

SMARTPOWER WHITEPAPER

SmartPower™

EverCharge's proprietary SmartPower technology allocates available power, maximizing building capacity to charge significantly more vehicles before costly infrastructure upgrades are needed. SmartPower is UL listed and supports single-phase and three-phase systems.

Overview

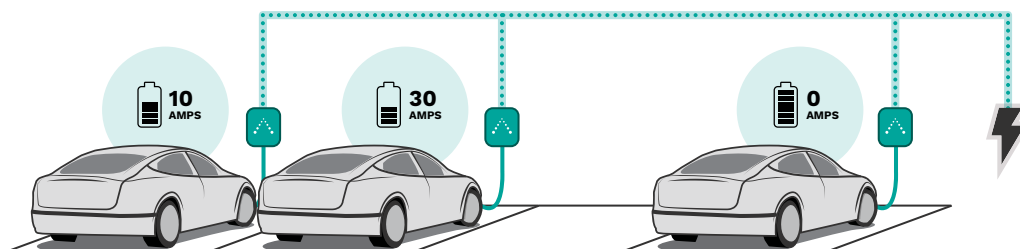
Limited power is the principal barrier in providing charging for multi-family garages. Costs to make additional power available for charging, if at all possible, are prohibitively expensive and only support a small number of EV drivers with traditional charging options.

EverCharge's patented technology overcomes this inherent problem by intelligently managing available power to provide up to 10 times the number of chargers. Equipped with EverCharge, buildings make dedicated EV charging possible with ability to scale as demand increases.

Dedicated Home Charging

Convenient overnight home charging makes the whole EV experience work. Without it, the hunt for an unoccupied public charger becomes a constant activity. It is typical for potential EV owners not to buy an EV if home charging is not possible.

To provide the convenience of home charging, the EV driver needs a dedicated charger in their own parking space and they need enough power to have a fully charged vehicle when they depart. By managing power and lowering install costs, EverCharge provides the ability to have a dedicated charger in the driver's own parking space and with that comes the convenience of home charging.



Intelligent Learning

As a data-driven company, EverCharge analyzes building demographics and driving behaviors to advise on the number of vehicles the infrastructure can support using SmartPower. EverCharge will never allow a building to dilute power to a level that will not provide sufficient levels of charge and performance. On average, drivers only need 2-3 hours of charging per day (40-60 miles) and residents come in at varied times, offering us a wide window to fully charge vehicles.

The SmartPower algorithm is driven by several factors: when the driver arrives and the history of the driver's charging needs. All factors get turned into a numerical weight. Over time, the available power is distributed based on this weighted value. Additionally, electrical vehicles don't have linear charging patterns. This enables the system to identify when a vehicle is reaching maximum charge and reallocate the unused power accordingly.

Lower Installation Costs

EverCharge designs infrastructure layouts to meet each of our customer's needs while leveraging our technology. Traditional charging solutions require dedicated and metered runs from the main electrical panel. EverCharge uses technology embedded in our chargers to monitor electricity usage to manage customer billing and the reimbursement to the building without the need for meters or submeters.

This enables EverCharge to tap into the nearest source of community power, significantly reducing the length of the conduit run and the subsequent cost of the install. For further savings, multiple chargers are able to share wire and conduit.

Safety

SmartPower is listed as compliant with UL 916 (Energy Management Equipment) and UL 2231 (Electric Vehicle Service Equipment). During installation, the system is configured with a maximum amount of power that is safely available and will limit power draw to never exceed that limit.

Individual 30-Amp chargers connect to building infrastructure via #6 AWG conductors and a 40-Amp disconnect (circuit breaker, fuse, etc) Depending on code or power requirements.

Chargers communicate with each other in the garage using a wireless network. The best way to think about SmartPower is to visualize EverCharge as one charger with many outlets.

SmartPower in Action

SmartPower provides efficient charging for all vehicles by leveraging the fact not all vehicles charge at the same moment in time and do not always require maximum draw during the course of a charging cycle.

When any vehicle finishes charging, power that was allocated to that vehicle is released and the system reallocates power accordingly. SmartPower always works to get the most vehicles charged as quickly as possible, freeing up capacity for the next driver that gets home.

EverCharge provides ongoing service to customers ensure charging performance and driver satisfaction.