

ONE PLUG TO RULE THEM ALL: UNIFYING ELECTRIC CAR FAST CHARGE SYSTEMS

The dream of gasoline freedom is becoming a reality as electric cars are slowly filling showrooms and attracting a lot of customers. The Nissan Leaf, for example, has its sales reaching 10,000 as of August this year. Other manufactures like Mitsubishi, Porsche and Audi are poised to join in. Greener cars are indeed hitting the mainstream with one thing dragging their progress: a standard charger plug.



The problem with the older charging systems of electric cars was the amount of time needed to charge one. The Level 1 Charging, as it is called, plugs the car into a 120 volt power. Hybrid cars can use it for overnight charging but for a pure electric car like the Nissan Leaf, it would take 20 hours to fully charge its battery. A second level has been made using a 240 volt power supply which can fill up a Leaf within eight hours.

Users though are still are not satisfied with an eight-hour wait on charging. This was addressed with the direct current fast charging system developed by Japanese car manufacturers and Tokyo Electric Power Company (TEPCO). The system which is named CHAdeMO can deliver 62.5 kilowatts of high-voltage direct current and can refill a Nissan Leaf to 80 percent of its capacity in only half an hour. Interestingly, CHAdeMO is a pun for a Japanese term that means “How about some tea while charging?”

Level 1 and Level 2 charging systems has the connectors standard SAE J1772 but none has been named for the CHAdeMO. Instead it uses a separate connector and is not compatible with older levels. It is incorrectly called a Level 3 charging system as Magne Charge claimed that title years ago but was discontinued because of its inefficiency being an inductive charger.

The CHAdeMO is poised to become a global standard for DC Fast Charging Systems. 532 charging systems have been installed in Japan and 17 are available in the U.S. Something is coming though that may alter its fate.

Daimler made a statement last October 11 of this year that they will be showcasing a prototype combination plug and port that will be used by hybrid cars and pure electric vehicles. The system is a joint effort by other car manufacturing giants such as Audi, BMW, Porsche, and Volkswagen. This has been the clearest indication that European automakers are not favoring the CHAdeMO. Instead they are considering the standard proposed by SAE International.

Source: <http://earthandindustry.com/2011/11/one-plug-to-rule-them-all-unifying-fast-charge-systems/>