

Pacific Gas and Electric Company

EV Charge Network Hardware & Software Guide



Together, Building
a Better California

How to use this guide

This guide was developed to help EV Charge Network program participants understand the basics of EV charging equipment available through the program's approved vendors. Pacific Gas and Electric Company (PG&E) does not offer preferences or recommendations for any of the approved program vendors, and program participants are responsible for determining the suitability of these products and services. This is general guidance; for more specifics, consult with individual vendors and advisors.

Hardware features

Required hardware features for EV Charge Network:

- Chargers are commercial-grade, Level 2 chargers
- Chargers are able to charge any EV with the SAE J-1772 coupler (North American standard)
- Chargers are rated for outdoor usage
- Chargers are network-ready (OCPP 1.5 or later)
- Chargers are ADA compliant
- Chargers include a 3-year warranty covering parts and labor

All charger hardware offered by approved program vendors through the EV Charge Network program meets these requirements.

Additional commonly available hardware features:

Mounting options:

- Wall units mount directly to a wall adjacent to the parking space
- Pole units mount on a pole or bollard that is installed adjacent to the parking space (frequently, units configured for wall mounting can also be pole-mounted)
- Pedestal units are stand-alone and mount directly to a concrete pad that is installed adjacent to the parking space

Display:

- Some chargers employ a screen display for driver interface; other units don't have a screen, and instead drivers interface with a smartphone app
- Common types of screen technology are LED (light-emitting diode) and LCD (liquid-crystal display)

Cables:

- Some chargers use automatic retractors (such as pulley systems or reels) to keep charging cables out of the way when not in use
- Cables come in different lengths; some chargers come with longer cables as a standard or optional feature

Ports:

- Chargers commonly offer either one or two charging ports, and can deliver electricity to either one or two cars (in some cases, two single-port units can be installed on the same pole to serve two parking spaces)
- Locking ports may be an option, which require the EV driver to initiate a payment cycle before removing the charging port from the charger unit

Configuration:

Gateway charger aggregating non-gateway chargers



External gateway aggregating non-gateway chargers



Standalone chargers



Hardware is typically configured similarly to one of the models above. For a 10-port installation, the configuration may affect hardware prices or project design.

Theft and vandalism deterrence:

- Chargers may include features to deter or prevent theft or vandalism of the unit

Hardware repairs and replacement:

- Protections beyond the mandatory 3-year warranty are subject to negotiation between the program participant and vendor, and costs outside the warranty are the program participant's responsibility

Branding:

- Advertising or information sharing opportunities may be available on the charging station

Software features

Required software features for EV Charge Network:

- Software is able to control, operate, communicate, diagnose and capture data
- Software is capable of tracking usage, collecting data, billing customers and managing electrical loads
- Software is able to receive a demand response signal from the utility (OpenADR 2.0b)
- Software accommodates multiple types of payment options, which could include credit card, RFID, QR code, mobile payment app, Apple/Android Pay, 1-800 number, etc.

All charger software offered by approved program vendors through the EV Charge Network program meets these requirements.

Additional commonly available software features:

Load management capabilities:

- Some software provides the ability to dynamically share existing power across charging stations to charge more vehicles, while using the full electricity capacity of the grid connection

Charging prices:

- Some software provides the ability to modify charging costs by customer and save the rates as defaults

Additional requirements

All approved program vendors through the EV Charge Network program are able to serve PG&E's entire service territory, and all vendors have installed and operated chargers in the United States for at least three years.