly each type will charge your electric vehicle, as well as their technical details.

Level 1 charger generally have two different connector types: Tesla connectors, and J1772 (or "J" plugs) for all vehicles other than Teslas. For most Tesla owners in the US, that one connector port on your vehicle will support all Tesla charging protocols from Level 1 up to Level 3.

Level 1 EV charging may be a good fit for drivers who don"t drive a lot on a daily basis, are able to charge their EVs at home, or happen to drive a plug-in hybrid (PHEV) that features batteries with relatively smaller capacities that are easier to fully charge.

Level 2 EV charging is a significant upgrade over Level 1 EV charging, as this charging utilizes a 208-volt to 240-volt AC outlet in North America, or a 230-volt (single phrase) or 400-volt (three phrases) outlet in Europe. In North America, Level 2 charging will charge your EV up to 19.2 kW, and 22 kW in Europe which ranges anywhere from 10 to 75 miles per hour (or 16-120 kilometers per hour) depending on the vehicle"s maximum acceptable charge rate.

Similar to Level 1 EV charging, the connectors used for Level 2 charging are either Tesla connectors or J1772 connectors. Almost all of the EV charging stations outside of Tesla brands in the US are now equipped with the J1772 standard charging connector.

Level 2 charging is the most commonly used charger type for daily EV charging, as it"s a perfect middle-ground charging solution for most drivers. Level 2 chargers can be easily installed at one"s home, but are also found in shopping areas, workplaces, universities, and various public places.

Even if the car battery is near-empty, charging it with a Level 2 charger overnight usually allows the vehicle to be ready to drive the next morning. The Level 2 charger is arguably the best value for money choice for EV owners who drive longer distances regularly and need a more reliable and faster EV charger.

Also known as DC fast charging, Level 3 charging is by far the fastest charging speed. Compared to Level 2 EV charging, a Level 3 charging station can deliver up to 360 kW of power, through the utilization of 480-volt or 400-volt chargers in North America and Europe, respectively.

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Level 3 EV charging utilizes different connectors than Level 1 and Level 2 chargers - the majority of EVs in the US market are using Combined Charging System (CCS) standard plug for DC fast charging, while most Japan-made EVs use CHAdeMO standard connectors. Additionally, vehicles manufactured by Tesla utilize the company"s proprietary charger connectors, which they call Superchargers.

Most Level 3 DC charging is done at paid public charging stations, car dealerships, highway charging stations, or the Tesla Supercharger network. Other places available for DC fast charging will be large-scale and highly centralized charging stations that serve logistic hubs, distribution centers, or public transportation fleets.

Because of the ridiculously high cost of installing a Level 3 charging station along with the required high voltage and potential safety issues for residential uses, homeowners will typically not install DC fast charging in their own homes.

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