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# Technical Notification

**Title** : SunPower Equinox™ Type E and Type G AC Modules and Tesla Powerwall 2 AC Compatibility, 533106

**Date** : May 28, 2019

**Authors** : Residential Systems Integration Team

**Application** : All Equinox Type E or Type G AC module systems installed with Tesla Powerwall 2 AC storage battery systems

## Overview

When SunPower Type E (E-Series and X-Series) and Type G (A-Series) AC modules are installed with Tesla storage, installers must adhere to the guidelines in this Technical Notification, which reflect 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 Tesla self-powered mode and in the Tesla backup mode. Compatibility testing performed with Tesla Powerwall firmware 1.12.0, and the CA Rule 21 compliant grid profile configured in the AC modules. The power line communication between the Type E and Type G modules has been tested and found to be not adversely affected by the introduction of the Powerwall into the system.

SunPower AC modules installed with Tesla storage are **now qualified for use in non-Hawaii (mainland) installations; AND in Hawaii *in non-zero export installations*.**

***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:

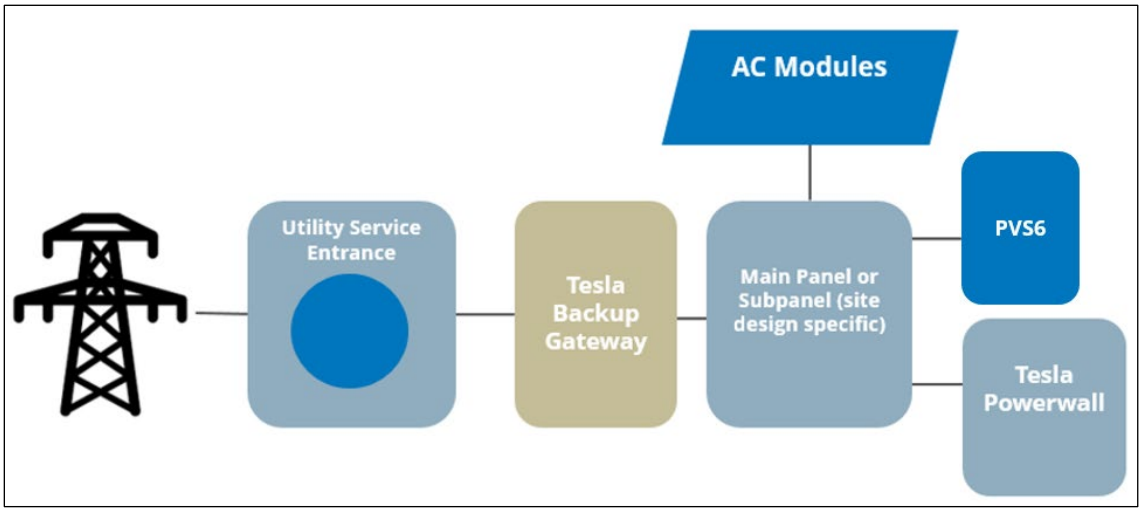
- The location of breakers for AC modules and PVS6
- The maximum number of SunPower AC modules to connect to Tesla Powerwall 2 AC
- A warning that consumption monitoring using PVS6 and current transformers (CTs) is not possible (is not accurate) when the Tesla Powerwall 2 AC is in off-grid mode; or when it is supplying load power for in-home devices.

***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 PVS6 Breakers Located Downstream of Powerwall

Follow best practices by always landing the PVS6 circuit breaker in the same panel as the Equinox AC module circuit breakers. This will ensure robust communication between the AC modules and the PVS6. 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 Type E and Type G AC modules to charge the Powerwall, SunPower recommends that the 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 | Type E<br>(e.g. SPR-X22-370-**E**-AC) |
| | **14** / 4.9 kW AC | Type G<br>(e.g. SPR-A425-**G**-AC) |

## 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 PVS6 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 PVS6 is not possible when the Tesla Powerwall is providing power to loads.**

***Warning!***

**Do not install PVS6 consumption CTs in SunPower Equinox systems that incorporate Tesla Powerwall configured to supply energy to the home in on-grid mode. Consumption data will not be correct and will result in an unacceptable monitoring experience for the customer.**

If you have any questions please contact your RSM; or SunPower Technical Support at **1.855.977.7867.**

**Thank you for helping us change the way our world is powered!**