

Title : SunPower Equinox™ and Tesla Powerwall 2 AC Compatibility for Mainland US Market, T17017

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Authors : Residential System Integration Team

Application : Mainland US Equinox Installations with Tesla Powerwall 2 AC storage battery systems

Overview

When SunPower AC modules are installed with Tesla storage, installers must adhere to the guidelines in this Technical Notification, which reflect intensive testing of the combined products. By following all applicable design and installation guidelines in the Tesla Powerwall manual and other documentation, SunPower Equinox and Tesla Powerwall will be compatible in the following Tesla operation modes; self-powered and backup modes. Compatibility testing done with Tesla Powerwall firmware 1.12.0.

The content of this technical notification is for 48-state US applications only. For Hawaii, refer to Technical Notification *SunPower Equinox™ and Tesla Powerwall 2 AC Compatibility – Hawaii Market*.

All system design elements must be evaluated by and completed by a professional solar designer, and must comply with AHJ and utility standards and requirements.

This notification includes:

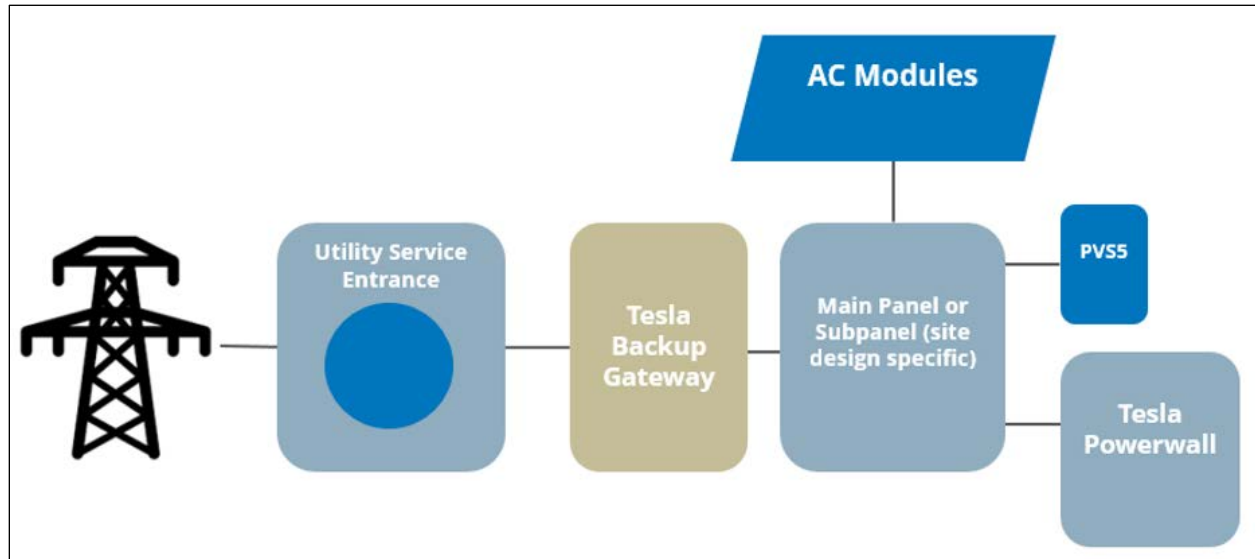
- Location of breakers for AC modules and PVS5
- Maximum number of SunPower AC modules to connect to Tesla Powerwall 2 AC
- Warning that consumption monitoring using PVS5 and current transformers (CTs) is not possible with Tesla Powerwall 2 AC

Important! SunPower Dealers are responsible for all integration and performance of systems incorporating Tesla Powerwall 2 AC and SunPower Equinox. Please contact Tesla directly for more information about becoming a certified Powerwall installer.

SunPower Technical Support scope does not include Tesla Powerwall.

AC Module and PVS5 breakers located downstream of Powerwall

Follow best practices by always landing the PVS5 circuit breaker in the same panel as the Equinox AC module circuit breakers. This will ensure robust communication between the AC modules and the PVS5. The electrical panel housing these breakers will always be downstream (on the load side) of the Tesla Backup Gateway.



Example showing the correct breaker location. Refer to Tesla documentation for Powerwall design examples and single-line diagrams.

Maximum Number of SunPower AC Modules

The Tesla Powerwall includes a bidirectional inverter with a maximum charge and discharge rating of 5 kW. When selecting the total number of AC modules to charge the Powerwall, SunPower recommends that the SunPower AC power rating never exceed 5 kW AC. While Tesla specifies a maximum AC power rating of 7.6 kW AC per Powerwall, SunPower recommends not exceeding 5 kW AC in order to charge the battery during a utility outage.

Tesla Powerwall maximum continuous power (charging)	Recommended Maximum Number of AC Modules / Array Rating	Compatible SunPower AC Modules
5 kW	15 / 4.8 kW AC	All SunPower Type D AC modules

SunPower Consumption Monitoring not possible with Powerwall

Consumption monitoring through SunPower EnergyLink™ Home relies on the home's consumption being measured through current transformers (CTs) that are installed in a location that allows the PVS5 to measure the total home energy consumption. However, when a storage battery is introduced into the home electrical system, a portion of the home consumption is typically supplied by the storage battery. **Because home loads are now supplied by the utility grid and the battery, accurate consumption monitoring through the PVS5 is not possible.**

Warning!

Do not install PVS5 consumption CTs in SunPower Equinox systems that incorporate Tesla Powerwall. Consumption data will not be correct and will result in an unacceptable monitoring experience for the customer.

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