



SmartPower and AC EVSE: AHJ Informational Note

Code Authority For Load Management

The EverCharge system has cUL and UL certificates and is UL listed as both Electric Vehicle Service Equipment (EVSE) **UL 2231** [[UL 2231-1 EV Supply Circuits](#)], UL 2594 [[UL 2594 Electric Vehicle Supply Equipment](#)], and Energy Management Equipment **UL 916** [[UL 916 Energy Management Equipment](#)].

EverCharge's listed load management system will enforce an upper limit of load on a system, regardless of the number of chargers installed and how many are in use. It is this load that we use for load calculations.

In NEC 2008, though electric vehicle charging is not specifically mentioned, there is a direct reference to load management:

Where a system is employed that will automatically manage the connected load, the standby source shall have a capacity sufficient to supply the maximum load that will be connected by the load management system.

By extension, fixed circuits and overcurrent protective devices shall have a capacity sufficient to supply the maximum load permitted by the load management system.

In NEC 2011, a section on electric vehicle charging was added. In *625.14 Rating*, it states:

For the purposes of this article, electric vehicle charging loads shall be considered to be continuous loads.

EverCharge takes the load allowed by the load management system, rather than individual chargers, to be the continuous load in this situation. This was clarified in TIA 11-3, which took effect on **November 8, 2011**.

In TIA 11-3, NEC 2014, and a California supplement which took effect on **July 1, 2015**, a provision was added that explicitly allows for EverCharge's system of power management:

Electric vehicle supply equipment shall have sufficient rating to supply the load served. Electric vehicle charging loads shall be considered to be continuous loads for the purposes of this article. Where an automatic load management system is used, the maximum electric vehicle supply equipment load on a service and feeder shall be the maximum load permitted by the automatic load management system.

In NEC 2020 section 625.42 Rating-Electric Vehicle Charging Station

The power transfer equipment shall have sufficient rating to supply the load served. Electric vehicle charging loads shall be considered to be continuous loads for the purposes of this article. Service and feeder shall be sized in accordance with the product ratings. Where an automatic load management system is used, the maximum equipment load on a service and feeder shall be the maximum load permitted by the automatic load management system.

Adjustable settings shall be permitted on fixed-in-place equipment only. If adjustments have an impact on the rating label, those changes shall be in accordance with manufacturer's instructions, and the adjusted rating shall appear with sufficient durability to withstand the environment involved on the rating label. Electric vehicle supply equipment with restricted access to an ampere adjusting means shall be permitted to have ampere ratings that are equal to the adjusted current setting. Sizing the service and feeder to match the adjusting means shall be permitted. Restricted access shall prevent the user from gaining access to the adjusting means. Restricted access shall be accomplished by at least one of the following:

- (1) A cover or door that requires the use of a tool to open***
- (2) Locked doors accessible only to qualified personnel***
- (3) Password protected commissioning software accessible only to qualified personnel***

Electrical Safety

All EverCharge EVSE are connected to a self-managed wireless mesh network in the garage, and require active approval from the network of the other EVSE before starting a charge. That approval will not be given if there is not sufficient spare power available. EverCharge EVSE will automatically manage their demand to ensure sufficient power is available before allowing another charge to start.



NOTE: Should an EVSE lose connection to the network, it will not be able to start a charge

During provisioning, before they can start charging, EVSE will be programmed with an understanding of the power distribution system at all levels, from individual EVSE sharing circuits, up to the subpanel/panel level, and any transformers, all the way up to building scale as necessary. This will ensure that demand limits will not be reached across all charging-related hardware in the building.

EverCharge AC EVSE Specifications

Description	Specifications
Voltage and Wiring	208V or 240V AC single-phase: L1, L2, and ground
Current	Maximum output: 48A (E800-1000) or 80A (E800-1001) and is controlled by an automatic load management system.
Standby Power	< 5 W
Frequency	60 Hz
Cable Length	18 feet
EV002 Dimensions	13 in x 8 in x 5 in
Weight	20 lb (9 kg)
Operating Temperature	-22°F to 122°F (-30°C to +50°C)
Storage Temperature	-40°F to 185°F (-40°C to +85°C)
Enclosure Rating	Type 3R
Agency Approvals	UL listing E511397, cUL
Ventilation	Not Required
Environment	Indoor or Outdoor
Electrical Protection	Overcurrent, short circuit, over-voltage, under-voltage, ground fault, surge protection, over temperature
Disconnect	48A: 60A overcurrent protection & 10KA interrupting rating 80A: 100A overcurrent protection & 10KA interrupting rating