# NACS CONNECTOR FAQ

In 2023, several automakers and EV charging companies announced support for the North American Charging Standard (NACS), the connector type most associated with Tesla.

# FAQs

### What is the NACS connector and who can use it?

NACS is an EV charging connector type developed by Tesla and opened for use to other manufacturers in 2022. It is not yet considered an industry standard, but is currently under review with the Society of Automotive Engineers (SAE). As of late 2023, only certain Tesla vehicles can charge with a NACS connector, and some Tesla's may require an update in order to fast charge on NACS. Several automakers have announced plans to release vehicles supporting this connector starting in 2025, replacing their existing CCS ports and connectors.

### What is CCS and who can use it?

The "Combined Charging System" (CCS) is a standardized EV charging protocol that enables AC and DC charging using a single connector. It was developed by the Charging Interface Initiative (CharIN), a global consortium of EV manufacturers and suppliers, and certified by SAE.

The CCS protocol supports charging power levels from 3.7 to 500 kW, depending on the capabilities of the EV and the charging station. This allows for a wide range of charging speeds.

Currently, most non-Tesla EVs in North America use the CCS connector for DC fast charging.

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## What about CHAdeMO?

CHAdeMO is a DC fast charging standard that has been used by some automakers in Asia. The CHAdeMO connector is available on ChargePoint Express stations.

## Can Tesla's use other charging stations?

Even if a particular station does not currently have Tesla-compatible NACS connectors, Tesla drivers can still use it to charge their vehicles conveniently:

- All publicly available AC stations are equipped with J1772 connectors, and drivers can use them with the adapter provided with every new Tesla vehicle.
- On DC stations, Tesla drivers can use adapters to connect their vehicles to a CCS1 connector. These adapters are available from many vendors, including Tesla. Some vehicles may require an update to use adapters.

## Does FSG offer the NACS connector?

Yes, FSG offers many stations with optional NACS connectors.
It is up to each site owner and administrator to decide what connectors to offer. We're constantly working with all our customers, partners and drivers to build the best charging network for all.

## Which stations are available with NACS connectors?

Yes. To lower repair and maintenance costs, most charging stations FSG sells offer cable modularity so station owners can replace, repair or exchange charging cables and connectors, including NACS connectors as needed. Customers will be able to place orders for a NACS cable retrofit kits in 2024.

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The CCS connector uses the J1772 charging inlet, and adds two more pins below. It "combines" the J1772 connector with the high speed charging pins, which is how it got its name. CCS is the accepted standard in North America, and was developed and endorsed by the Society of Automotive Engineers (SAE). Just about every automaker today has agreed to use the CCS standard in North America, including: General Motors (all divisions), Ford, Chrysler, Dodge, Jeep, BMW, Mercedes, Volkswagen, Audi, Porsche, Honda, Kia, Fiat, Hyundai, Volvo, smart, MINI, Jaguar Land Rover, Bentley, Rolls Royce and others.

CHAdeMo was developed by the Japanese utility Tepco. It is the official standard in Japan, and virtually all DC fast chargers in Japan use a CHAdeMO connector. It's different in North America, where the only manufacturers currently selling electric vehicles that use the CHAdeMO connector are Nissan and Mitsubishi. The Nissan LEAF and the Mitsubishi Outlander PHEV are the only electric vehicles that use the CHAdeMO EV charging connector type. In 2018, Kia abandoned CHAdeMO and now offers CCS. Unlike the CCS system, CHAdeMO connectors do not share part of the connector with the J1772 inlet, so they require an additional ChadeMO inlet on the car. This necessitates a larger charge port area, to accommodate two separate charging sockets.

Tesla uses the same connector for level 1, level 2 and DC fast charge. It's a proprietary Tesla connector that accepts all voltage, so there's no need to have a different connector specifically for DC fast charge, as the other standards require. Only Tesla vehicles can use their DC fast chargers, called Superchargers. Tesla installed and maintains these stations, and they are for the exclusive use of Tesla customers. Even with an adapter cable, it would not be possible to charge a non-tesla EV at a Tesla Supercharger station. That's because there is an authentication process that identifies the vehicle as a Tesla before it grants access to the power.