

Tesla Powerwall 3: Commissioning (INS-SOP-0233-08)



Overview

[Link to CURRENT version of this SOP](#)

This SOP describes the procedure for commissioning the Tesla Powerwall 3. Configurations include Gateway 2, Gateway 3, Backup Switch, Remote Energy Meter and Expansion unit. .

NOTE: The customer will need to download and install the Tesla Home App in order to self-register the Tesla equipment during the commissioning process.

IMPORTANT: The Tesla Powerwall 3 warranty term depends on internet connection. To secure the full 10-year warranty, equipment must be reliably connected to allow remote firmware upgrades from Tesla. If an internet connection is not established or is interrupted for an extended period, the warranty may be limited to 4 years.

This product requires certification from the equipment manufacturer.



Legend

General	
	Ensure all Arc Flash PPE is worn during the shown portion of the Installation SOP.
	This symbol indicates a safety-specific call out
	Photo or screenshot required for the Foreperson Installation Checklist (FIC).

	Pro Tip to help the installation procedure.
	Indicates to Tap on a screen or device within an application or website.

Safety Hazards		
 Health Hazard	 Explosive Hazard	 Environmental Hazard
 Acutely Toxic	 Oxidizing Hazard	 Flammable
 Pressurized Gas Hazard	 Corrosive Hazard	 Eye irritant, skin irritant, or both
See the Safety Data Sheet in the Related Documents list for additional information relating to OSHA Hazard Pictograms.		

Tools & Materials Required

Estimated Time:	30-45 minutes
Tools	• Tesla One App (latest version from Tesla.com/Teslaone)
Resources:	• Tesla Certified Installer Hotline: 1 (650) 963 - 5655

Step 1: Prepare System for Commissioning

NOTE: The QR code required for logging in to the Powerwall 3 is located on the interior of the battery, do not install the glass cover before commissioning.

All commissioning is to be done through the leader Powerwall 3. Gateways and follower PW3s will be unable to communicate with the Tesla Pros App.

1. Before beginning the commissioning process, turn on all energy storage devices, breakers, disconnects, etc.



Tesla Powerwall 3 ON/OFF Toggle



Tesla Status LED (Blue = Ready)

2. All MCIs shall be installed before commissioning the Tesla Powerwall 3 and Gateway.

NOTE: When the Powerwall 3 is turned on using the ON/OFF toggle, there will be a five minute wake up period. During this wake up period, the small LED above the Tesla LED logo will be green. Once this LED turns blue, commissioning can begin.

Step 2: Access/Update Tesla One

The Tesla Powerwall 3 shall be commissioned using the Tesla One Setup App. The commissioning app can be downloaded from [Tesla.com/Teslapros](https://tesla.com/teslapros) (or in the App Store).



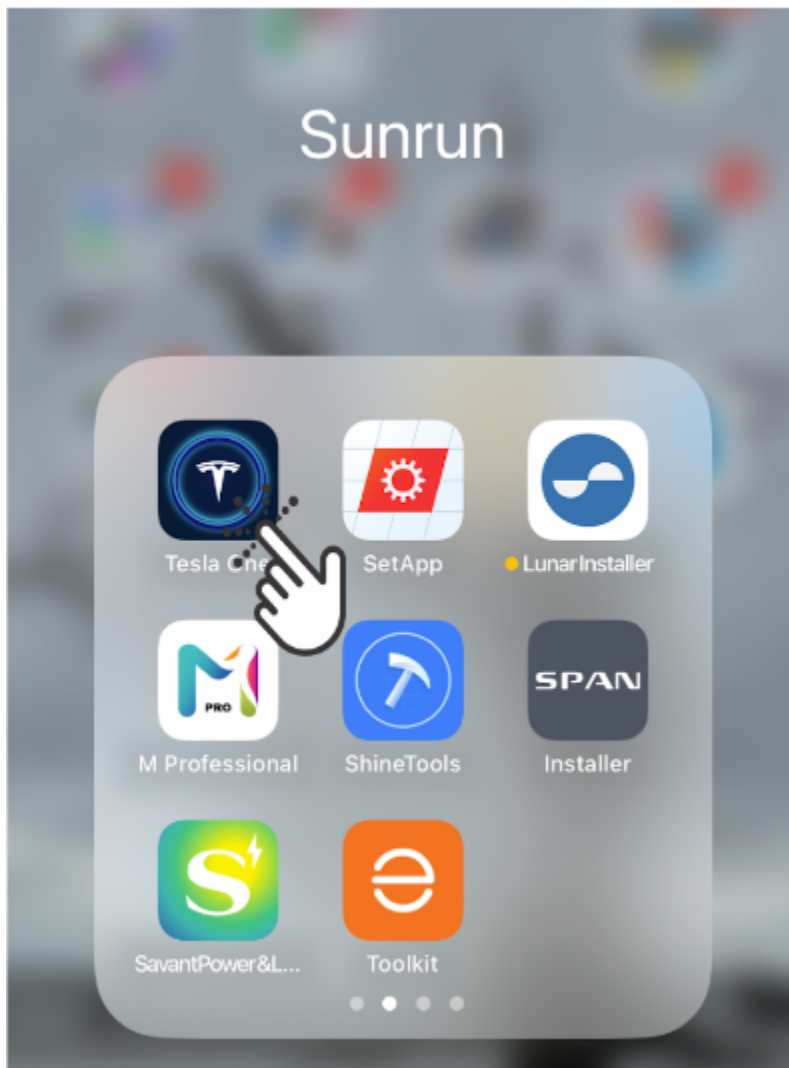
Tesla One

For employees and partners

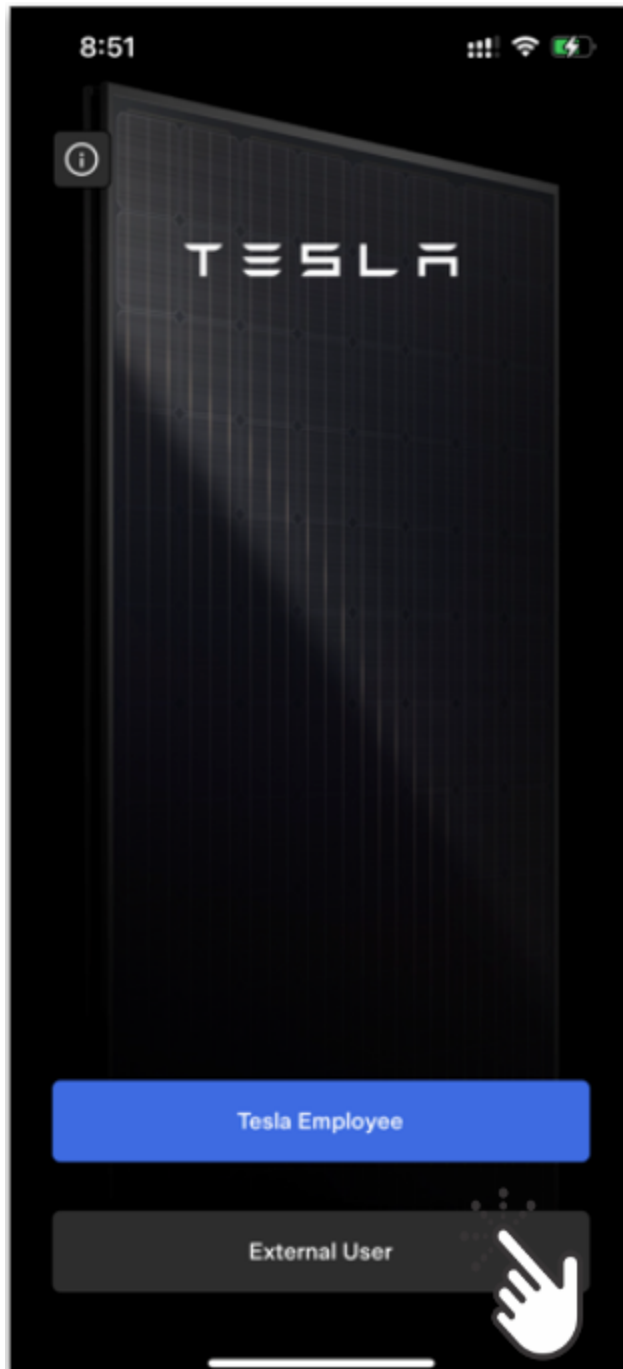
OPEN

NOTE: Do not download the Tesla Bolt App that is available in the App Store and Google Play. The Tesla Bolt App does not have commissioning functionality for certified installers.

1. Tap the **Tesla One** icon to open the app.



2. Tap **External User**



3. Enter the Tesla Partner Portal credentials associated with the installer's company email.
Tap **Sign In**.

12:50

<

TESLA

en-US

Sign In

Email Address ⓘ

exampleinstaller@sunrun.com

Password

● ● ● ● ● ●

SIGN IN

CANCEL

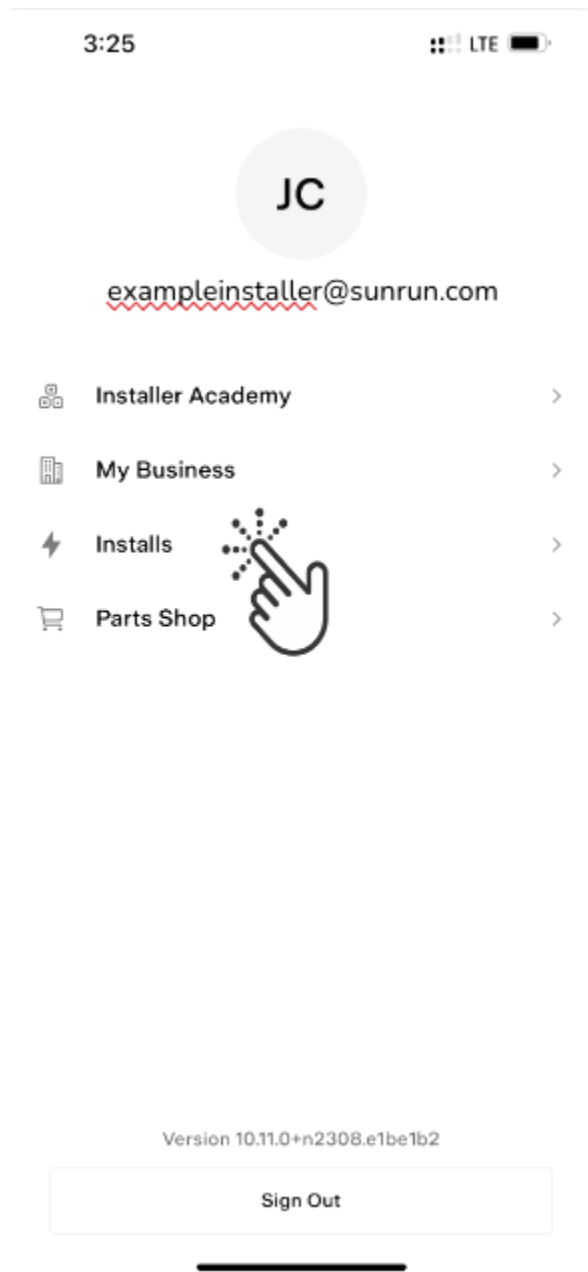
[Forgot email?](#) | [Forgot password?](#)

Tesla © 2022

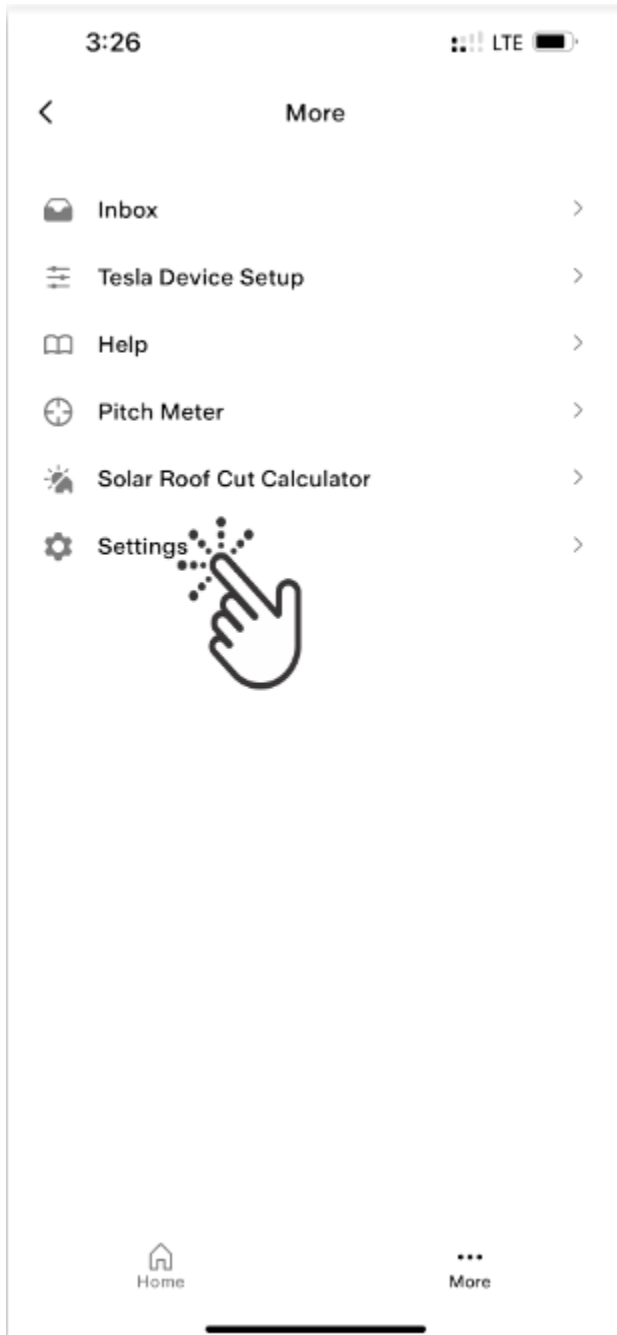
[Privacy & Legal](#) [Contact](#)

IMPORTANT: The credentials used to log into the Tesla One App are the same credentials used to log into the Tesla Partner Portal. If a username or password cannot be found, use the Forgot Email or Forgot Password options.

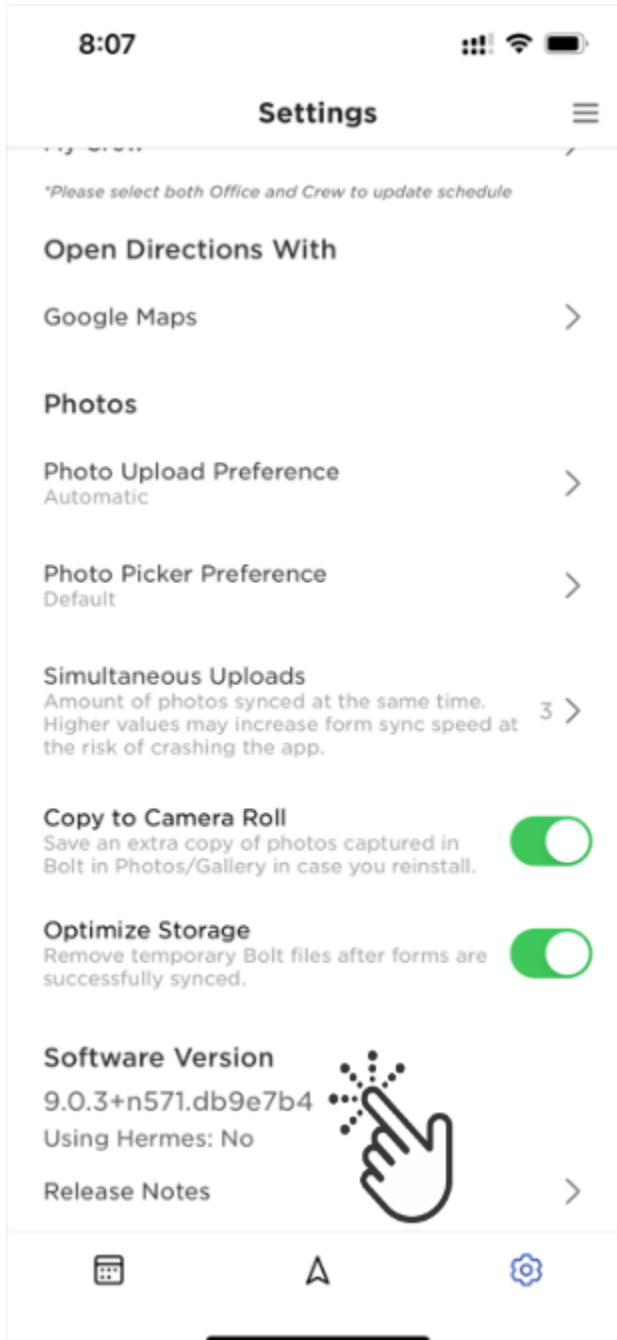
4. Tap **Installs**



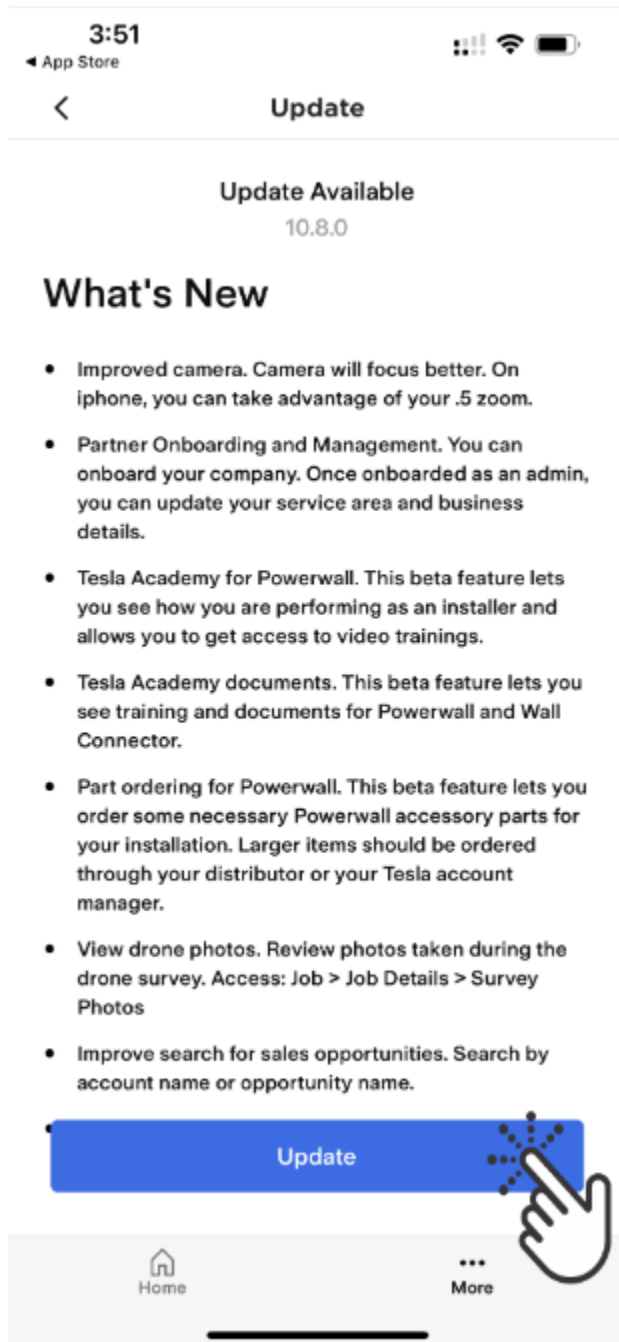
5. Tap **Settings**



6. Tap **Software Version**



7. Tap **Update**



8. If an update is available, tap **UPDATE** to initiate (or **OPEN** if up to date)

< Today



Tesla One

For employees and partners

UPDATE



40 RATINGS

3.2

★★★★☆

AGE

4+

Years Old

T

4

Business

DEVELOPER



Tesla, Inc.

What's New

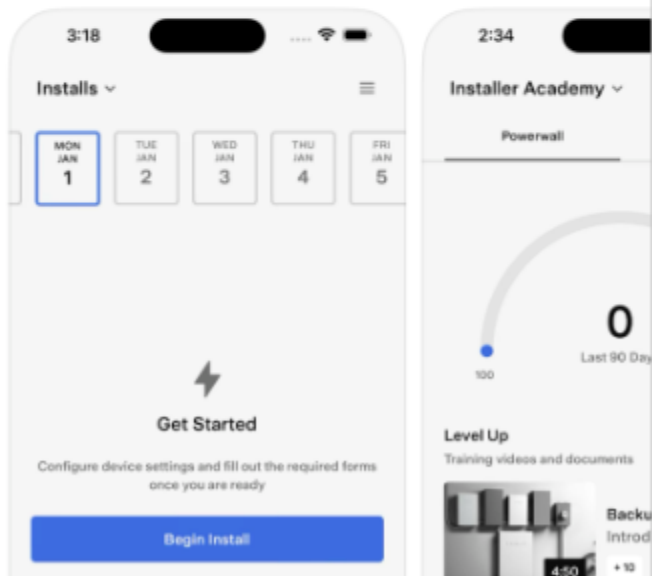
[Version History](#)

Version 12.0.0

21h ago

Bug fixes and improvements

Preview



Today



Games



Apps



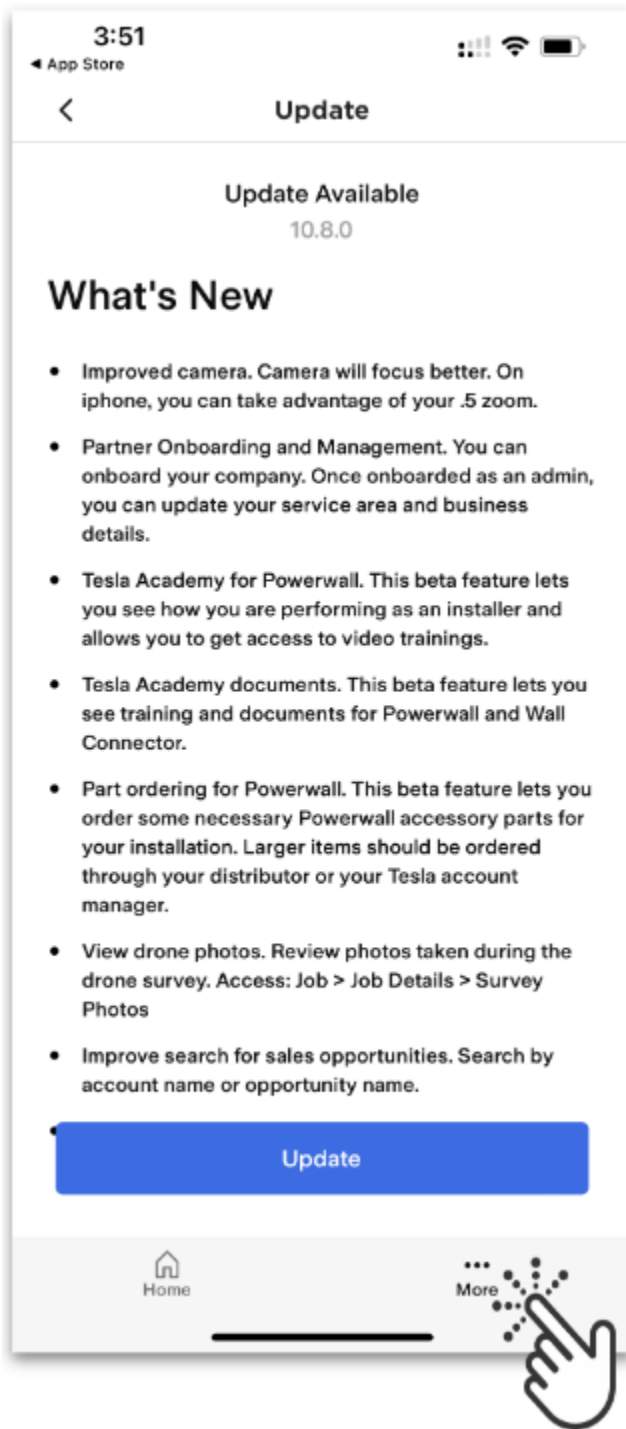
Arcade



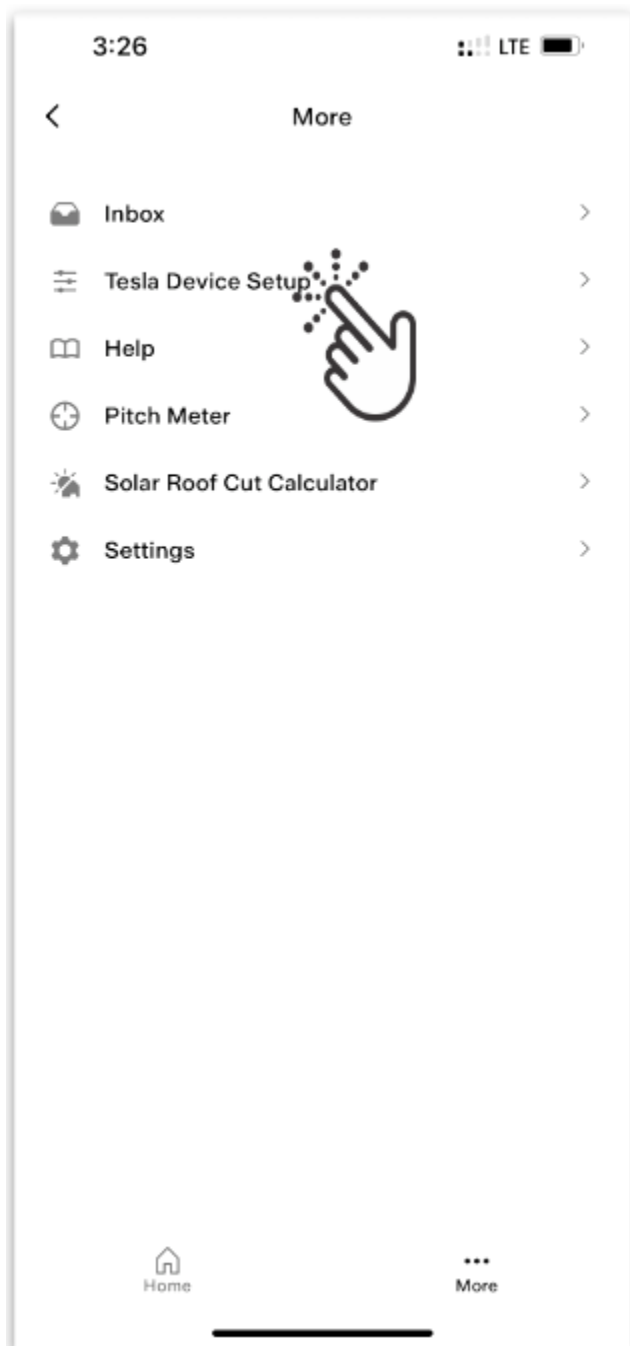
Search

Step 3: Log into the Site Controller

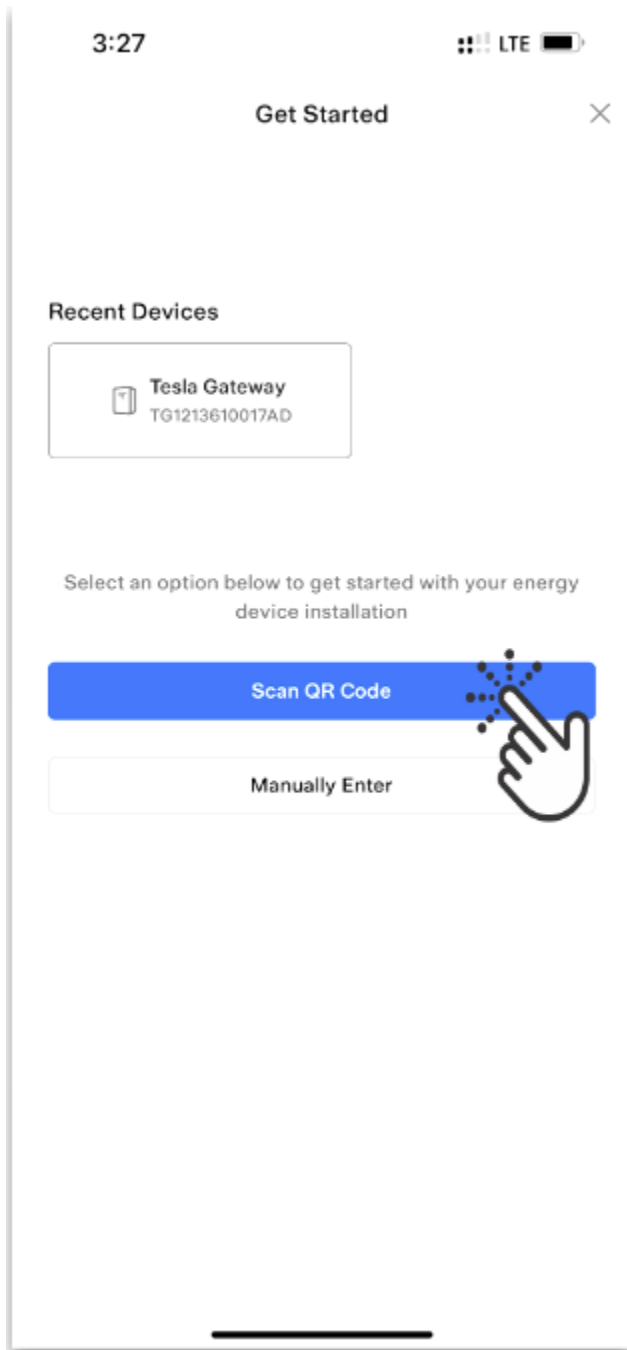
1. Tap **More**



2. Tap **Tesla Device Setup**



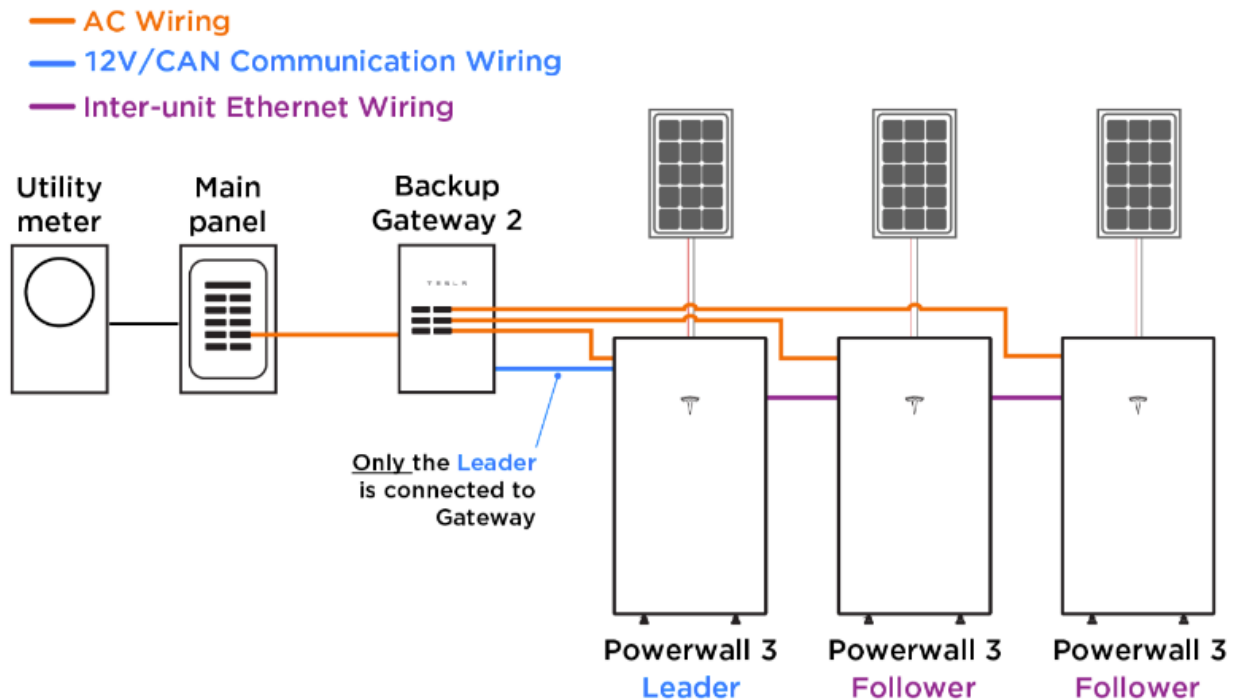
3. Tap **Scan QR Code**



NOTE: The camera on the commissioning device, mobile phone, or tablet must be accessed to use the QR scan function. Alternatively, the Site Controller commissioning information can be entered manually.

Multiple Powerwall 3 Commissioning:

1. The Powerwall 3 connected to the Backup Gateway / Backup Switch is designated as the Leader Powerwall 3.
2. Before connecting to any Powerwall 3, note which unit is the Leader; any other unit(s) are Followers.



IMPORTANT: Only the leader Powerwall 3 will be commissioned and registered, but all units must first be connected to the customer's WiFi and have the software updated to 23.44.1 or higher.

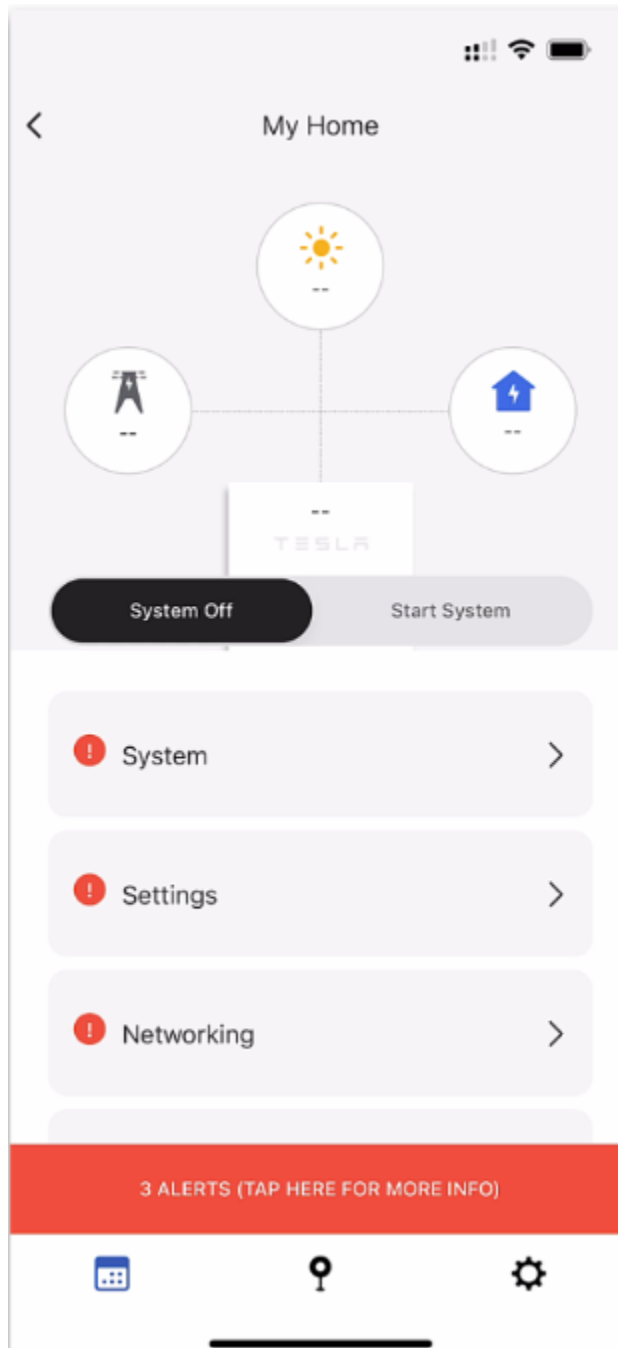
3. Complete Networking and Update Steps on both Leader and Follower units before returning to the Scan for Devices Step on the Leader Powerwall 3.
4. Using the commissioning device's camera, scan the QR Code on the PW3, located under the Tesla LED logo.



5. After the PW3 QR Code is successfully scanned, tap **Join** to pair with the site controller WiFi.



6. The commissioning landing page will automatically populate once the PW3/site controller is identified and connected.

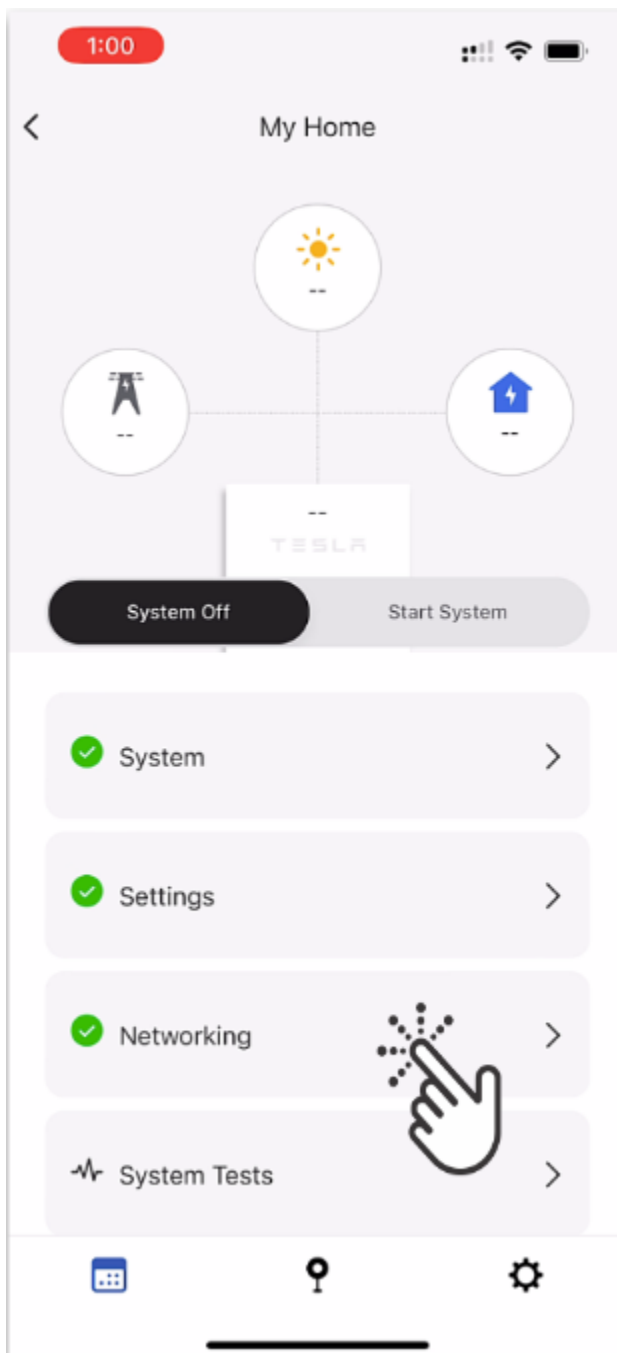


Step 4: Networking

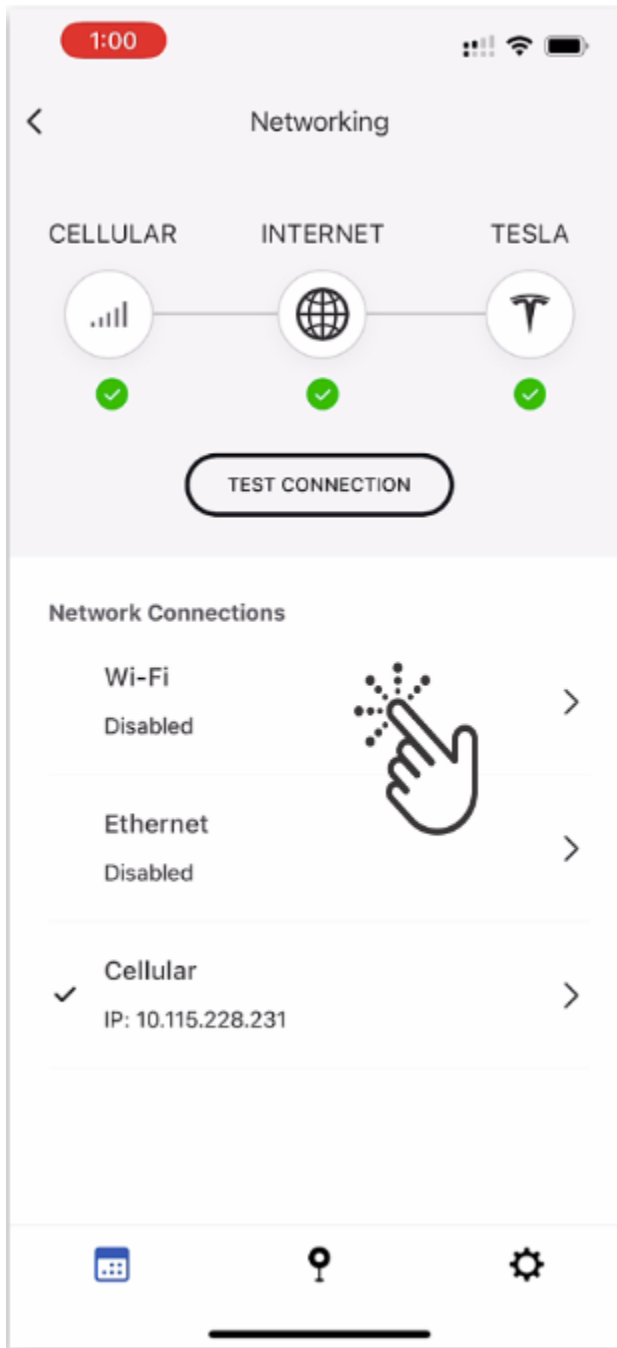
NOTE: Cellular communication is set up automatically so long as the cell signal is available.

IMPORTANT: A WiFi connection is required to uphold Tesla warranties and receive important equipment updates.

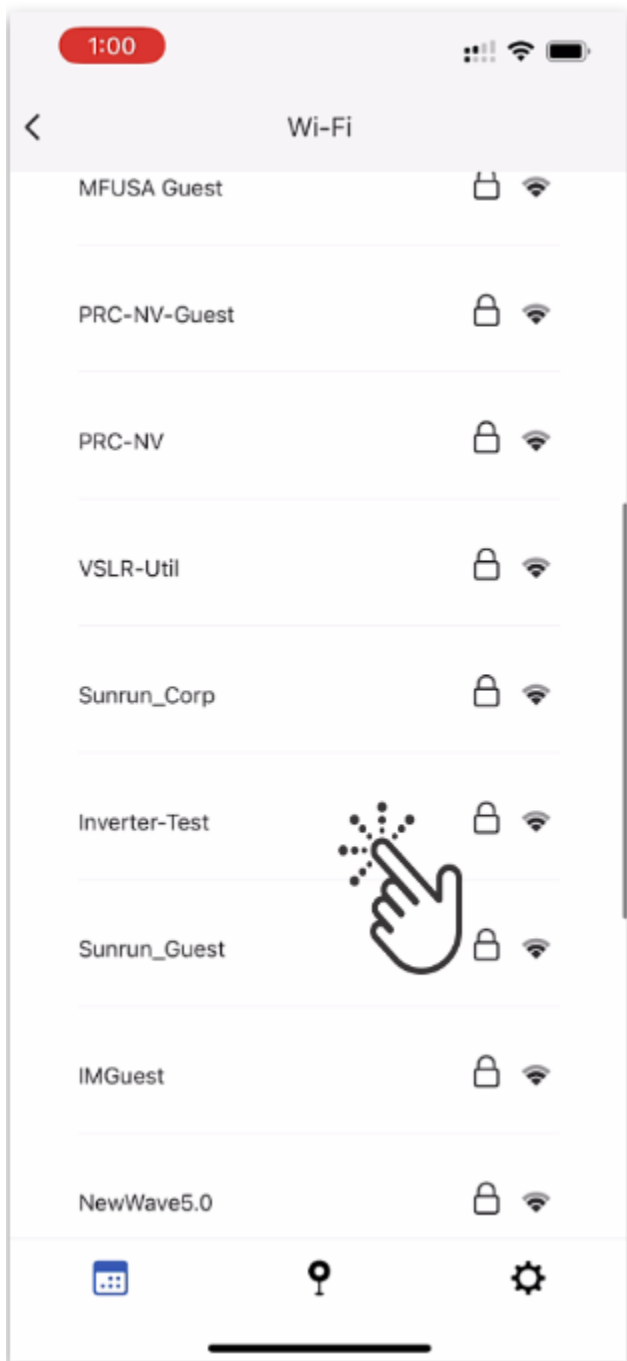
1. Tap **Networking**.



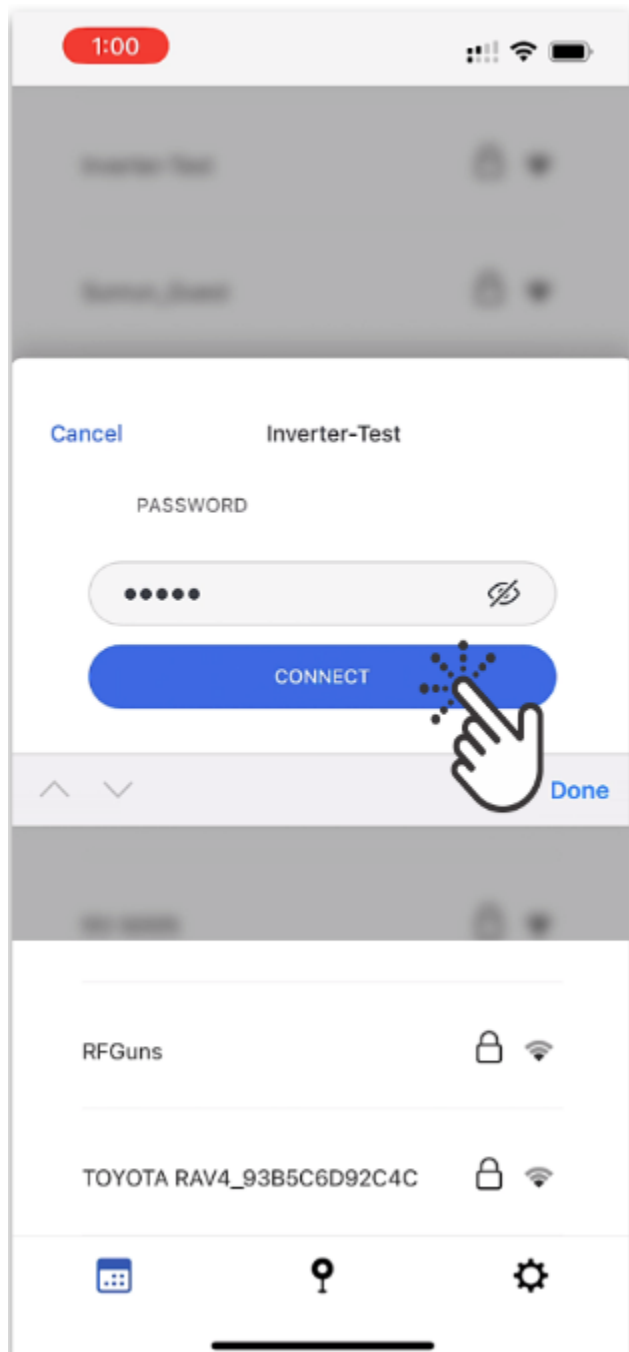
2. Tap **WiFi** to configure wireless communications



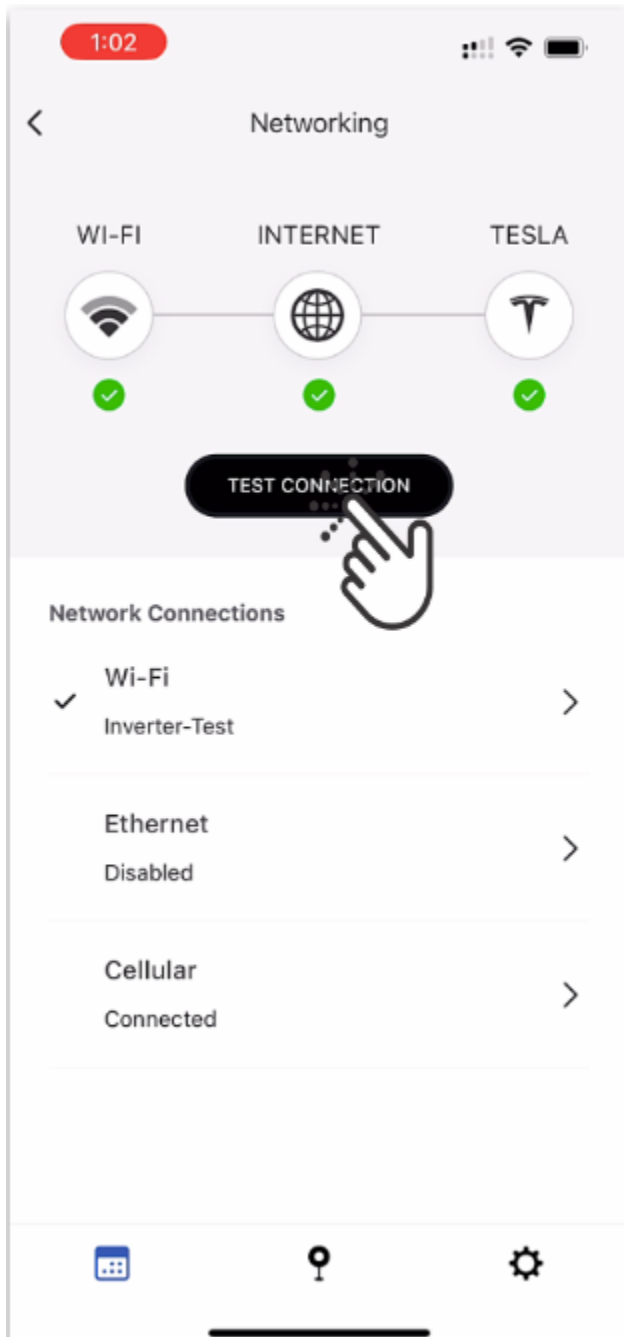
3. Tap the **Customer's Wifi**



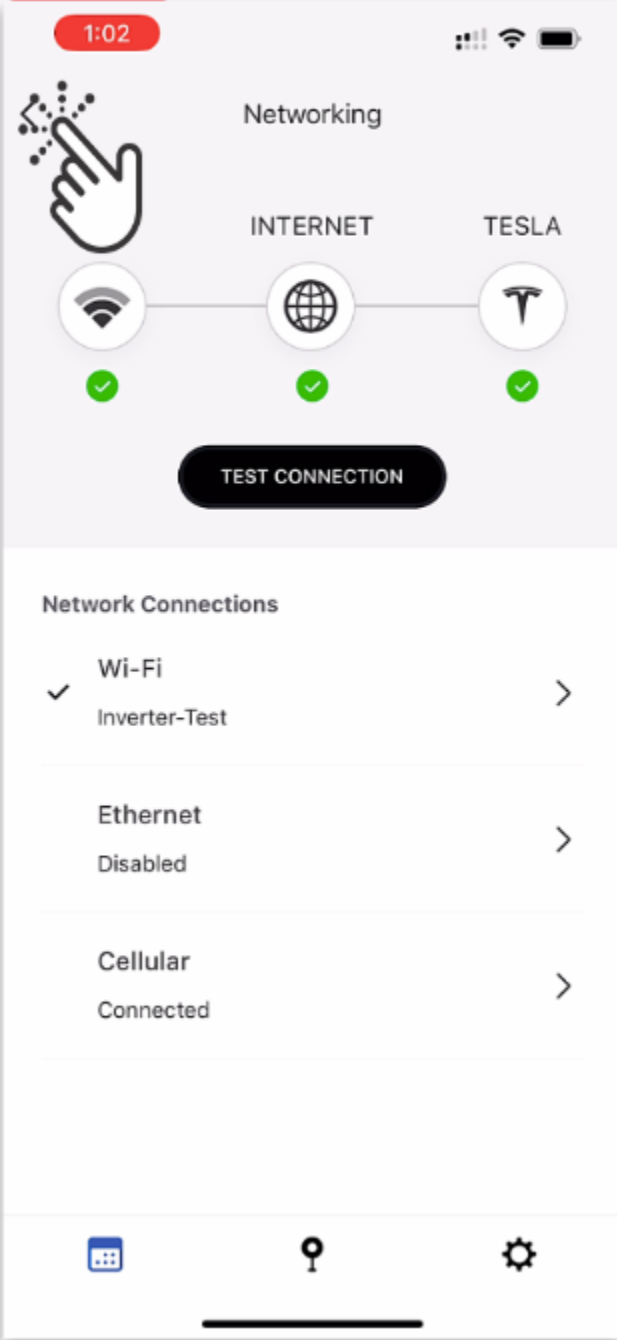
4. Enter the network password and tap **CONNECT**



5. If the connection is successful, tap **TEST CONNECTION** on the Networking home page.

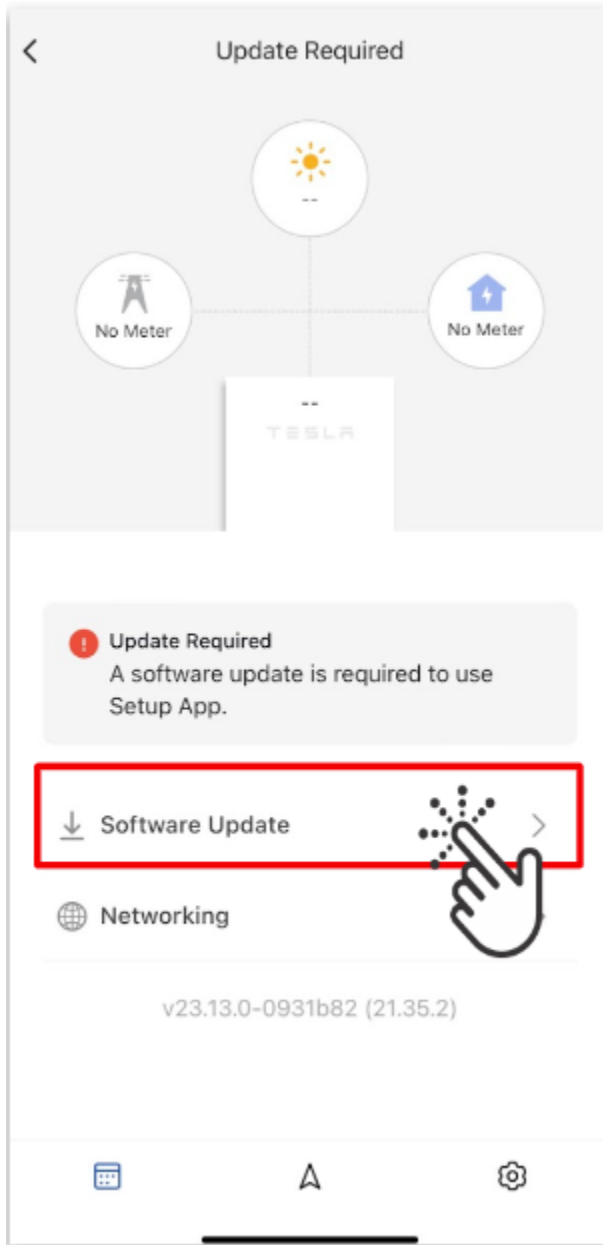


6. Tap the **Back Arrow** to return to commissioning

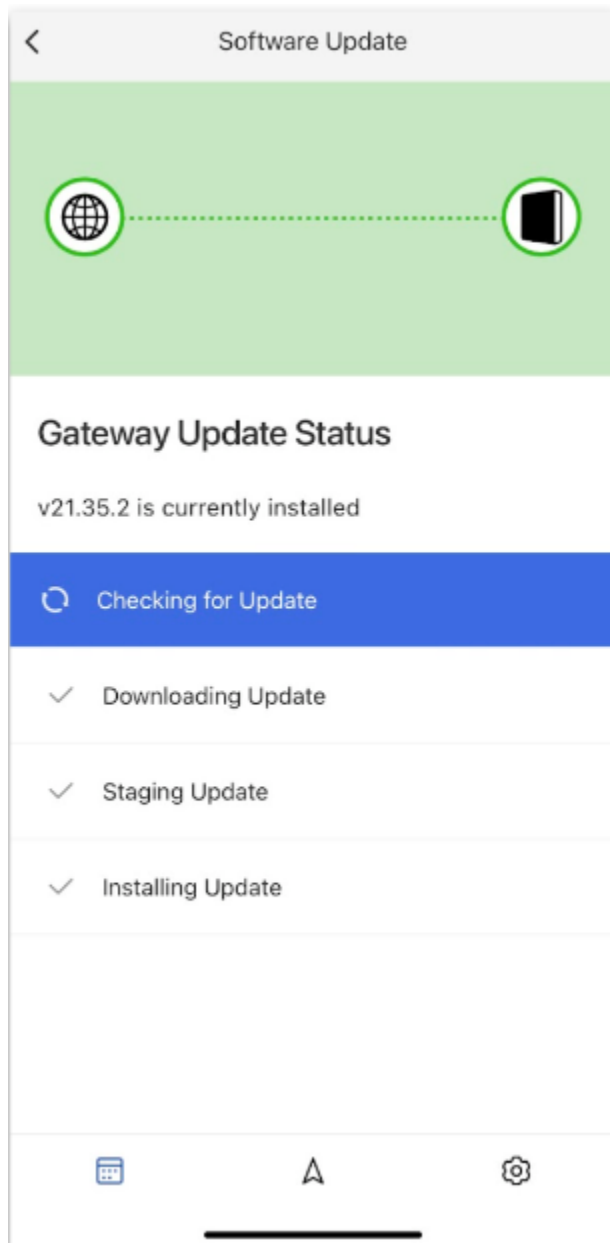


Step 5: Update Site Controller if Required

1. If a Site Controller update is required or available, tap **Software Update**.



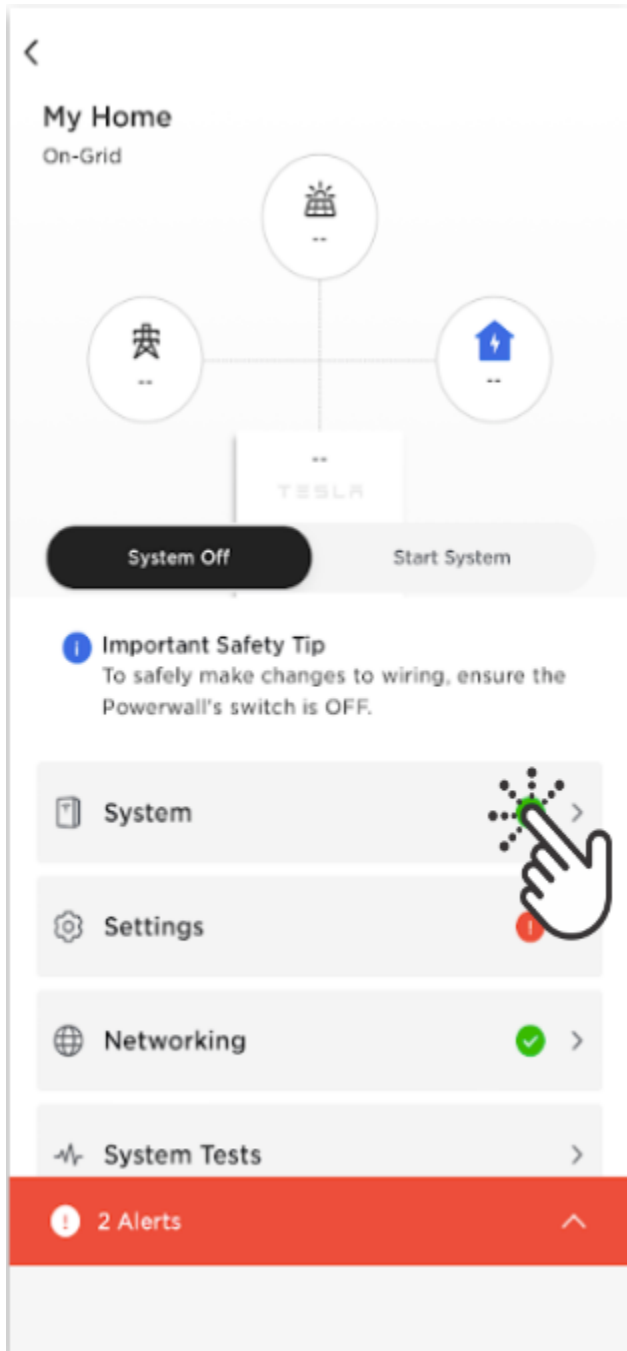
- The Pros App will begin downloading the latest version of Site Controller/Gateway firmware.



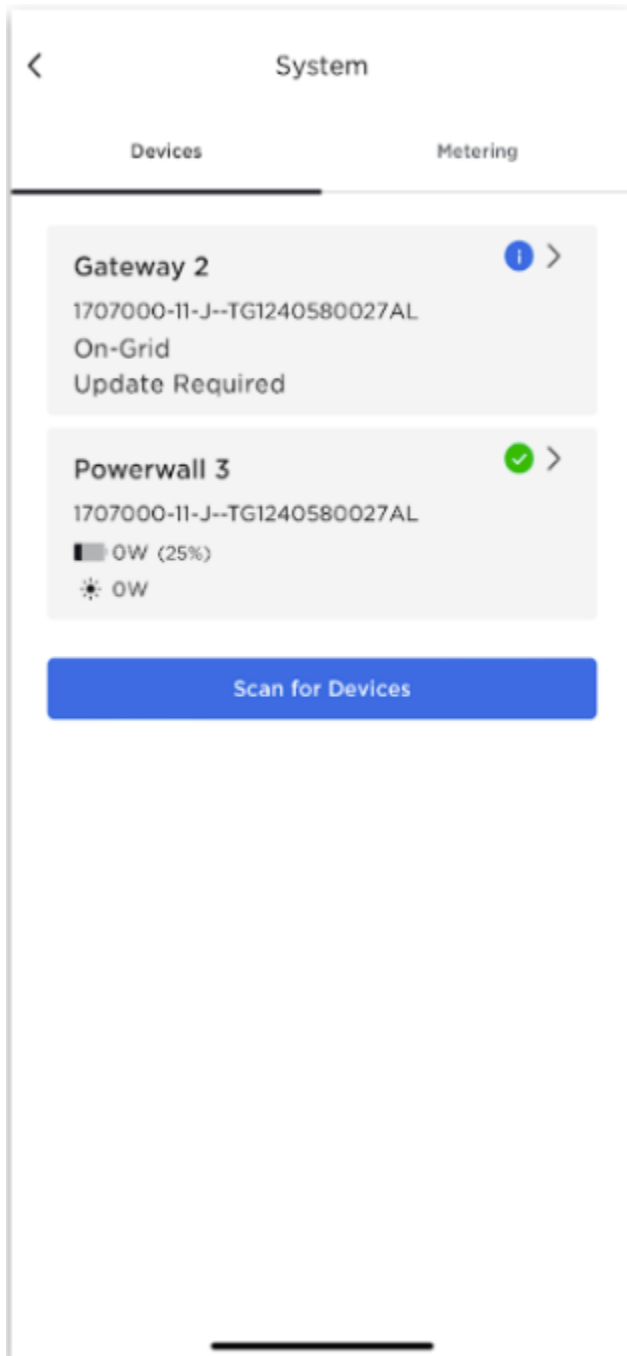
IMPORTANT: If installing multiple Powerwall 3 units, all units must be connected to WiFi and updated to 23.44.1 or higher before beginning step 7 on the Leader Powerwall 3.

Step 6: Scan for Devices (including Followers and Expansion units)

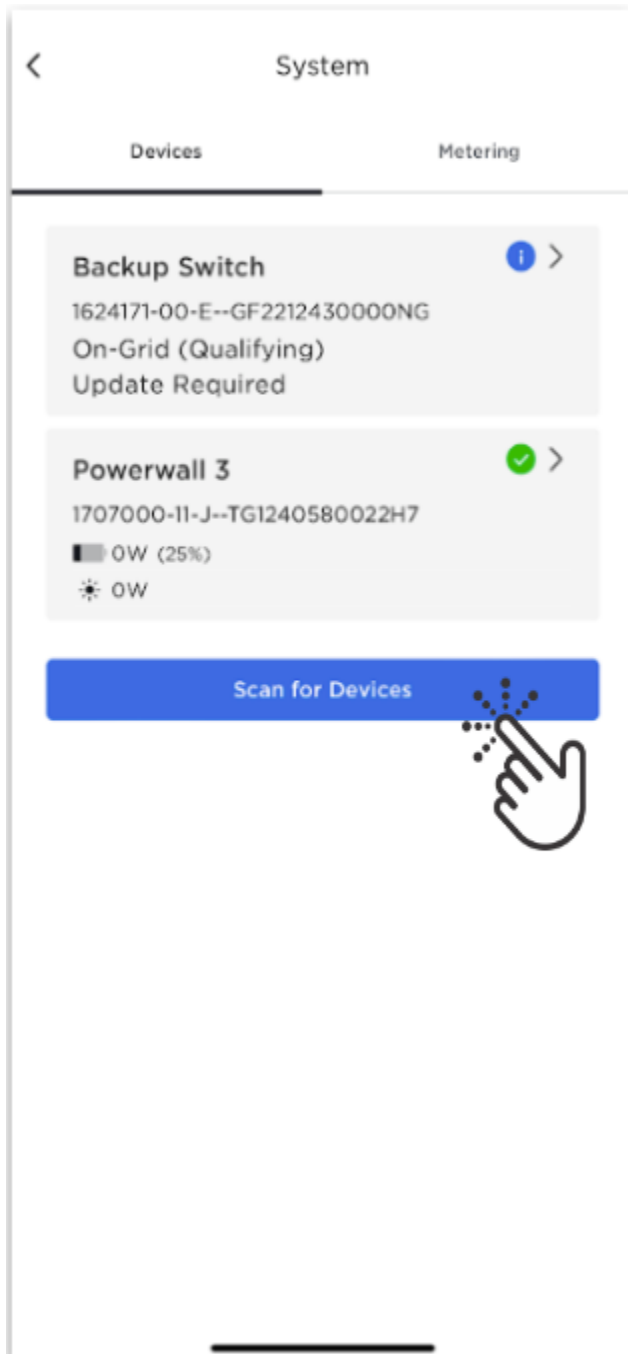
1. Tap **System** to begin scanning for devices



2. Verify the devices discovered match the equipment on site.

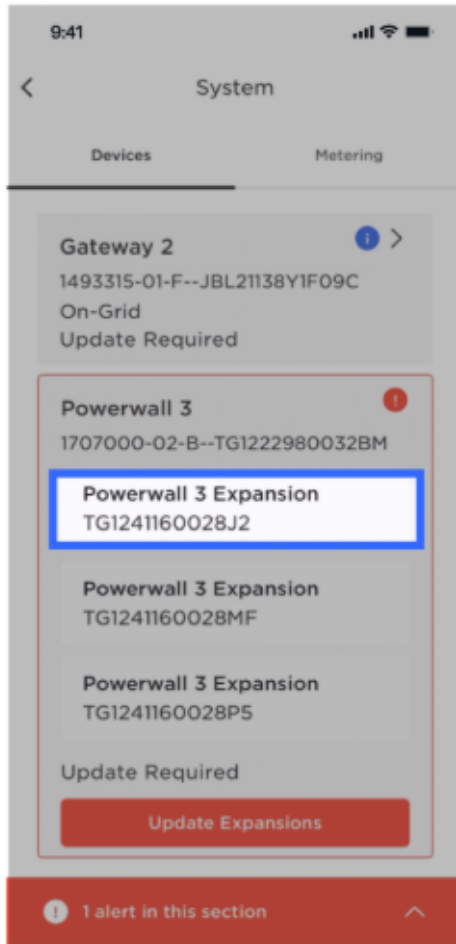


3. For multiple PW3 units, tap **Scan for Devices** to discover any followers. If a follower unit does not appear upon scanning, double check the ethernet cable between units is properly installed. It may be necessary to change ports.

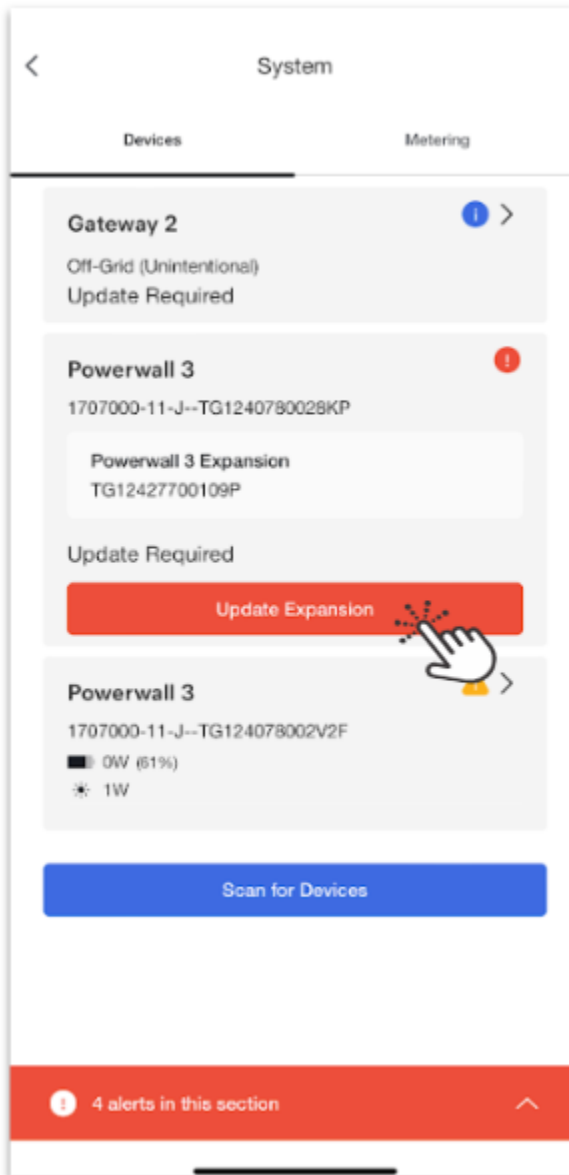


If the system has Expansion units, confirm they appear in the Devices tab.

- a. Confirm the Expansion serial numbers in Tesla One match those on the installed units (found on the left side of unit)

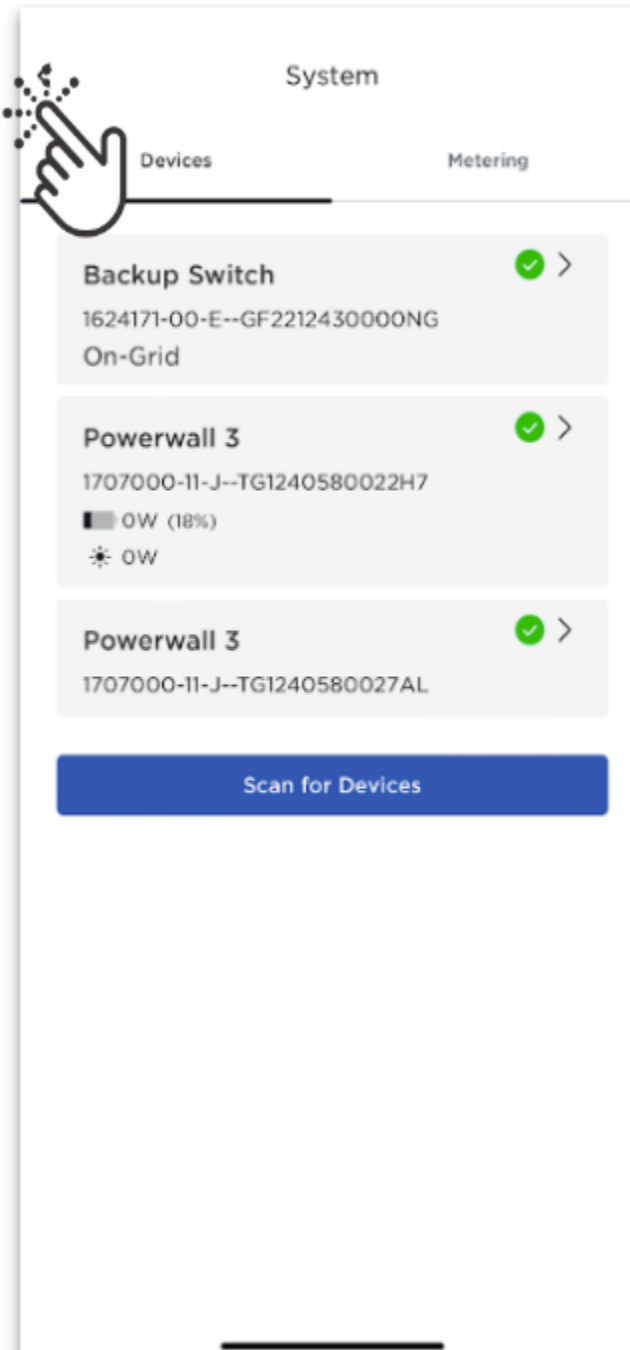


- b. Tap **Update Expansions**



c. Allow each Expansion unit to update, this could take several minutes for each unit.

4. Tap **Back**



Step 7: Metering

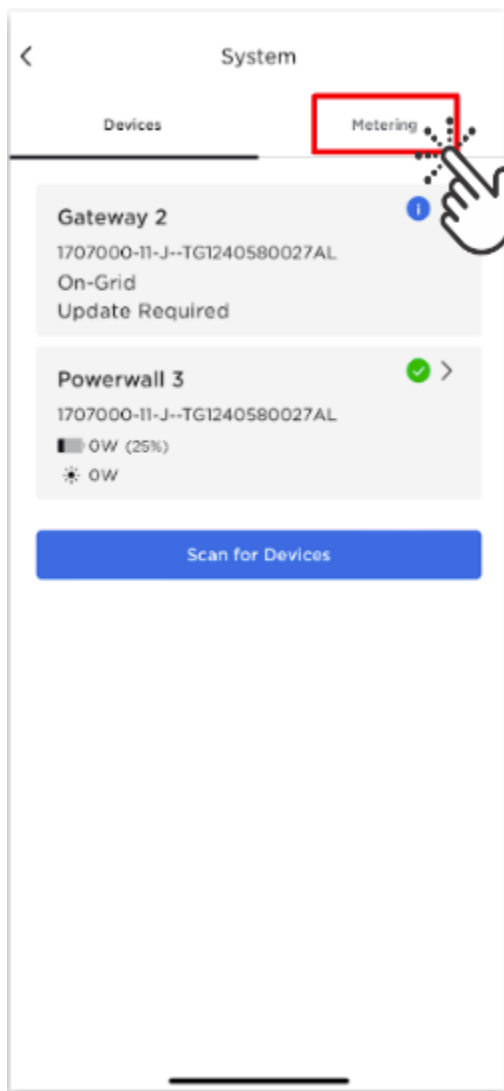
IMPORTANT: Powerwall 3 systems are not compatible with Neurio meters. If remote metering is required, the Tesla Remote Energy Meter shall be used.

NOTE: Site meters show the overall power flow of a site from the Grid's perspective. The Grid is treated as the source of power and the home is a consumer of that power. Site meter(s) must be installed upstream of all solar production, Powerwalls, and homeloads. There are three options for performing Site metering; multiple Site meters can be installed together where needed, but their sum should capture all of the power flows from load, solar, and Powerwalls.

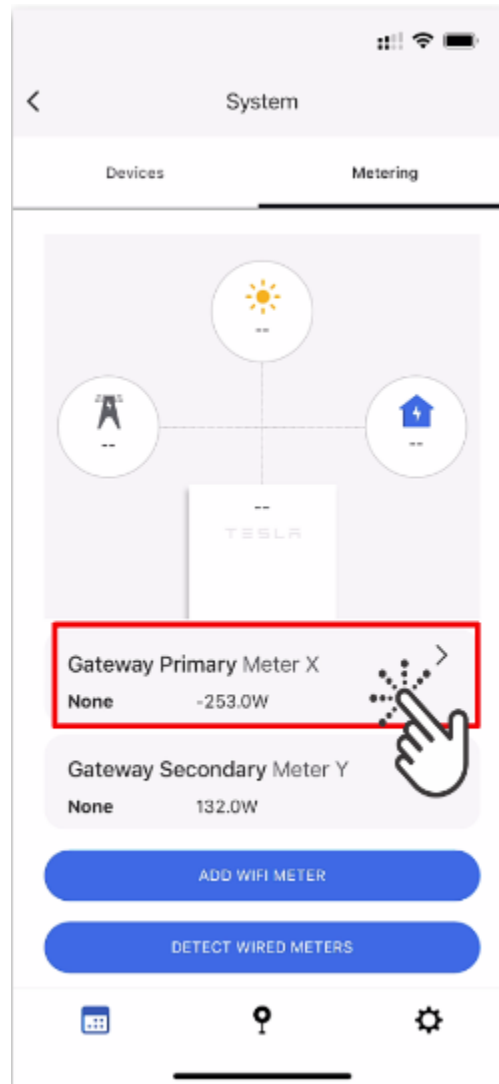
Gateway 2 internal metering

- If any loads cannot be captured by Internal Site Meter X, Meter Y may be used to capture loads up to 100a or for AC-coupled solar using the 100a rated Tesla CTs.

1. From the System page, Tap Metering



2. Tap Meter X



3. Verify Meter X is set to Site

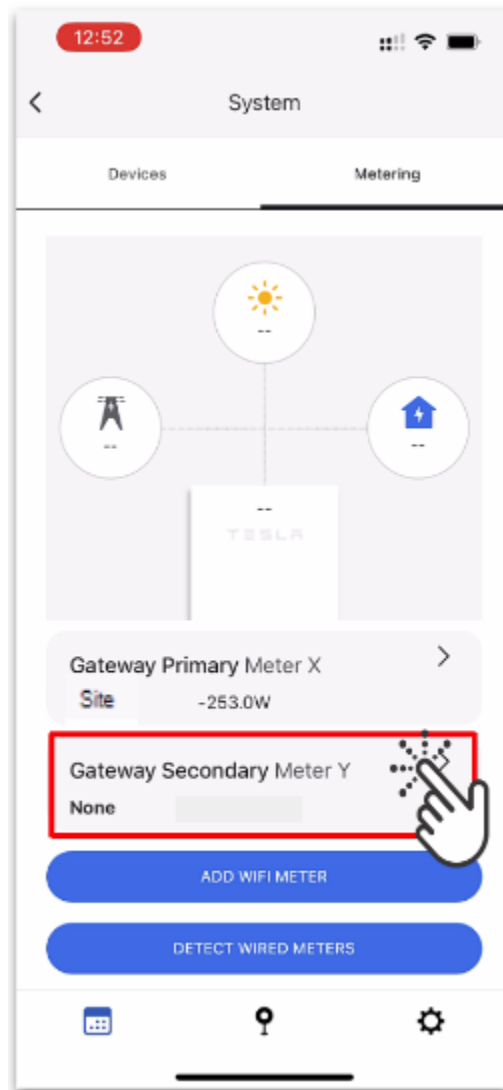


Gateway 2 Meter Y (Optional):

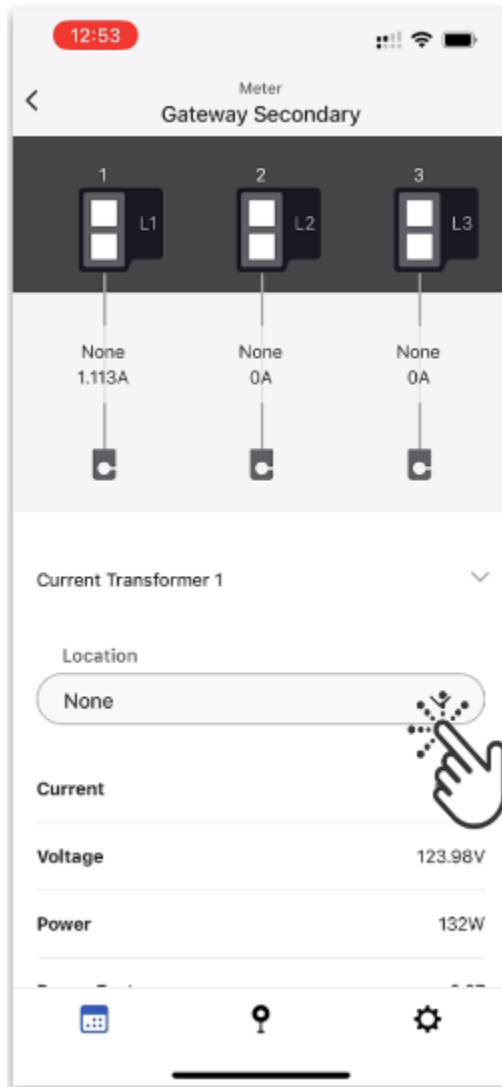
- Only program Meter Y if there is additional solar on-site, or if there are loads upstream of the Gateway 2.
- If capturing upstream loads less than 100 A, two Tesla CTs will be used (L1 and L2), programmed to Site.

IMPORTANT: Powerwall 3 performs its own solar metering. No additional CTs are required. One Tesla CT must capture the L1 of any additional solar, programmed to Solar 1CTx2.

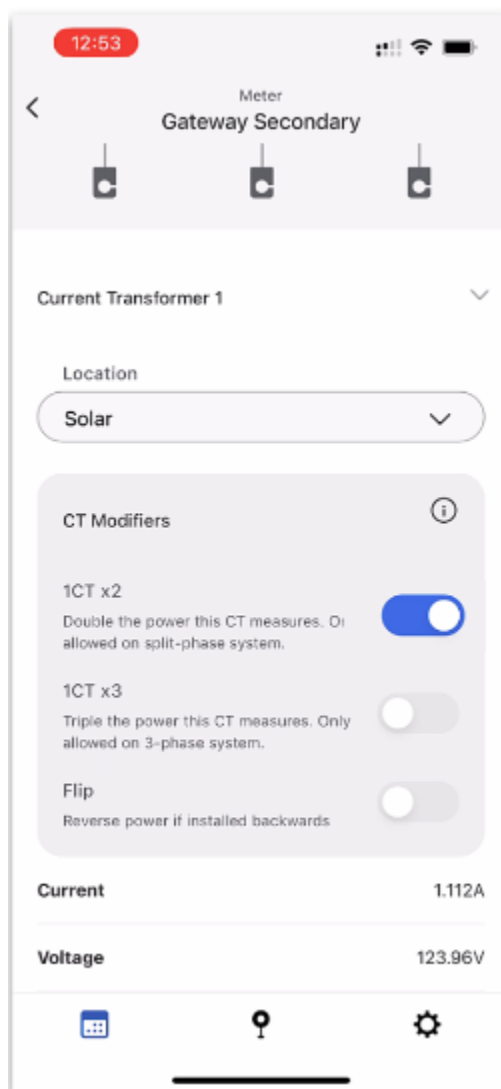
1. Tap Meter Y if add-on solar or uncaptured loads are present.



2. Tap Location

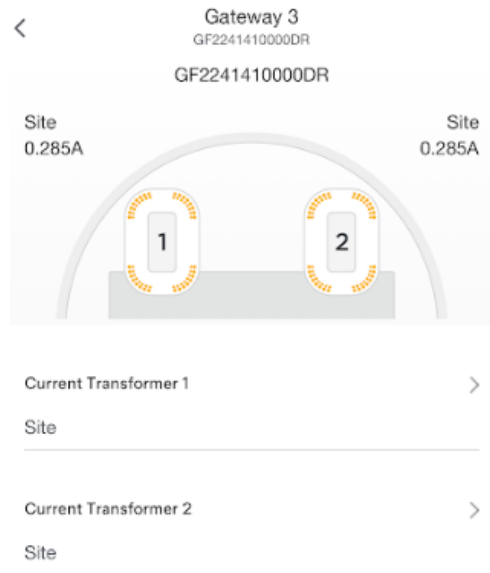


3. Select Solar 1CT x2



Gateway 3 and Backup Switch Site metering

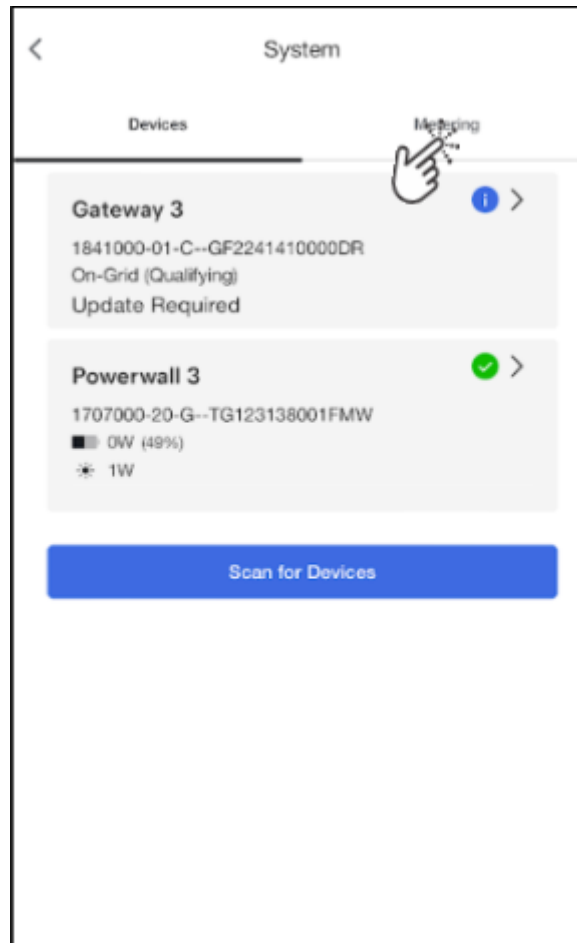
- Both the Gateway 3 and Backup Switch are identified as Meter Z. Meter Z is fixed inside the Gateway 3 and Backup Switch, rated for 200a, and defaulted to Site in the metering screen. For whole home backup, these settings shall remain set to Site.



-
- For partial home backup systems with Powerwall 3, home loads may be left upstream of the Z meter. This will require the Z meter CTs to be set to None if a Tesla Remote Energy meter is used to capture the site.

IMPORTANT: Multiple Site meters can be installed together where needed, but their sum should capture all of the power flows from load, solar, and Powerwall. Avoid capturing loads twice which would double the home's usage.

1. For partial home backup where the Tesla Remote Energy Meter will be the Site meter, Tap System, Tap Metering.



2. Tap CT 1 and 2. Set to None.

Gateway 3
GF2241410000DR

1 2

Current Transformer 1

Location

None

Current 0.27A

Voltage 116.02V

Power 3W

Power Factor 0.09

Current Transformer 2

Location

None

Current 0.27A

Voltage 112.78V

Power 2W

Power Factor 0.06

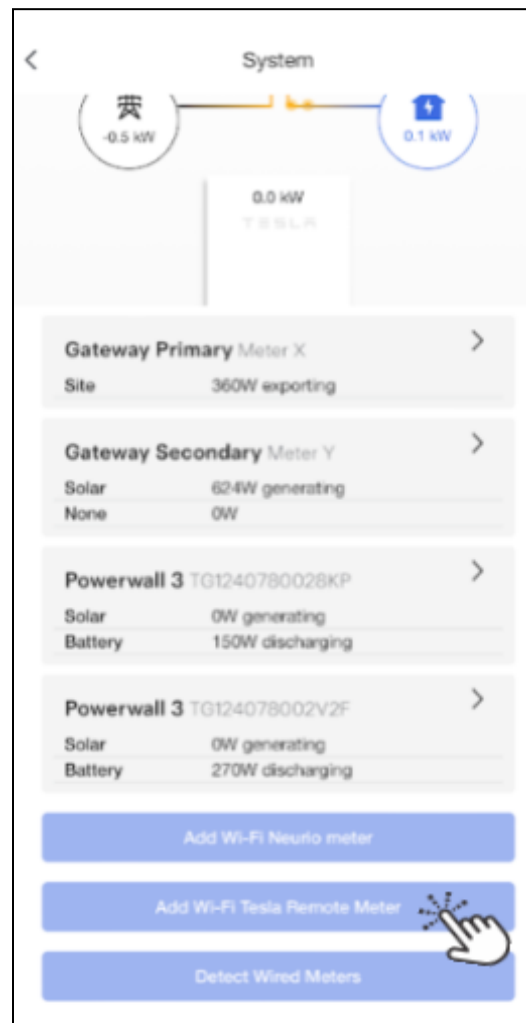
IMPORTANT: Only perform this step if a Tesla Remote Energy Meter will be capturing the whole home.

Tesla Remote Energy Meter:

- The Tesla Remote Energy Meter can be installed in partial home backup configurations to capture the non-backed uploads upstream of the Z meter, or to capture the output of additional non PW3 solar.

NOTE: Y splitters are unavailable for Tesla Remote Meters at this time. If Site Metering requires multiple CTs, a second Tesla Remote meter may be used. Only one meter can be paired wirelessly, the second meter must be wired via RS-485.

1. From the main menu screen tap System, tap Metering, tap Add Wi-Fi Tesla Remote Meter.



NOTE: If the Remote Meter was wired to the RS-485 harness and connected to the PW3 TACO, tap Detect Wired Meters. Allow for the meter to pair and follow the CT programming below.

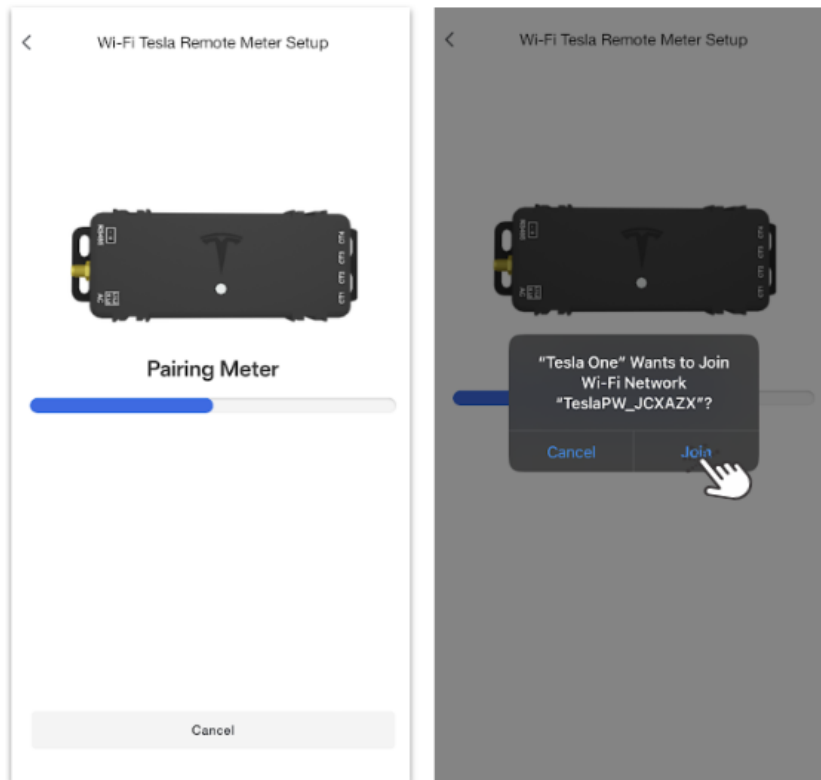
2. Tap Scan QR code. Locate the QR code on the front of the Tesla Remote Meter and scan it.



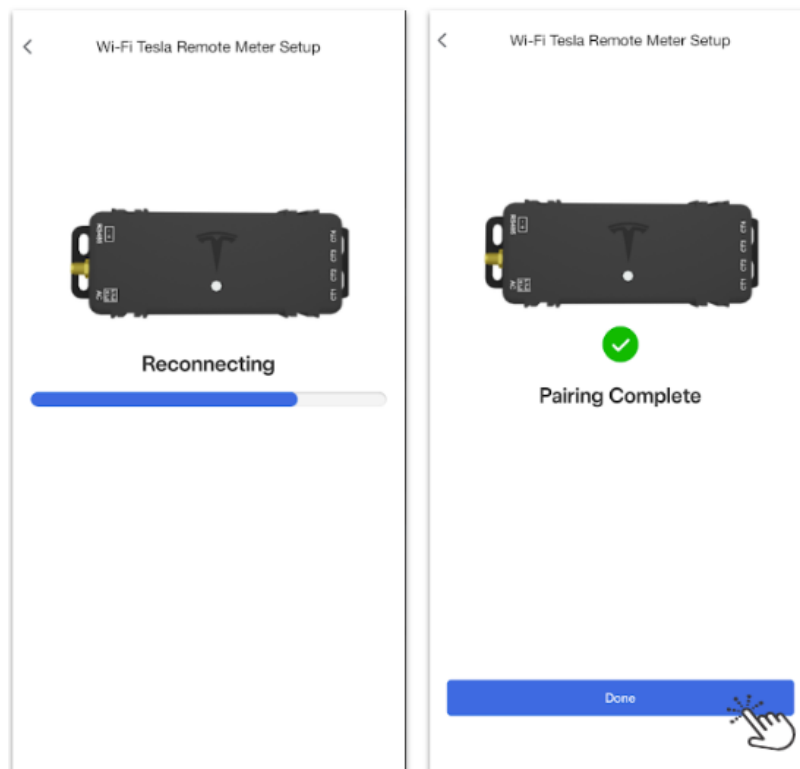
3. Tap Join when prompted to join the Remote Meter Wi-Fi network.



4. Allow the Meter to pair. The Tesla One app will then prompt to rejoin the PW3 Wi-Fi, Tap Join.



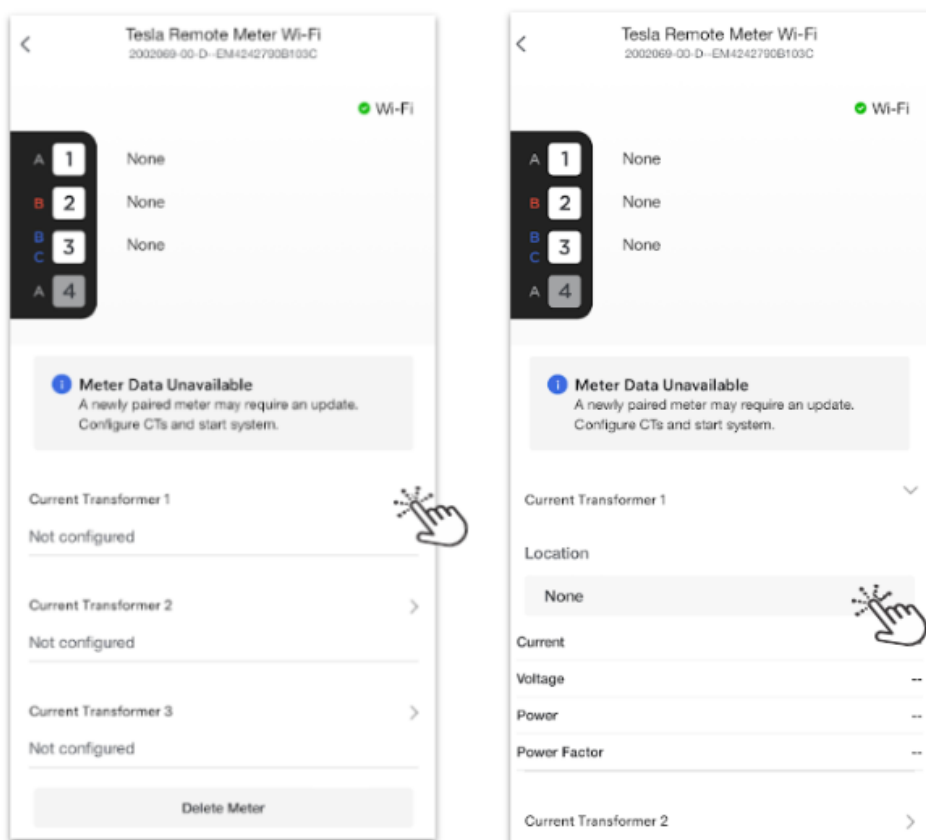
5. Allow the Tesla One App to rejoin successfully and tap Done.



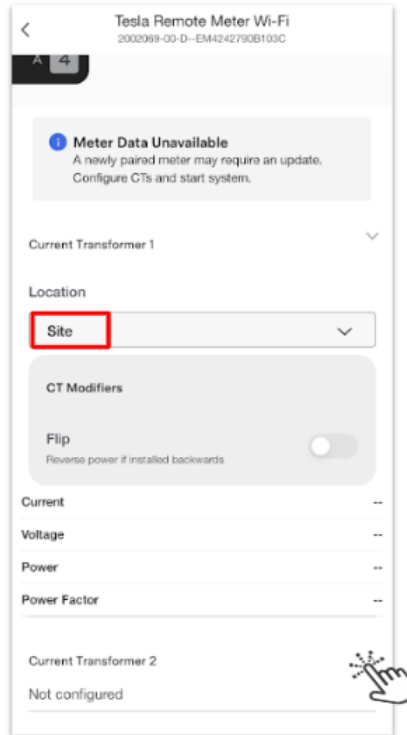
6. Configure the CTs: Program the CTs location according to what they are measuring.

NOTE: CTs can only be programmed when the System is stopped. CTs will not display readings until the meter is updated and the system is running. Port 4 is unavailable at this time.

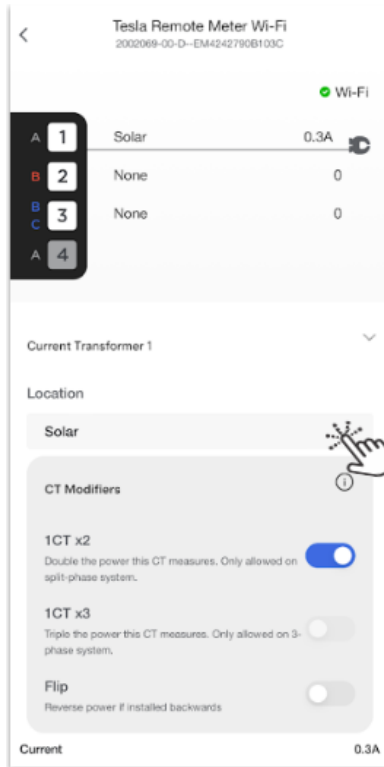
- a. For Site: tap CT 1 which is dedicated to the L1 phase, tap Location.



- b. Tap Site. Repeat these steps for CT 2 which is dedicated to L2.



- c. **Non-Powerwall 3 solar:** Tap the CT port that is measuring the single phase of Solar. Tap Location, select Solar. Ensure 1CTx2 is switched on, as only one phase is being monitored.



IMPORTANT: The use of the “flip” feature in the app is only for diagnosing metering issues, and shall not be used to permanently rectify CT installation errors. All changes must be made to the actual CT placement.



ProTip: Tesla Remote Energy Meter

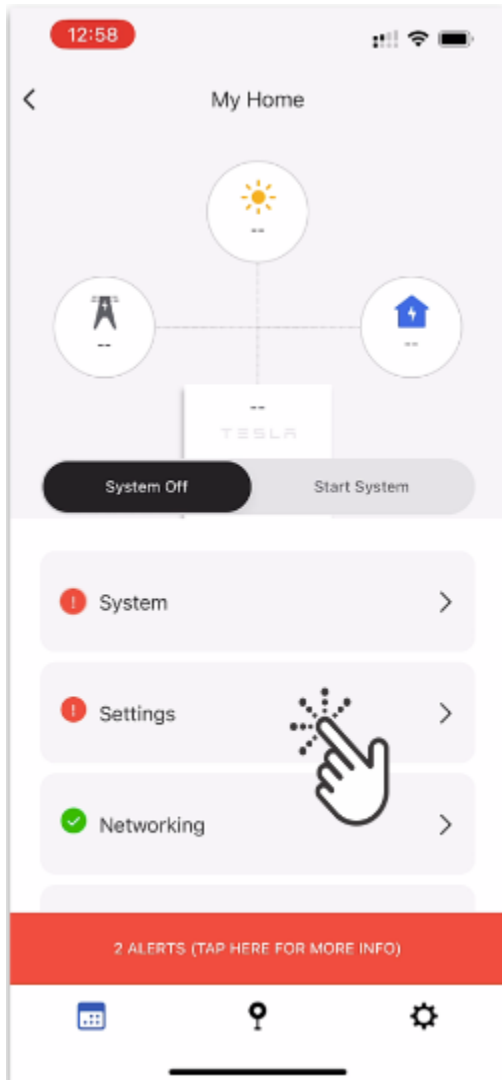
- Update the Tesla One app and Site Controller before pairing the Tesla Remote Meter.

	• When pairing via Wi-Fi, extend the Remote Meter antenna whenever possible. • Configure CTs before starting the system. • When starting the system, allow all devices to update before troubleshooting. • Retry updates by selecting Stop System, then Start System again. • Stock and extra Tesla Remote Meter RS-485 harness, and use when practical to the installation. • For repeated update failures, temporarily connect the Tesla Remote Meter to PW3 with the RS-485 harness to complete meter updates.
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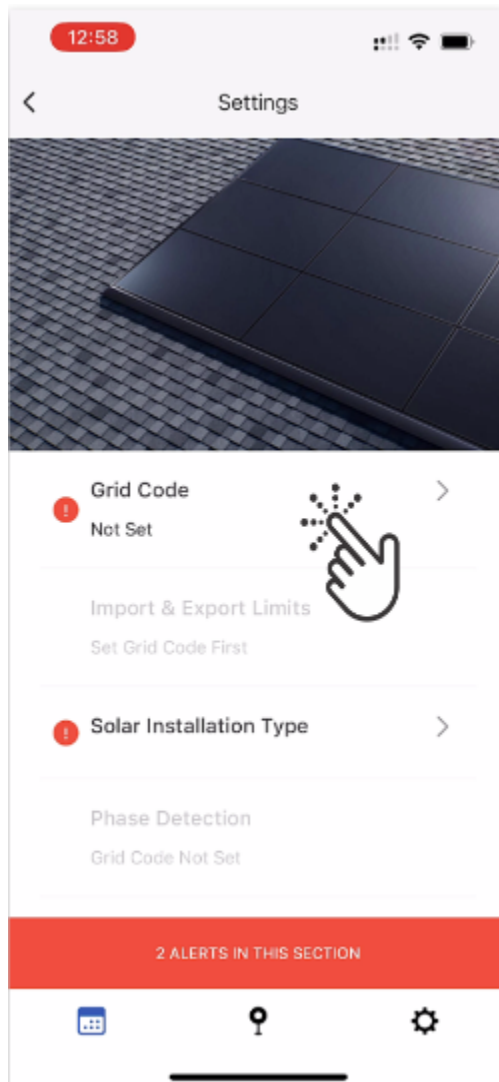
Step 8: Set Grid Code

NOTE: The Networking tab will have a green check mark as the cellular connection is automatic and WiFi has been programmed in earlier steps.

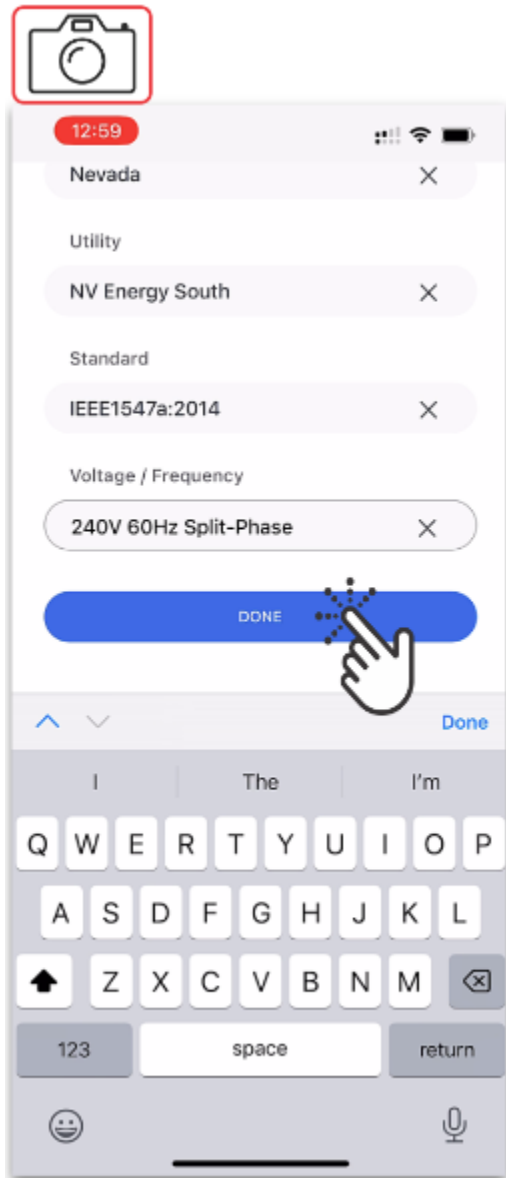
1. On the commissioning home page, tap **Settings**



2. Tap **Grid Code**

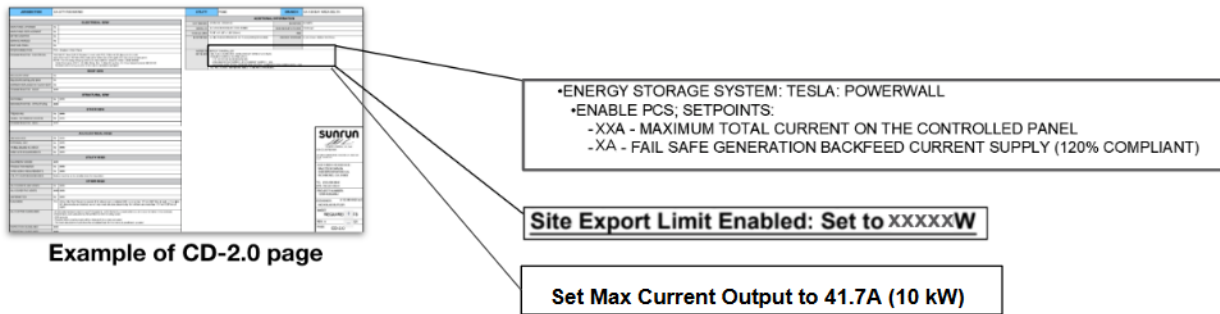


3. Enter the applicable code. Tap **DONE**



Step 9: Set PCS, Site Export limit, Max Power output limit (if applicable)

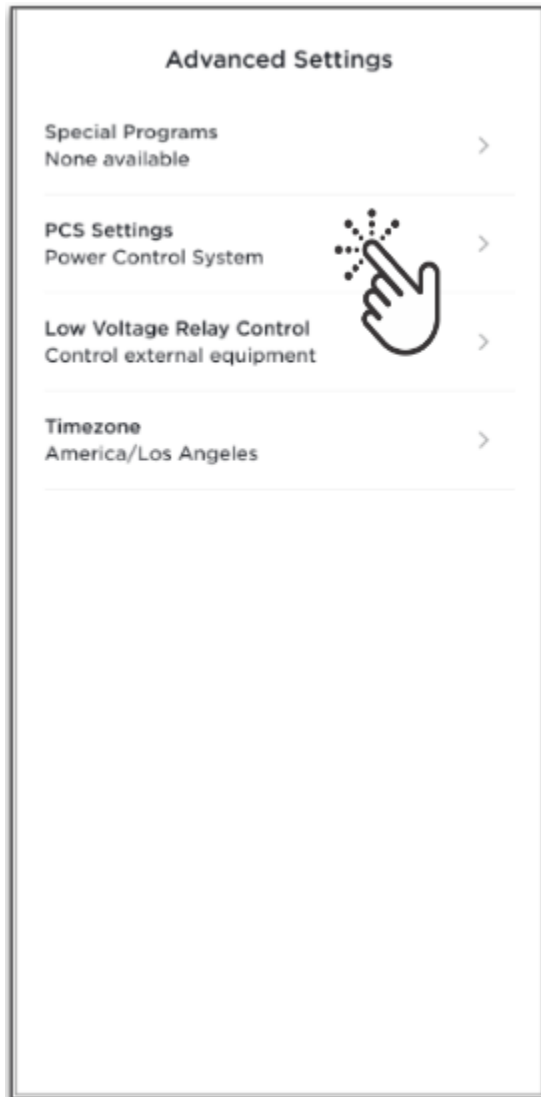
IMPORTANT: Depending on the system configuration, it may be required to set limit controls on the Powerwall system. This includes PCS busbar protection, Site Export limit, and/or Max Power Output limit (Permanent Derate). The CD2.0 document will include **Notes to Installer** and list the following callouts:



- Limit control settings will be listed on the CD-2.0 page of the plan set **Notes to Installer** and may contain one or more of the following:
 - **MAXIMUM TOTAL CURRENT ON THE CONTROLLED PANEL -XXX Amps**
 - **Site Export Limit Enabled: Set to xxxxxW**
 - **Set Max Current Output to 41.7A (10kW)**
- If there are no notes to the installer this step may be skipped. Follow the steps below if one or more of the notes call out for system limits.

Set Maximum total Current on Controlled Panel (Busbar protection):

1. Tap **Settings > Advanced Settings > PCS Settings**



2. Enter **123**, Tap **Continue**

Panel Limit

Warning

Only qualified personnel shall be permitted to set or change the setting of the maximum operating current of the PCS. The maximum PCS operating current setting shall not exceed the busbar rating or conductor ampacity of any PCS controlled busbar or conductor.

Please review the Tesla PCS Features for Powerwall Systems Application Note before proceeding.

Enter your license number to proceed:

123

Continue

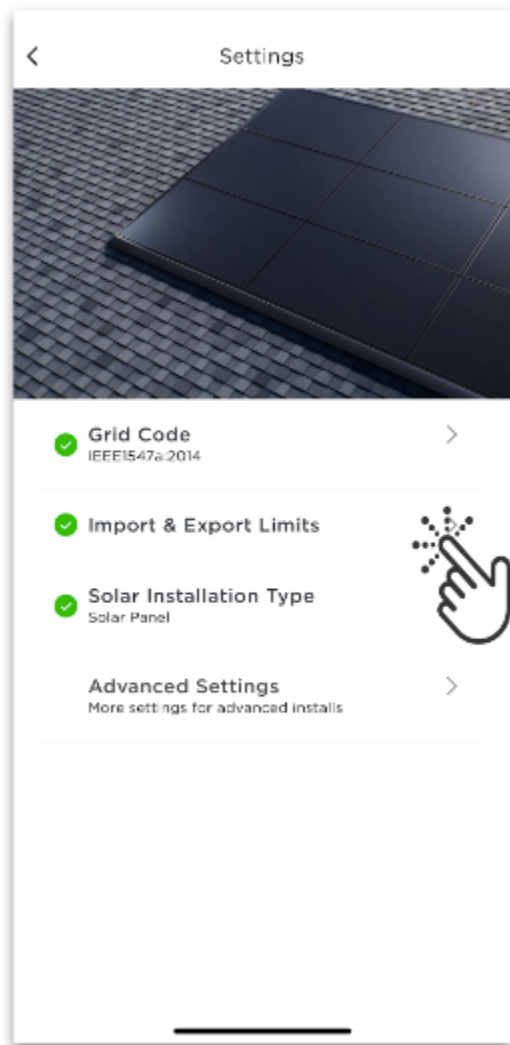
Cancel

3. Enter value, **Tap DONE** to continue



Set Export Limit:

- Values for Export Limit will be listed on the CD-2.0 page of the plan set **(Site Export Limit Enabled: Set to XXXX W)**
1. Tap **Settings** > Tap **Import & Export Limits**



2. Select **Site Export Limit**

Import & Export Limits

Import Limits

Site Import Limit

No Limit W

Site Import Permissions

Charge From Grid Disallowed

Export Limits

Site Export Limit

No Limit W

Export Permissions

Select

Solar Export Limitation

Is this Powerwall installed alongside a zero-export solar inverter?

☐ Yes ☒ No

Done

Reset limits

3. Enter the **Wattage** found on the CD 2.0

< Import & Export Limits

Import Limits

Site Import Limit

No Limit W

Site Import Permissions

Charge From Grid Disallowed v

Export Limits

Site Export Limit

XXXXXX W

Export Permissions

Select v

^ v Done

1	2 ABC	3 DEF
4 GHI	5 JKL	6 MNO
7 PQRS	8 TUV	9 WXYZ
0		< x

4. Tap **Export Permissions**, Select **Solar and Battery**

< Import & Export Limits

Import Limits

Site Import Limit

No Limit W

Site Import Permissions

Charge From Grid Disallowed v

Export Limits

Site Export Limit

XXXXXX W

Export Permissions

Select

Permanent Non Export

Default (Solar Only)

Solar and Battery

☐ Yes ☒ No

Done

Reset limits



5. Tap **Done**, Tap **Back**

Import & Export Limits

Site Import Limit

No Limit W

Site Import Permissions

Charge From Grid Disallowed ▾

Export Limits

Site Export Limit

XXXXX W

Export Permissions

Solar and Battery ▾

Solar Export Limitation

Is this Powerwall installed alongside a zero-export solar inverter?

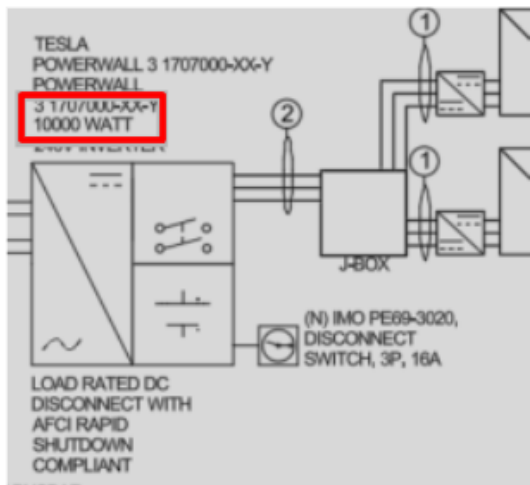
☐ Yes ☒ No

Done

Reset limits

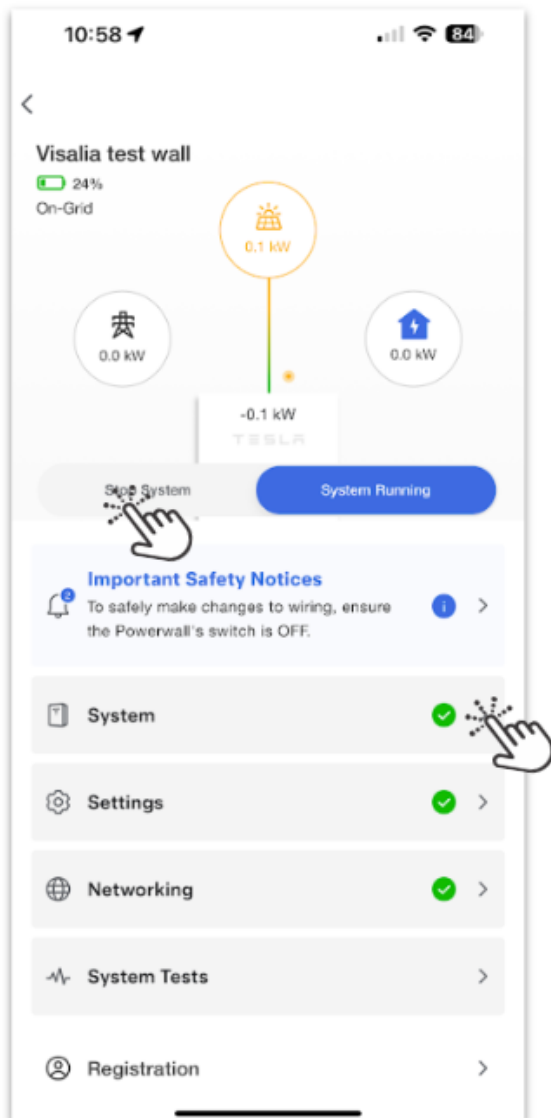
Set Maximum Current Output:

1. In addition to the CD2.0 the plan set will also call out for the Powerwall rating to be changed:

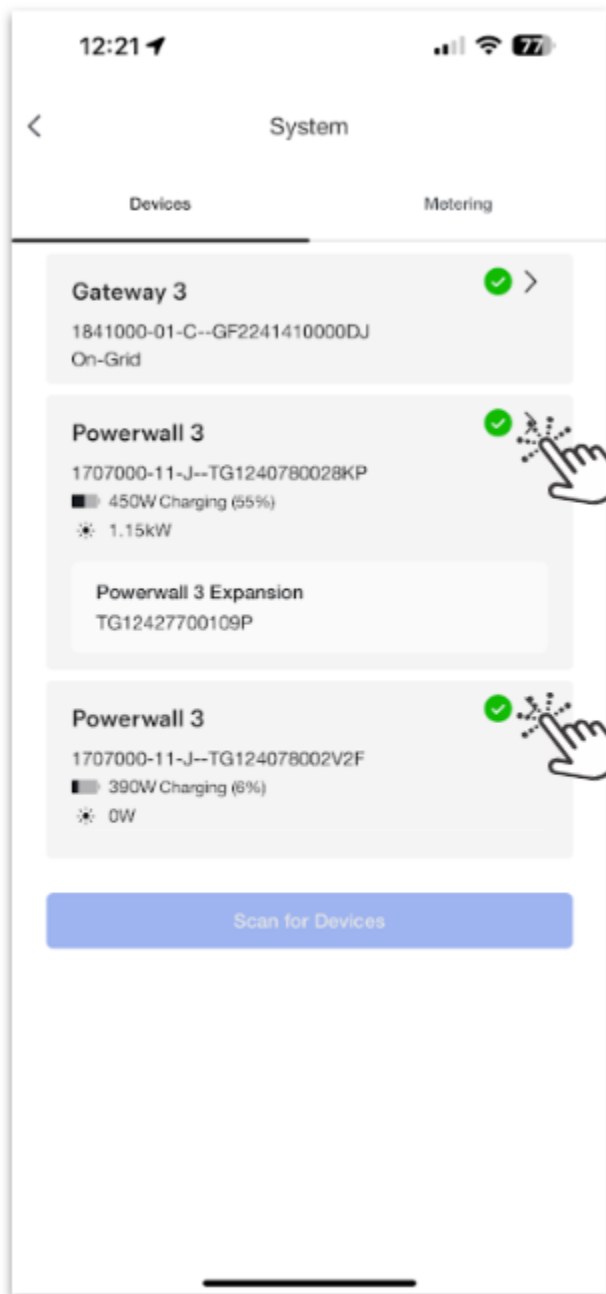


- SYSTEM SIZE: 4.1KW DC, **10 KW AC**
- (1) TESLA: POWERWALL 3
1707000-XX-Y, 13.5KWH, **10KW**
INVERTER OUTPUT, LITHIUM-ION
BATTERY (WEIGHT: 272.5 LB EACH)

2. Ensure the system is **Stopped**. Tap **System**.

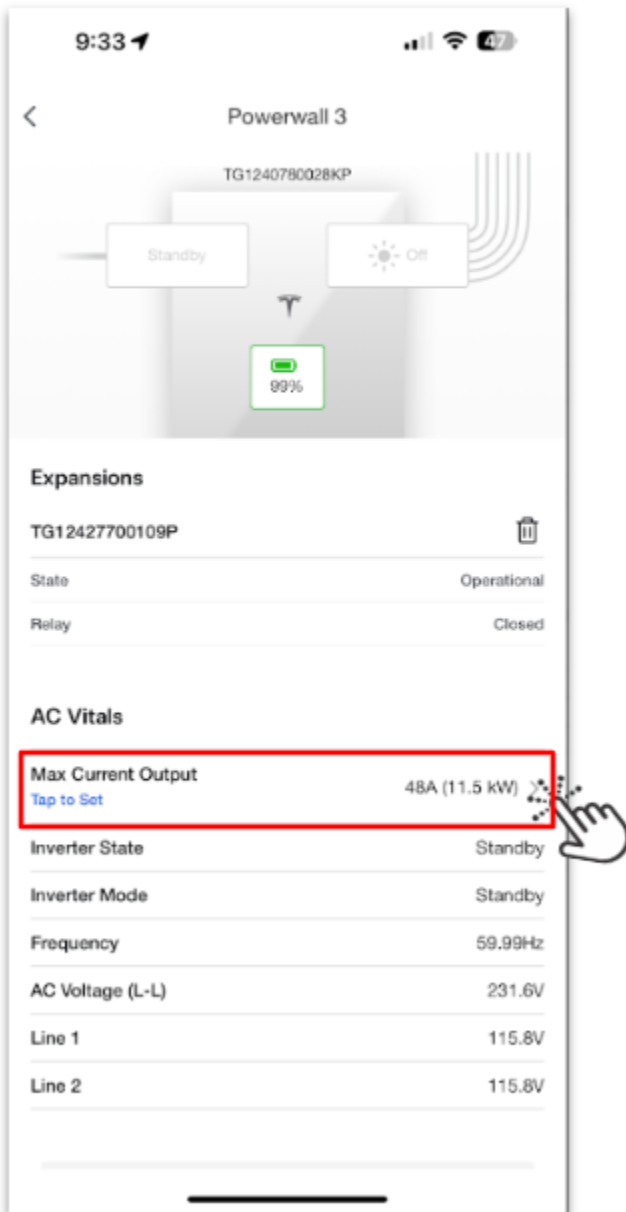


3. On the Device screen, tap **Powerwall 3**.



IMPORTANT: This setting shall be repeated for all base Powerwall 3 units.

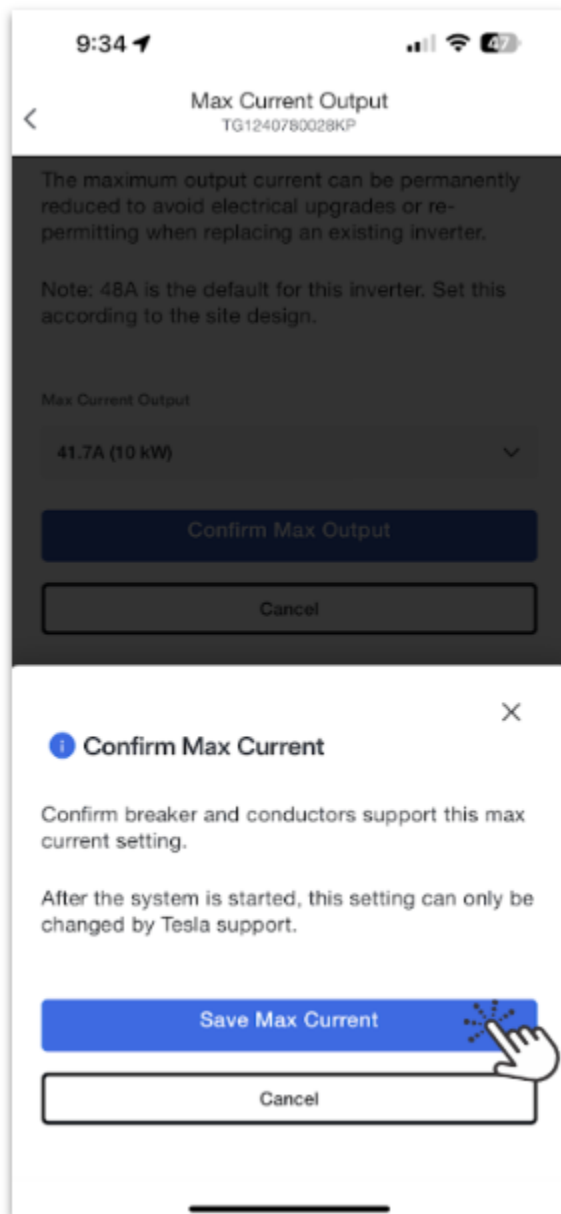
4. Under AC Vitals, tap **Max Current Output**



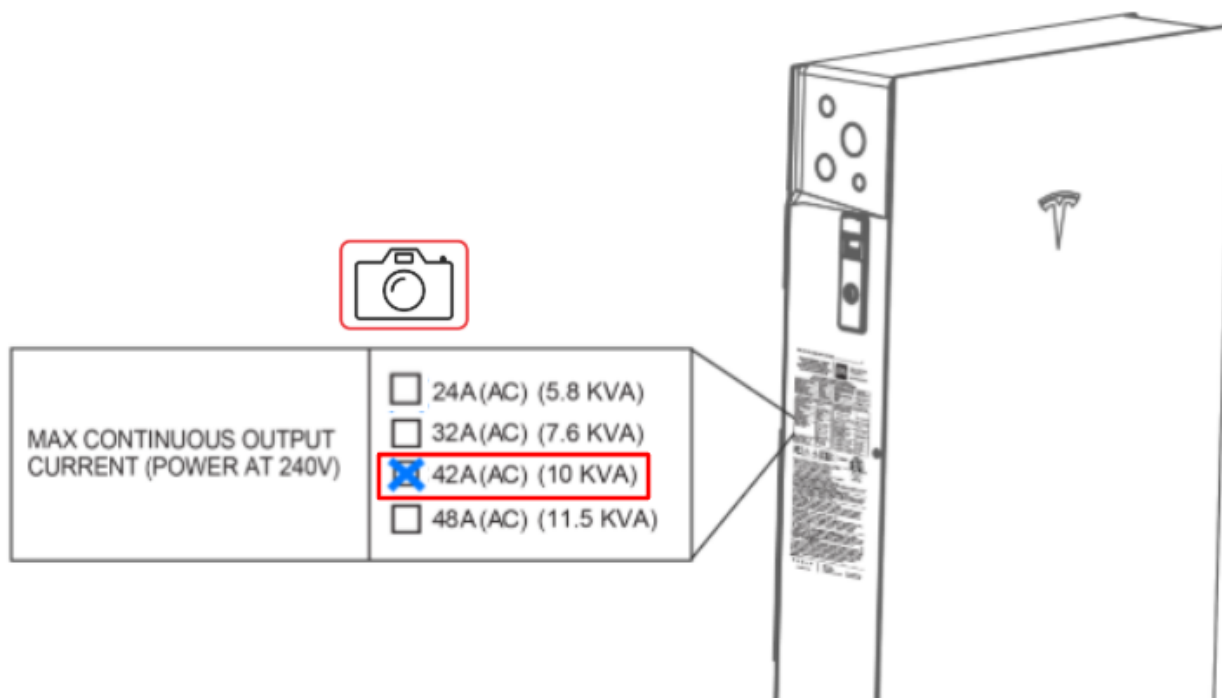
5. Select **41.7A (10kW)** from the drop down menu, tap **Confirm Max Output**



6. Tap **Save Max Current Output**, tap **Done**.



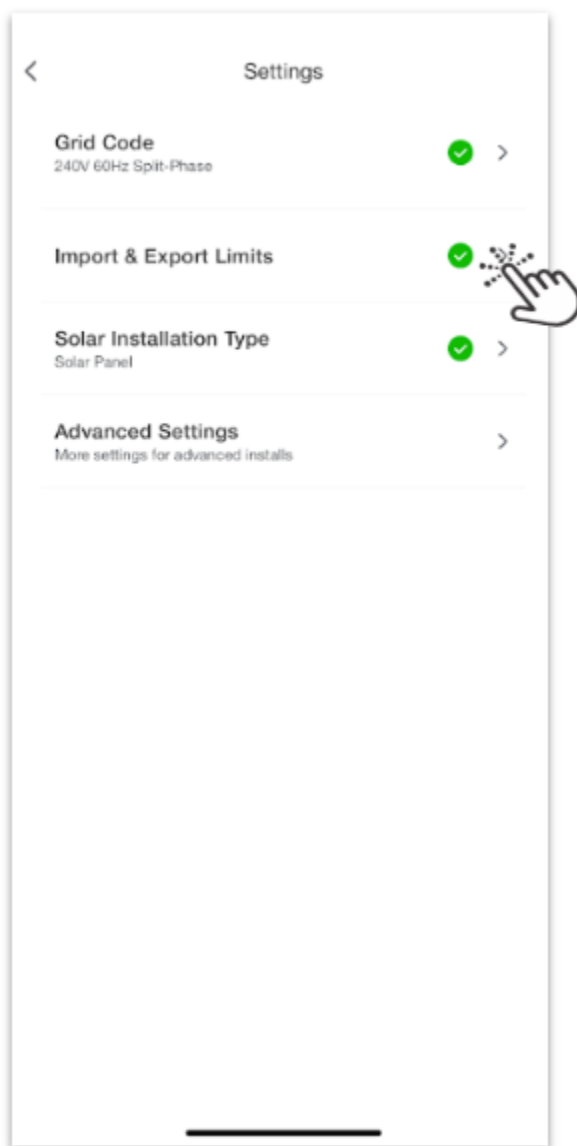
7. **Repeat for all Powerwalls on site.**
8. Document the configured maximum current output on the Powerwall 3 product label using a paint pen.



Step 10: Set Export Permission

IMPORTANT: This step is required in all installations outside of Hawaii. Installations must have the Export permissions set to **Solar & Battery** unless called out on CD2.0. Non-export second systems shall be programmed to **AC coupled solar only** (see details below).

1. From the Settings menu, tap **Import & Export Limits**



2. Tap **System Export Permissions**

< Import & Export Limits

Site Import Limit

No Limit W

System Import Permissions

Charge From Grid Disallowed v

Export Limits

Site Export Limit

No Limit W

System Export Permissions

Default (Solar Only) 

Export Enabled

Enable this only when the utility approves this system to export, often called Permission to Operate (PTO). ☐

Solar Export Limitation

Is this Powerwall installed alongside a zero-export solar inverter?

☐ Yes ☒ No

3. Select **System Export Permissions**. Change the default (Solar Only) to **Solar and Battery**.

< Import & Export Limits

Site Import Limit

No Limit W

System Import Permissions

Charge From Grid Disallowed v

Export Limits

Site Export Limit

No Limit W

System Export Permissions

Solar and Battery v

Export Enabled

Enable this only when the utility approves this system to export, often called Permission to Operate (PTO).

Solar Export Limitation

Is this Powerwall installed alongside a zero-export solar inverter?

☐ Yes ☒ No

4. Ensure the Export Enabled toggle is **OFF**, as the utility has not granted permission to operate. This setting will be changed by the customer when PTO is granted via the Tesla customer app.

< Import & Export Limits

Site Import Limit

No Limit W

System Import Permissions

Charge From Grid Disallowed v

Export Limits

Site Export Limit

No Limit W

System Export Permissions

Solar and Battery v

Export Enabled

Enable this only when the utility approves this system to export, often called Permission to Operate (PTO). ☐

Solar Export Limitation

Is this Powerwall installed alongside a zero-export solar inverter?

☐ Yes ☒ No

5. Ensure System Import Permissions is set to **Charge From Grid Disallowed** unless installing in Texas (see [Step 11](#) if installing in Texas for instructions)

< Import & Export Limits

Site Import Limit

No Limit W

System Import Permissions

Charge From Grid Disallowed ▾

Export Limits

Site Export Limit

No Limit W

System Export Permissions

Solar and Battery ▾

Export Enabled

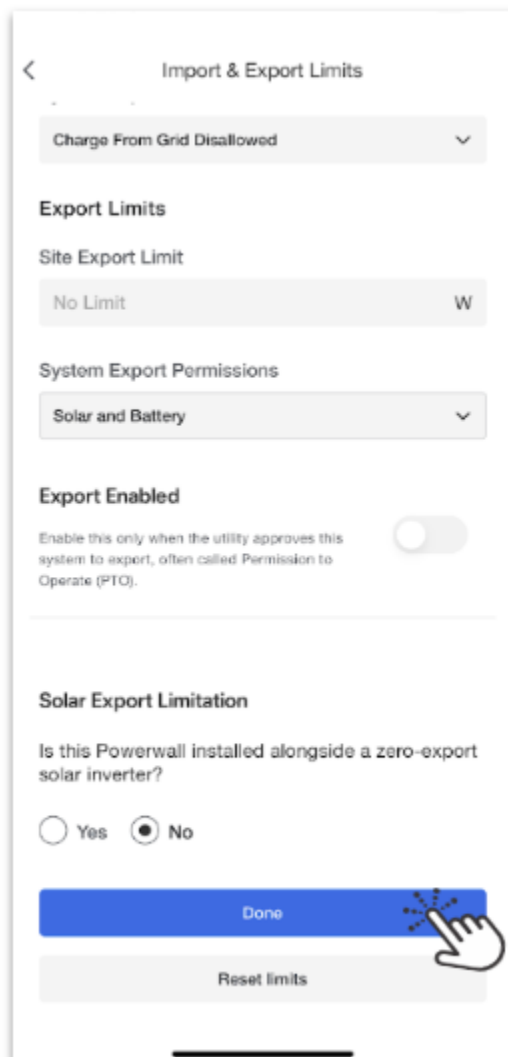
Enable this only when the utility approves this system to export, often called Permission to Operate (PTO). ☐

Solar Export Limitation

Is this Powerwall installed alongside a zero-export solar inverter?

☐ Yes ☒ No

6. Tap **Done** to save the settings.

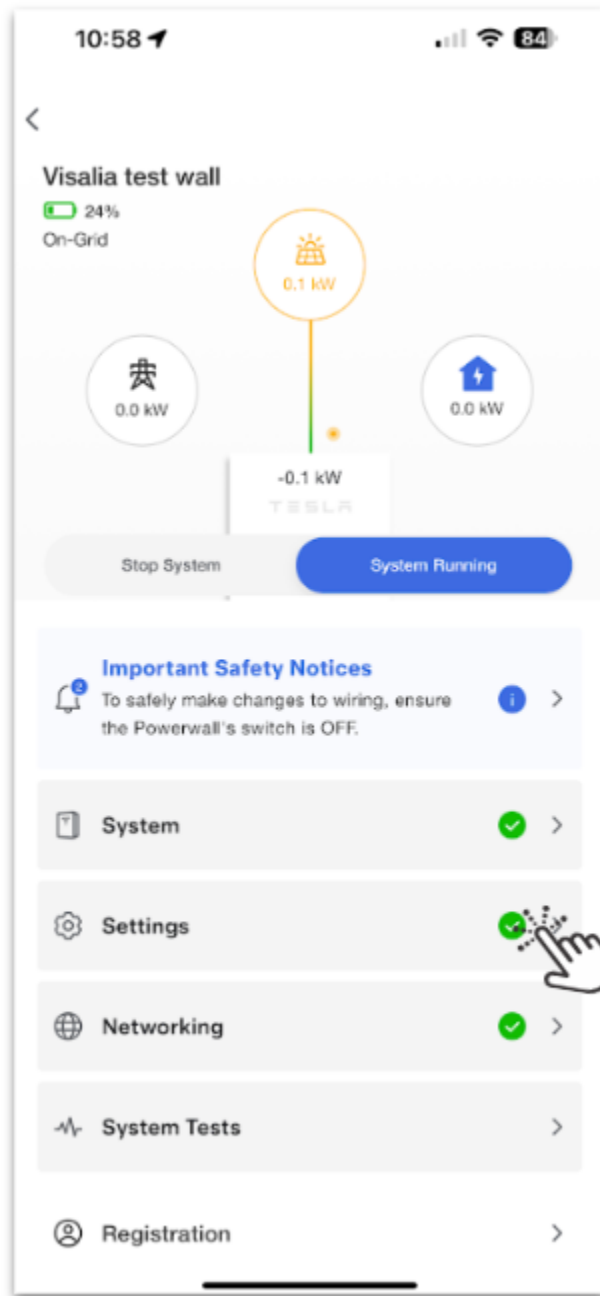


Set Non Export Secondary PV/Storage system: (if applicable)

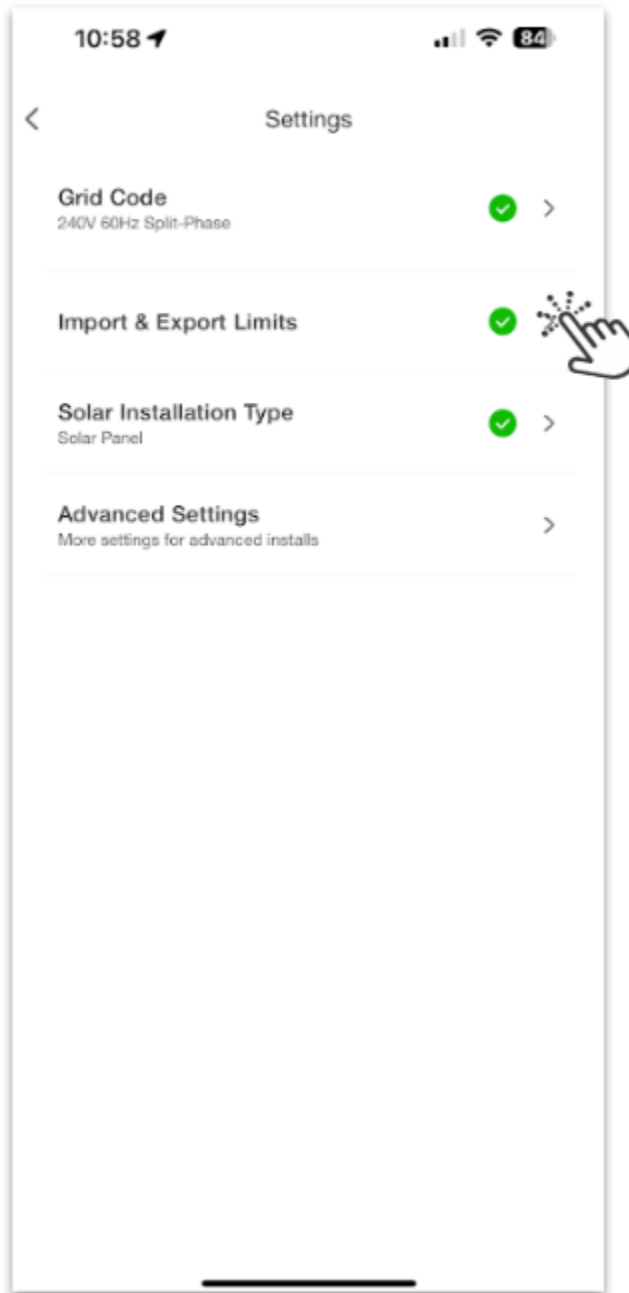
- CD2.0 notes to the installer will call out if the new Tesla PV and battery are **NOT** allowed to export to the Grid, but the existing AC coupled solar is allowed to export.
- This operation mode allows for the customer to retain their existing PV system's NEM agreement with the utility.
- **Tesla Remote Energy Meter** must be installed and programmed to monitor the existing system's PV breaker. The meter must be programmed prior to setting this mode.

NOTES TO INSTALLER	NON EXPORT SECONDARY PV AND STORAGE Non-Export Secondary PV and Storage Import & Export Limits: AC-Coupled Solar Only Tesla Remote Meter MUST be installed and meter existing PV System
--------------------	--

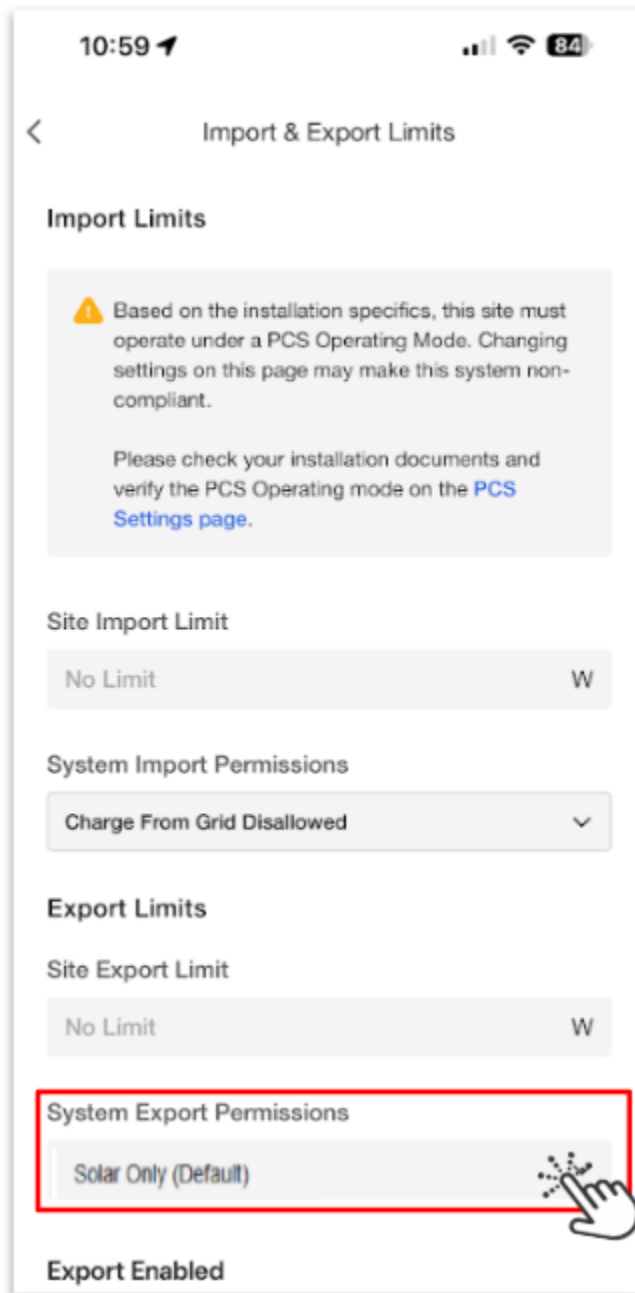
1. From the main screen, tap **Settings**



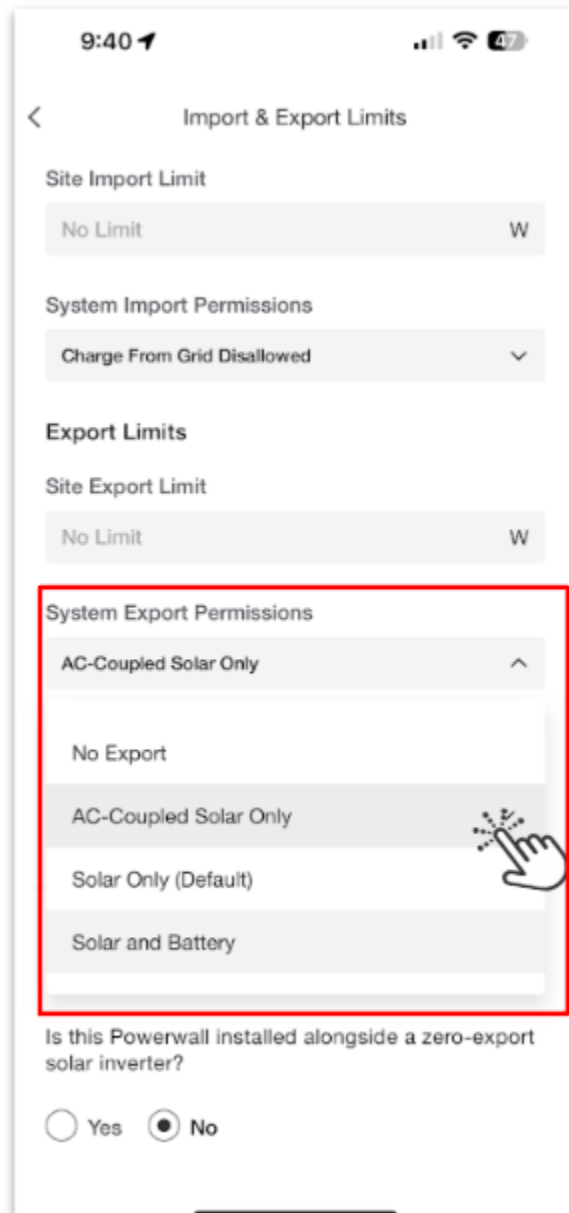
2. Tap **Import & Export Limits**



3. Tap **System Export Permissions**



4. Select **AC Coupled Solar Only**



5. Ensure the permission is set to **AC Coupled Solar Only**, tap **Done** to save the setting.

12:48     74%

< Import & Export Limits

Charge From Grid Disallowed 

Export Limits

Site Export Limit

No Limit W

System Export Permissions

AC-Coupled Solar Only 

Export Enabled

Enable this only when the utility approves this system to export, often called Permission to Operate (PTO). 

Solar Export Limitation

Is this Powerwall installed alongside a zero-export solar inverter?

☐ Yes ☒ No

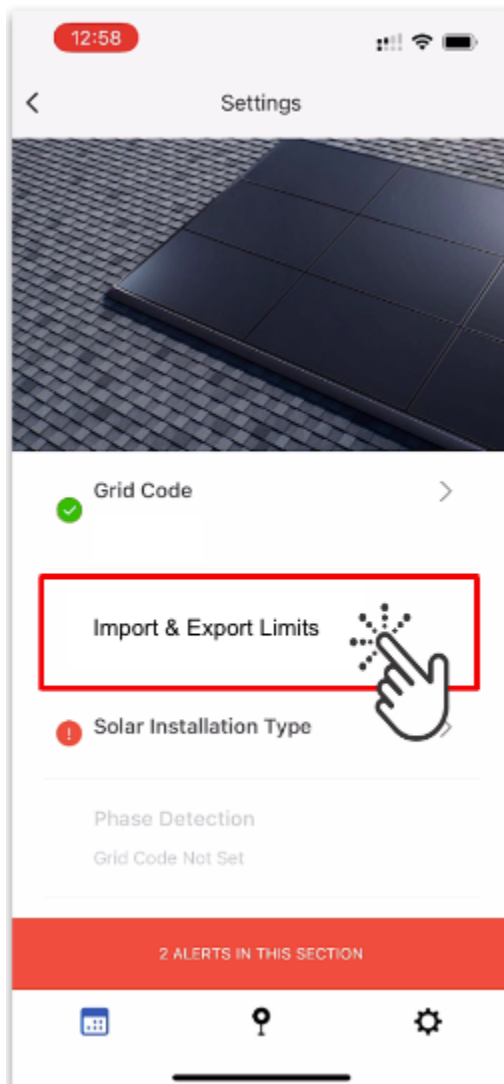
Done

Reset limits

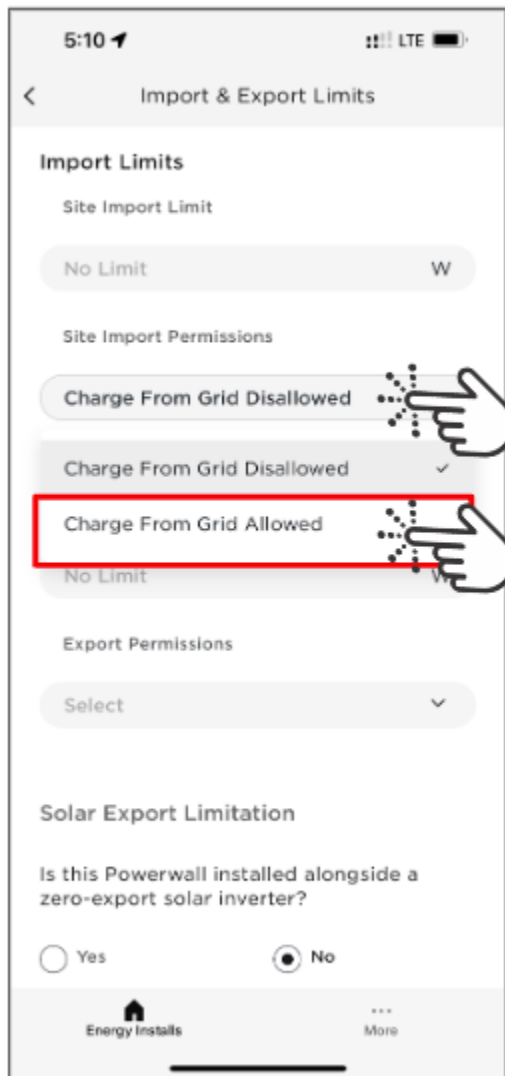
Step 11: Optional Grid Charge (Texas Only)

IMPORTANT: This is only allowed in specific Texas markets (Oncor, TNMP, and Centerpoint). Only allow grid charging if it is indicated on the plan set.

1. From the Settings menu, tap **Import & Export Limits**.



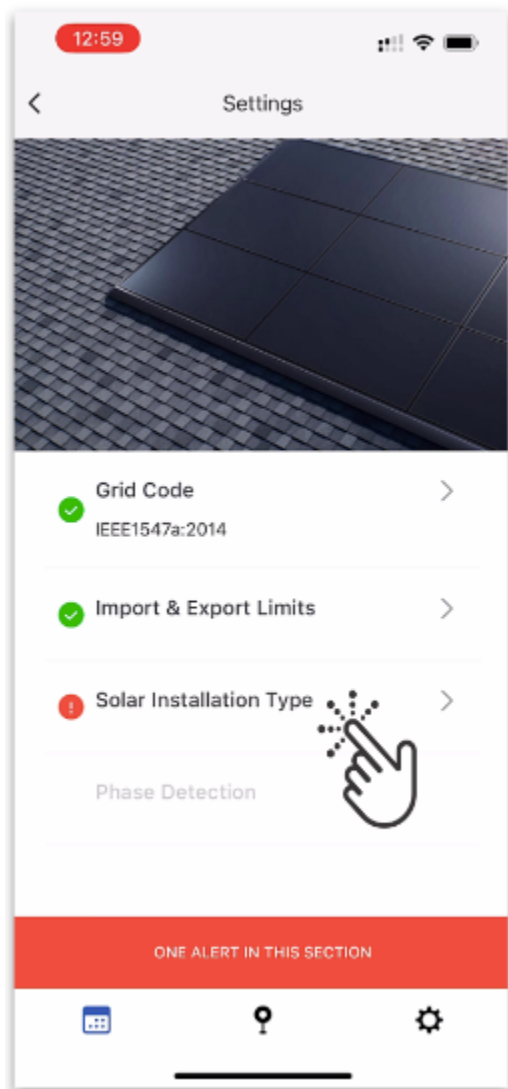
2. Tap **Charge From Grid Disallowed** and then tap **Charge From Grid Allowed**.



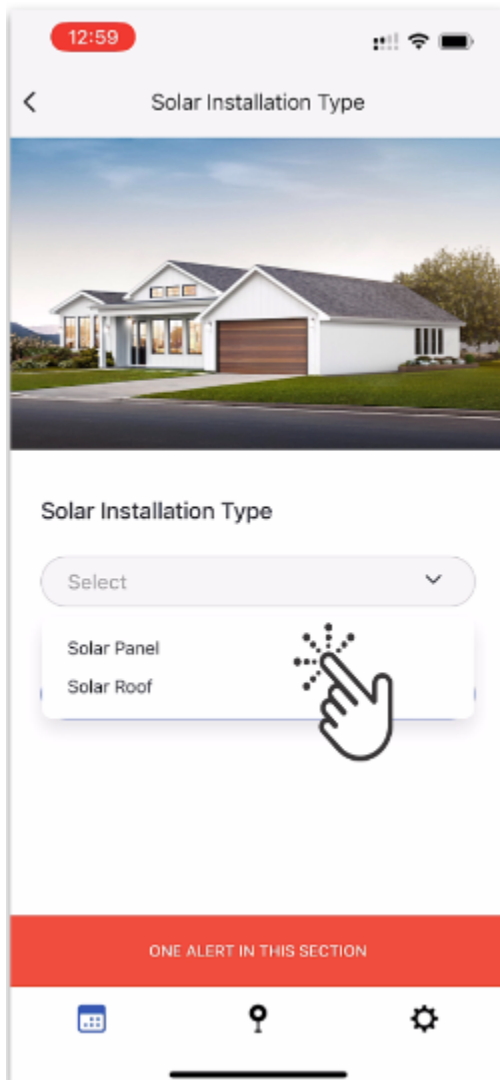
Step 12: Solar Installation Type

NOTE: Once the Grid Code is set, the Import & Export Limits are automatically populated based on code standard selection. Unless directed by Sunrun, these Import & Export Limits shall not be set or modified.

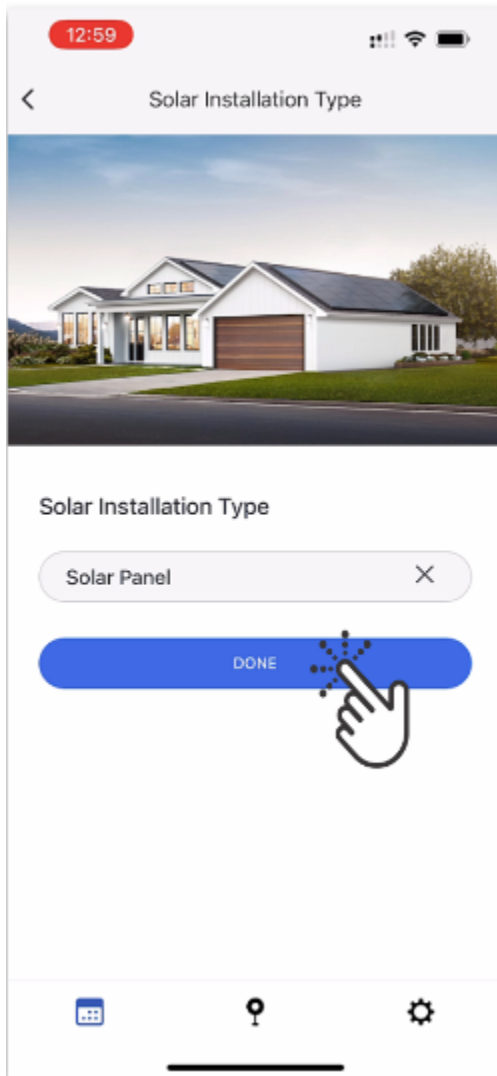
1. Tap **Solar Installation Type**



2. Tap the **drop-down menu** and select **Solar Panel**



3. Tap **DONE** to return to the Settings landing page



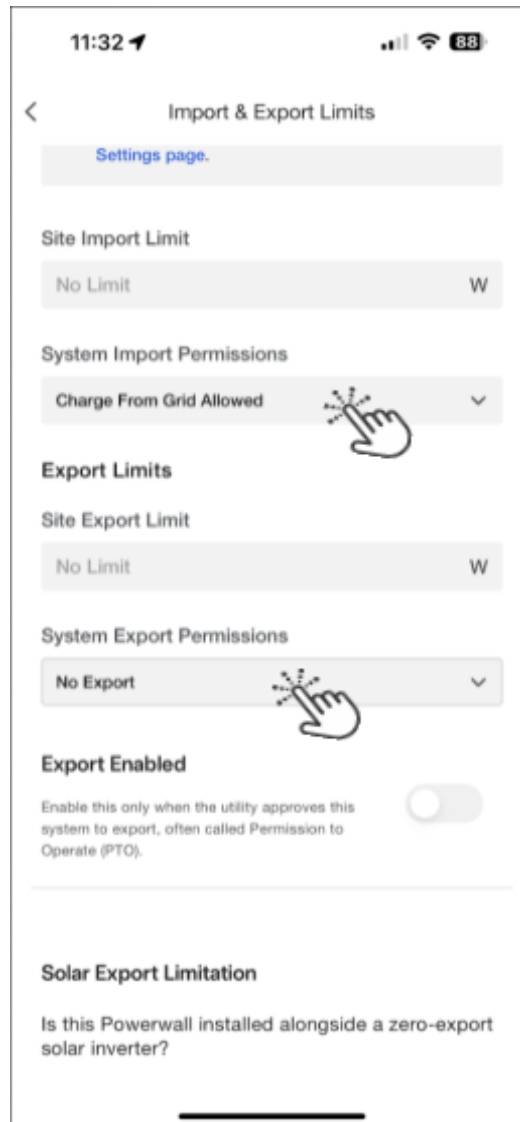
Standalone Battery Settings (if applicable)

IMPORTANT: Depending on the system configuration, it may be required to set the system parameters for standalone (battery only, no solar). The CD2.0 document will include **Notes to Installer** indicating this configuration.

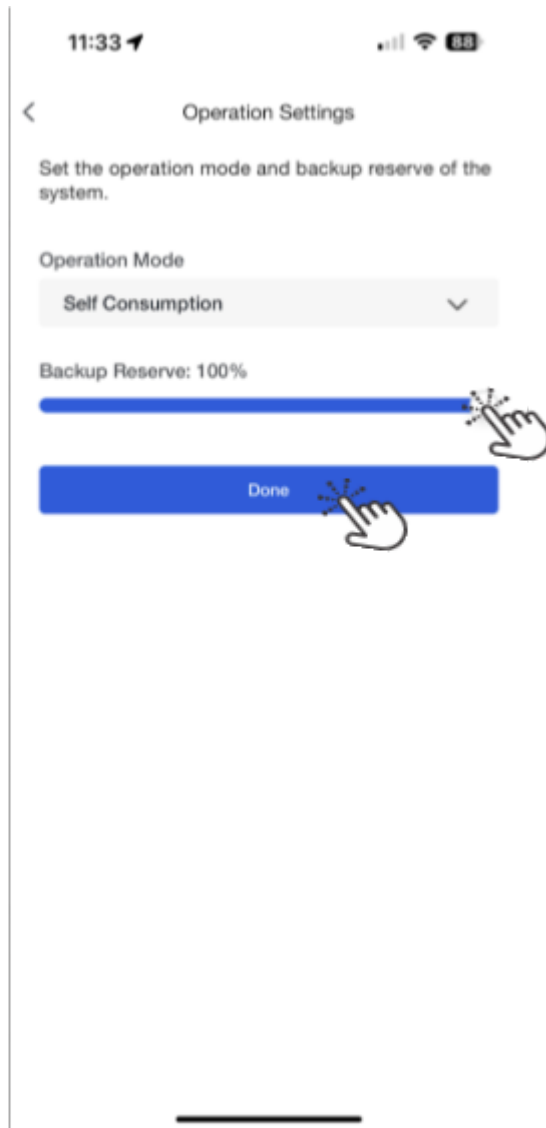
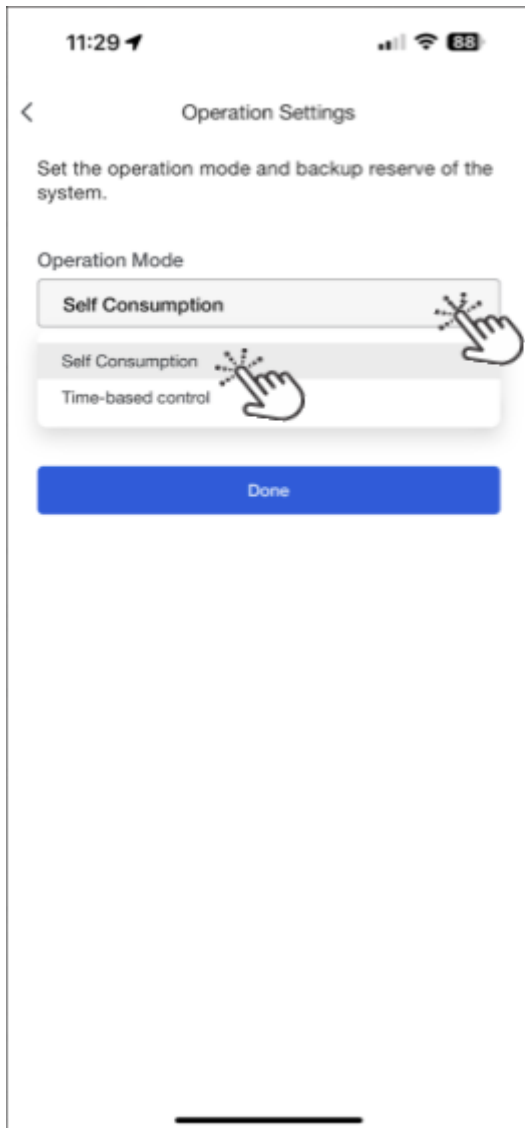
1. Navigate to the **Operations Settings** screen (**Settings > Solar Installation Type**)
2. Set the system to **No Solar** and tap **Done**.



3. In the **Settings** menu, tap **Import & Export Limits**
4. Verify the settings are **Charge from Grid Allowed** and **No Export**.

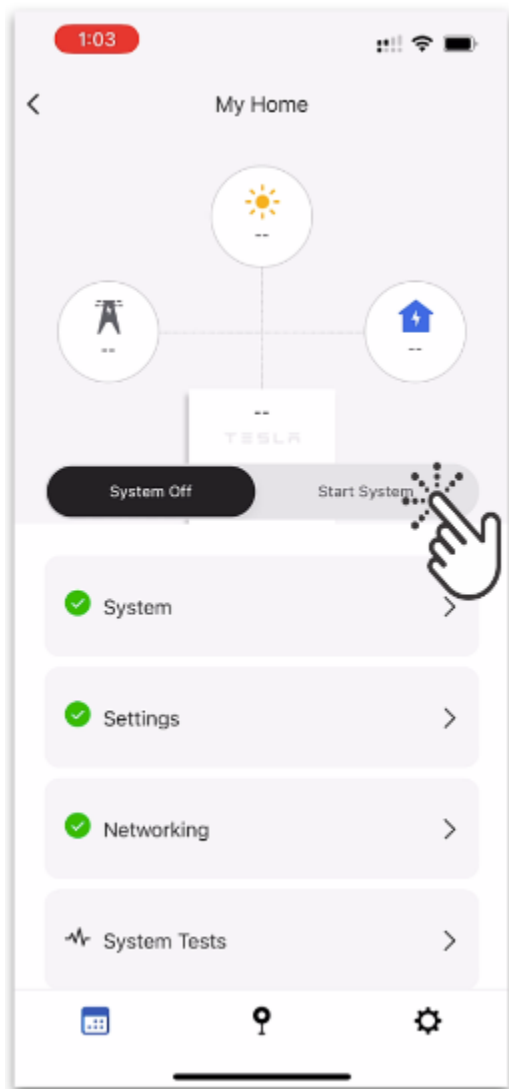


5. Navigate to the **Operations Settings** screen (**Settings > Advanced Settings > Operations Settings**)
6. Ensure the system is set to **Self Consumption** with a **Backup Reserve of 100%**.

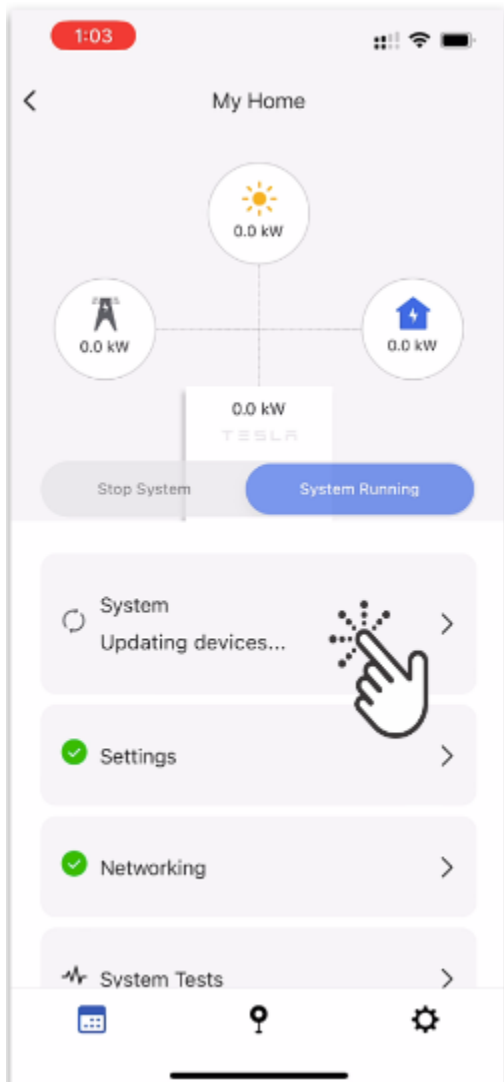


Step 13: Start System

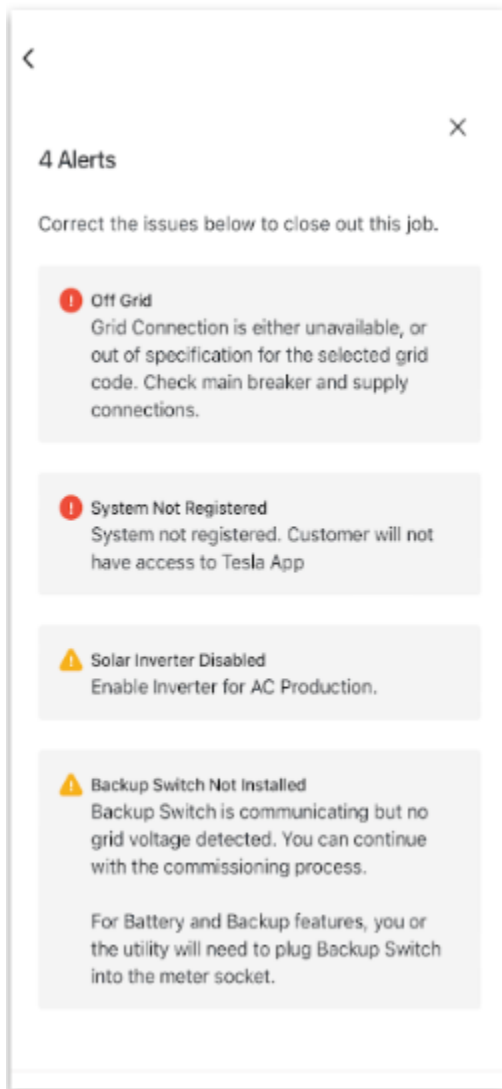
1. Tap **Start System** (any device updates will start automatically)



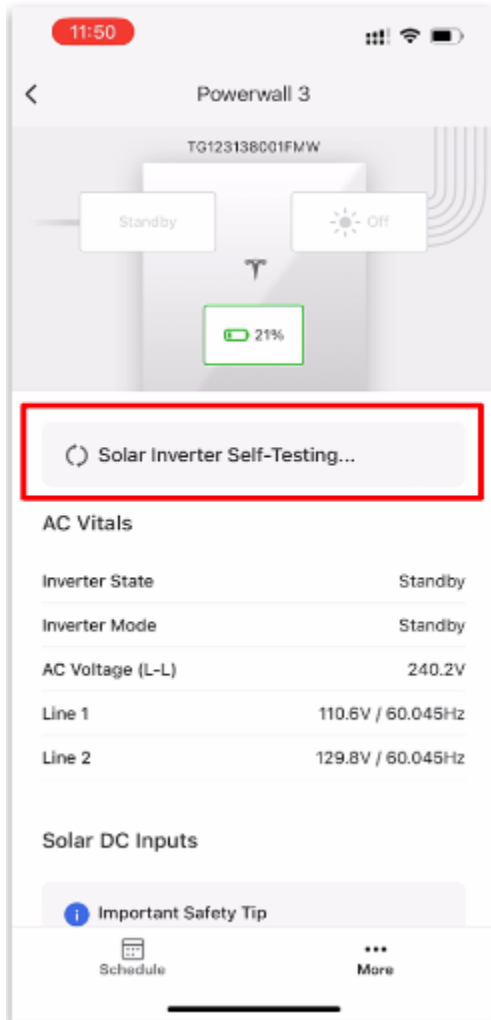
2. Tap **System Updating Devices** to view update status



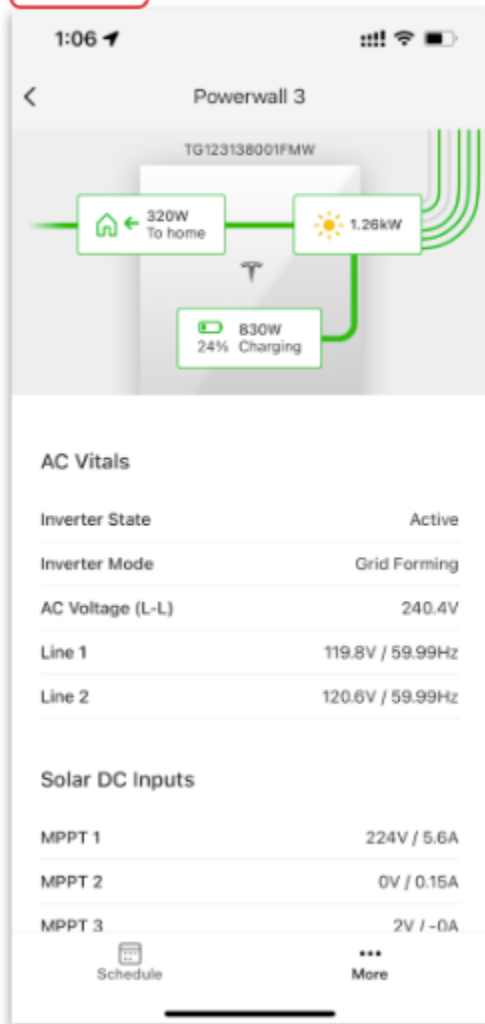
NOTE: If a Backup Switch is present but has not been installed, the alerts for **Off Grid** and **Backup switch not installed** shall be ignored.



3. The Solar Inverter will begin self-testing along with the MCIs.



4. When the solar self-test is complete, the AC Vitals will display (**Figure 2**):
- Inverter State: **Active**

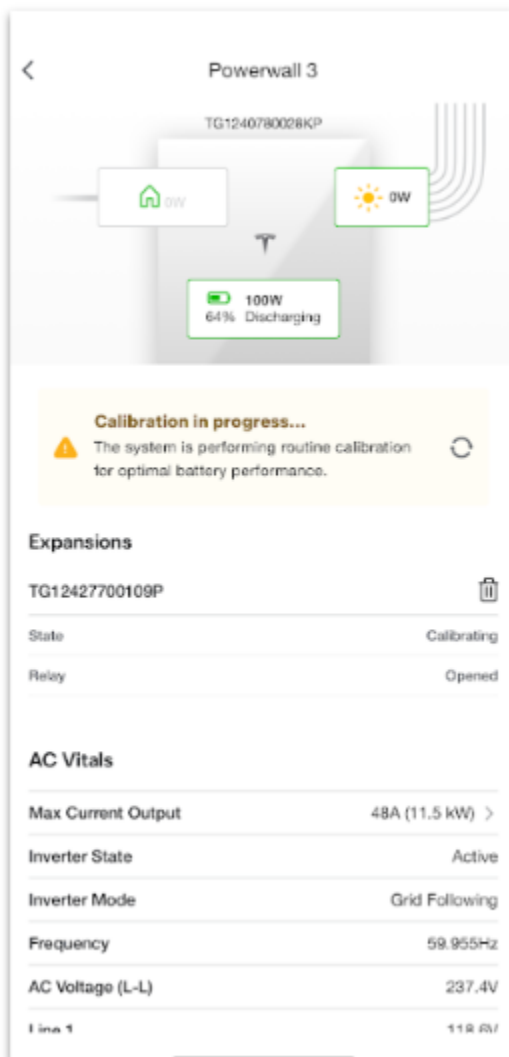


IMPORTANT: For multiple PW3, the status shall be verified for each inverter.

NOTE: Depending on home consumption and solar production, the PW3 powerflow may show the grid importing or exporting, and the battery charging or discharging

If the system includes Expansion units: Calibration will automatically begin, with the system calibrating one expansion unit at a time. Within approximately one minute, Tesla One will display Calibration in Progress.

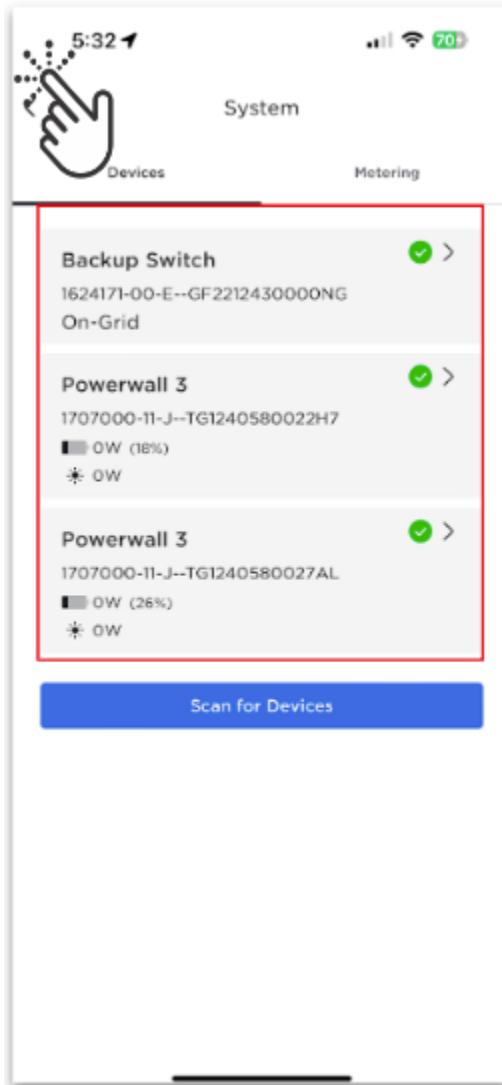
NOTE: Expansion units have an internal relay that is initially opened. To close the relay, the voltage of each Expansion unit must be the same as the other units. The system will charge or discharge until they match during this calibration. No installer action is necessary during calibration and may take a few hours. It is not necessary to remain on site until calibration is completed.



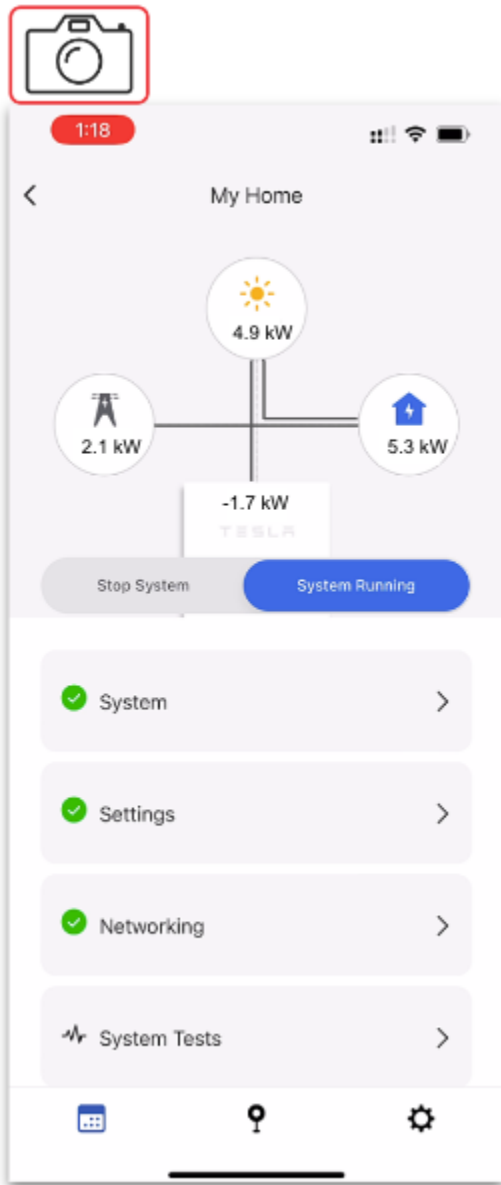
5. Tap the **back arrow** to return to the previous page.

Step 14: System Tests (Gateway or Backup Switch Installed)

1. Verify devices are updated. Tap the **Back Arrow**.



2. Verify the Power Flow represents what is happening on site



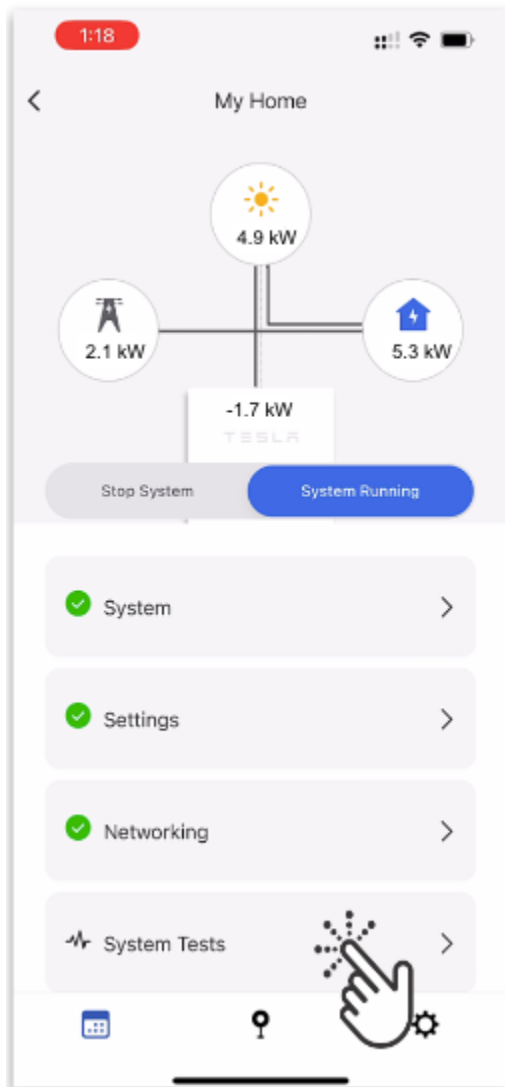
- All values must add up to be within 100 W of the home's consumption.

Example:

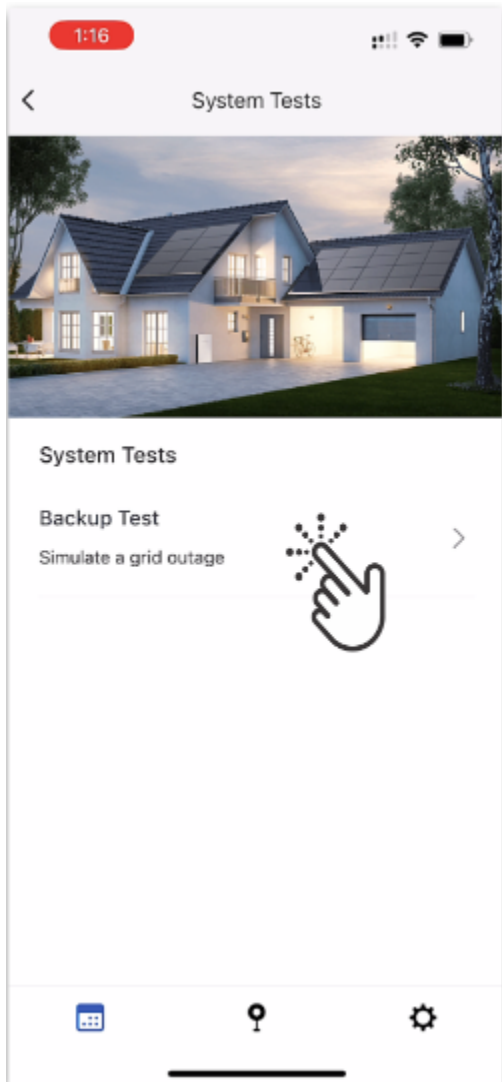
- Solar = 4.9 kW
- Grid = 2.1 kW
- Powerwall (charging) = -1.7 Kw
- Home Consumption= 5.3 Kw
- $4.9 + 2.1 - 1.7 = 5.3$

NOTE: The home consumption and solar values will never be negative. A negative home or solar value will indicate there is a CT installation error. Grid and Powerwall values may be positive or negative based on import/export or charging/discharging.

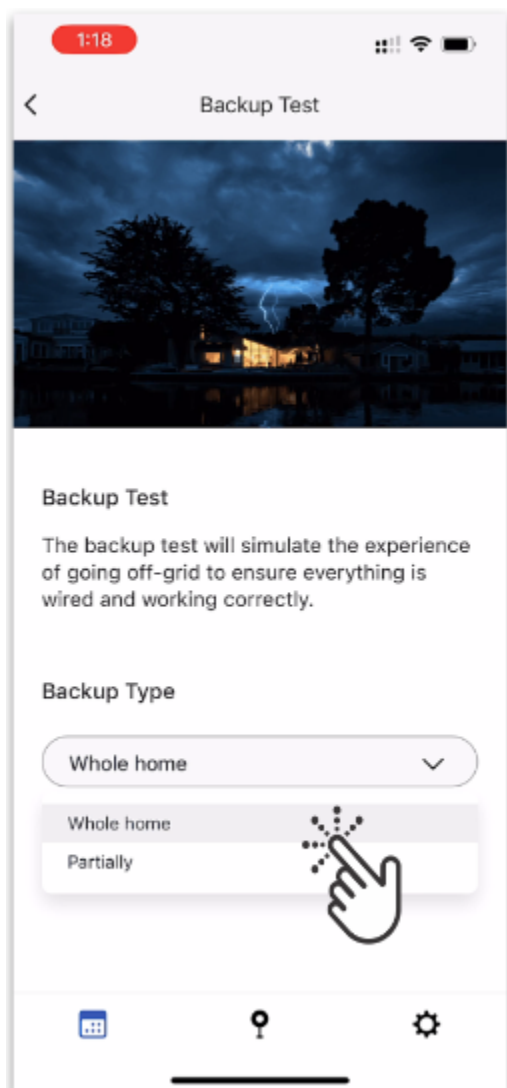
3. Tap **System Tests**



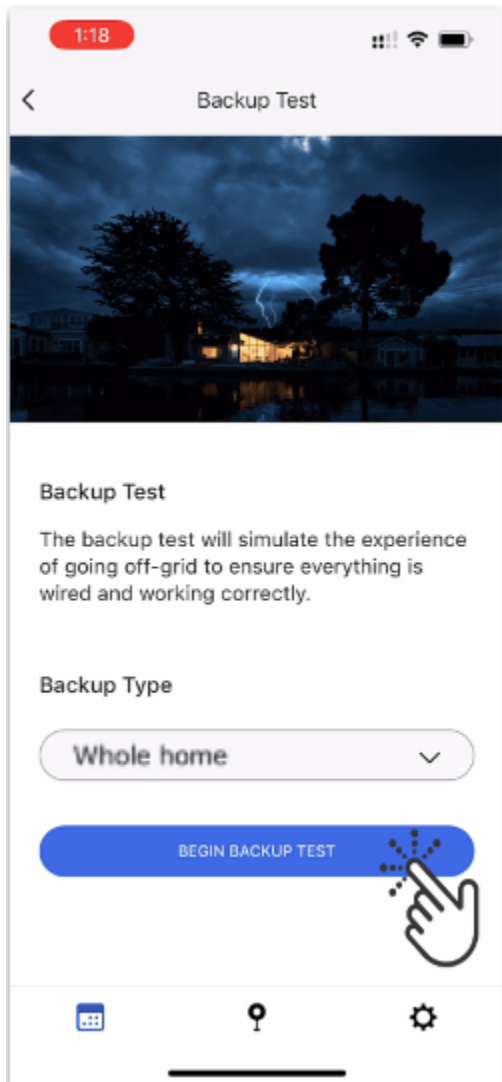
4. Tap **Backup Test** to simulate grid outage



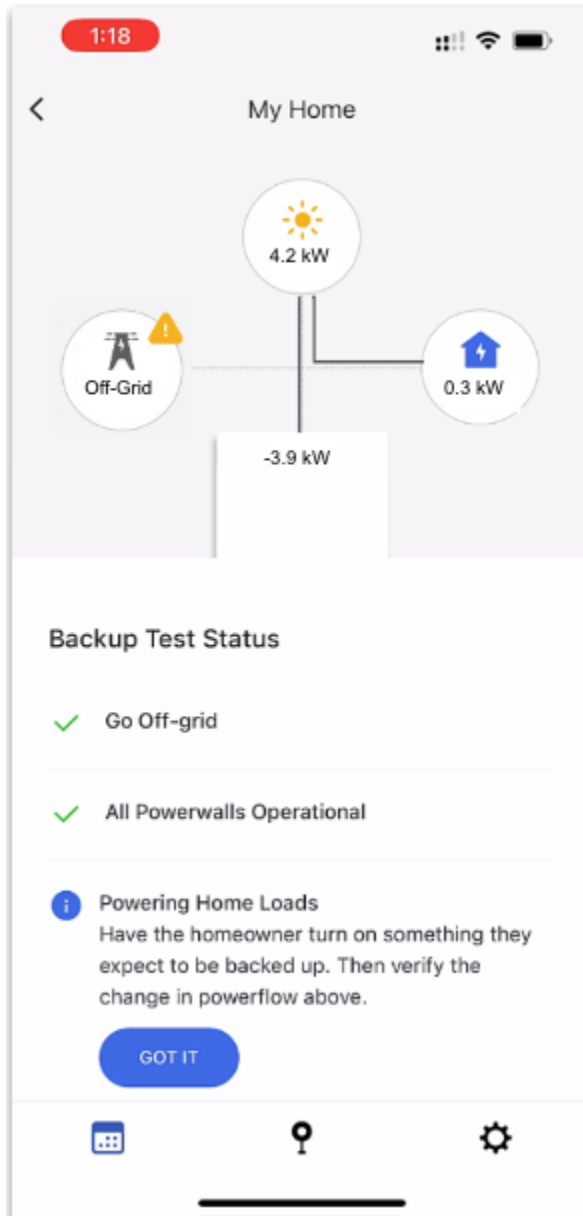
5. Select the **Backup Type:** Whole home.



6. Tap **BEGIN BACKUP TEST**



7. On the backup test page, verify the power flow represents what is happening on site.



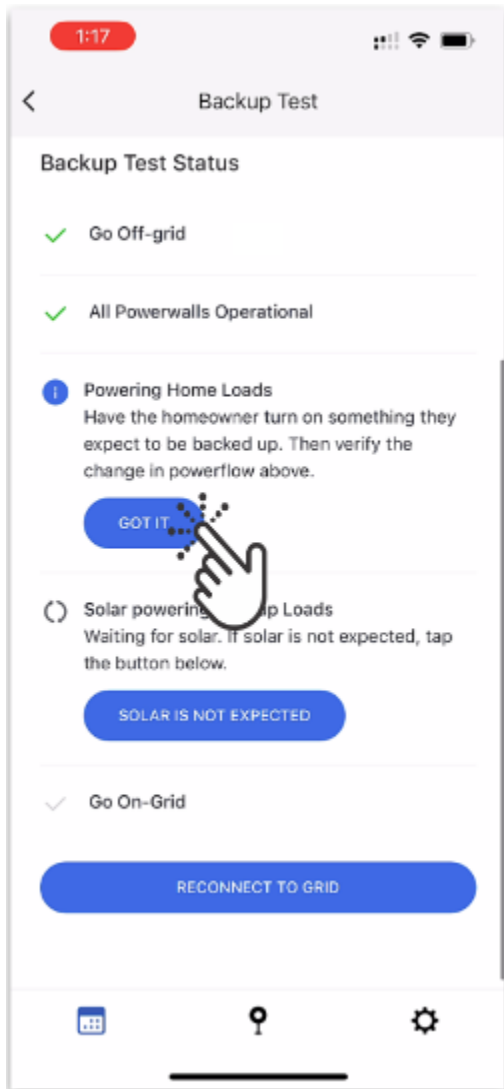
- All values must add up to be within 100 W of the home consumption.

Example:

- Solar = 4.2 kW
- Grid = Off Grid
- Powerwall (charging) = -3.9 Kw
- Home Consumption= 0.3 Kw
- $4.2 + 0 - 3.9 = 0.3$

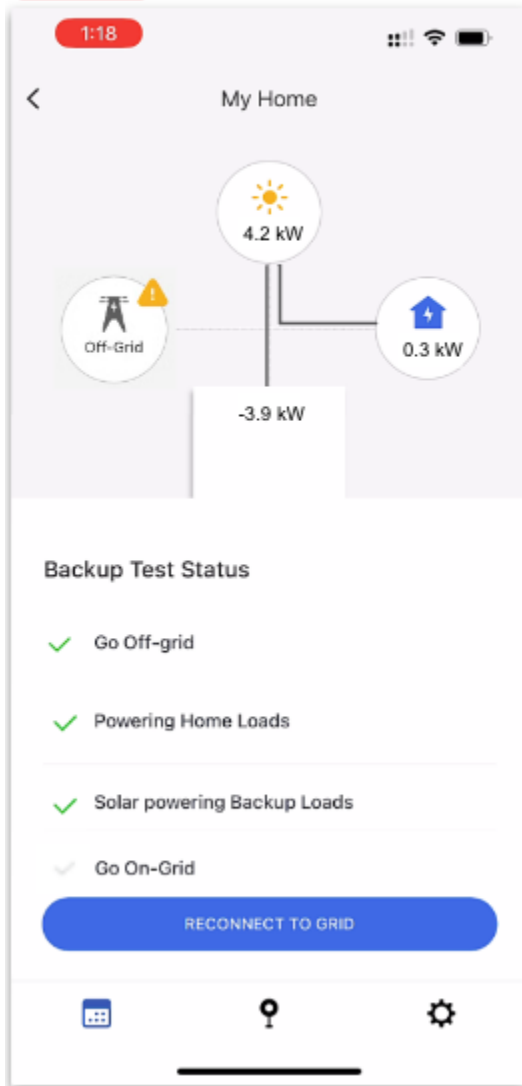
NOTE: The home consumption and solar values will never be negative. A negative home or solar value will indicate there is a CT installation error. Grid will show 0 kW (zero) and Powerwall values may be positive or negative based on import/export or charging/discharging.

8. Tap **Got It** to verify the system powering home loads.

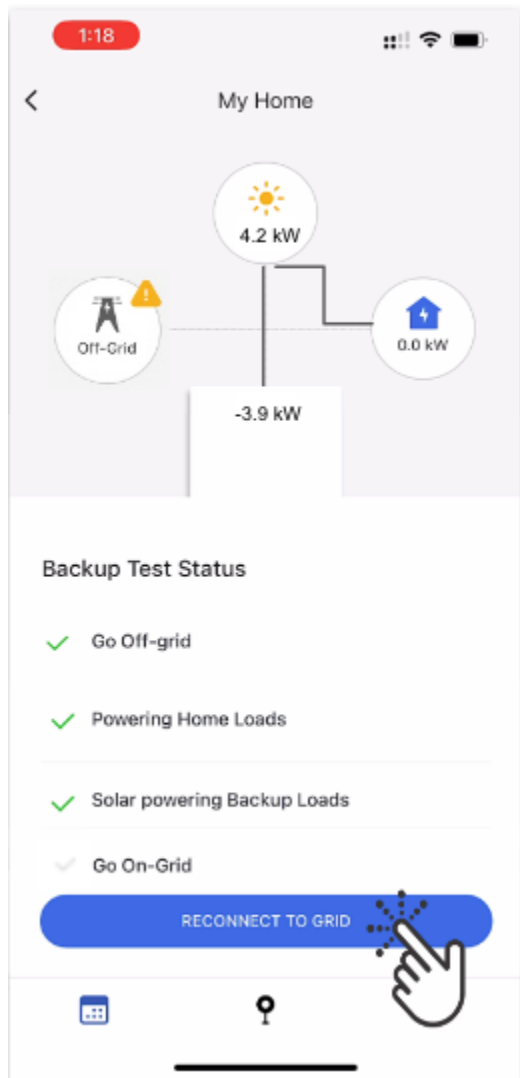


NOTE: If the PW3 charge is at 100% and can cover home consumption, the solar production value will not populate. Tap **SOLAR IS NOT EXPECTED**, if applicable.

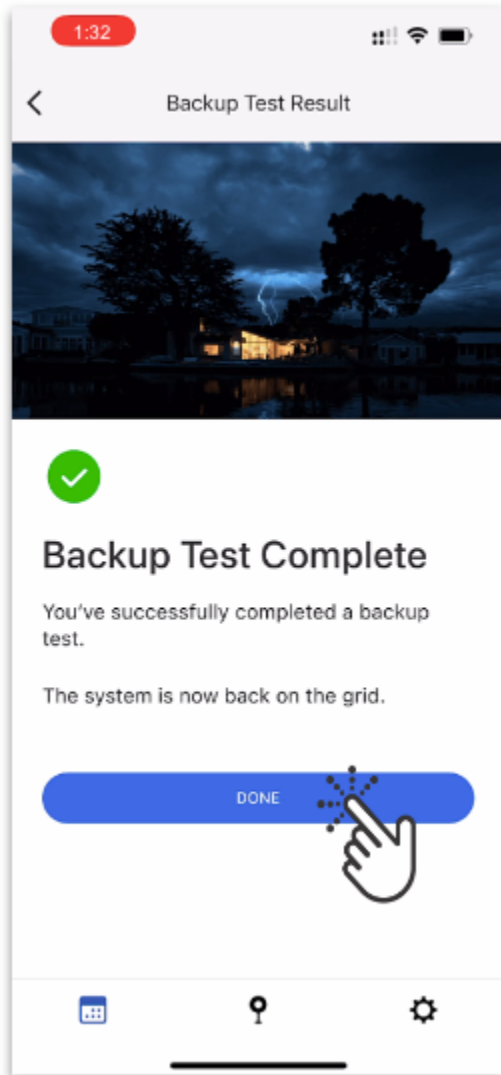
8. Verify Backup Test Status has a green check mark.



9. Tap **RECONNECT TO GRID** to complete the backup test.

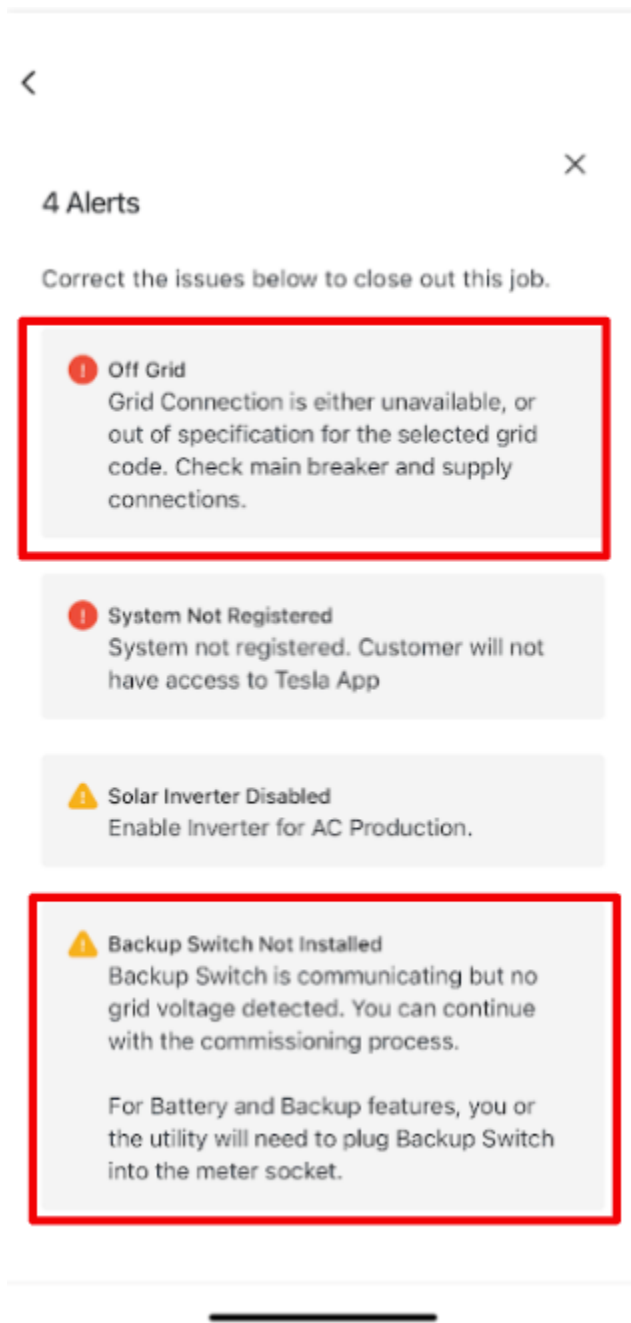


10. Tap **DONE**



Step 15: Backup Switch not yet installed (completed later by utility)

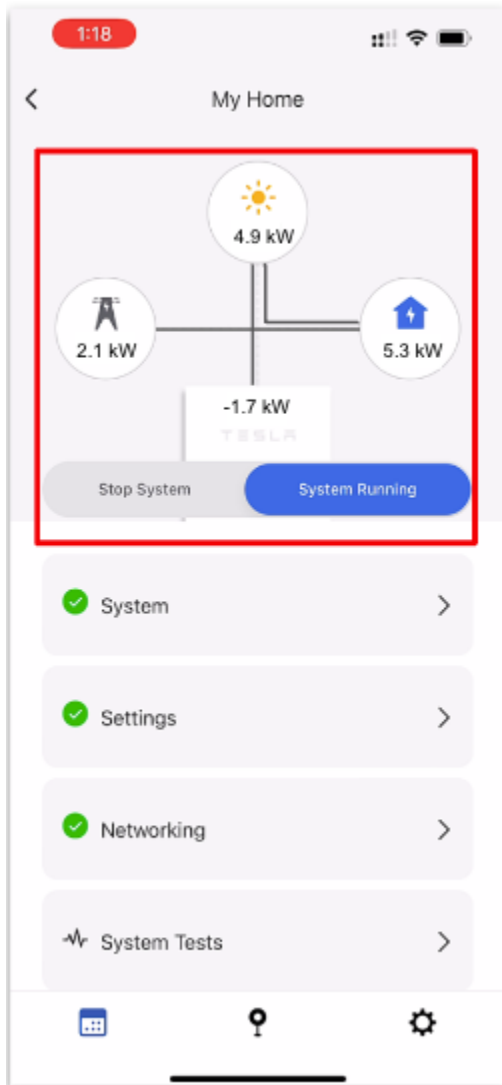
- A backup test will not be possible without the Backup Switch installed by the utility company.
- The system shall be left running so that the customer can complete their registration and perform a backup test via their app when it is installed.
- Normal powerflow data will not be present until the back up switch is installed. Any abnormal numbers or flow shall be ignored.



NOTE: Warning “Back up switch not Installed” and Alert “Off Grid” will remain present until the utility installs the unit and shall be ignored along with powerflow data.

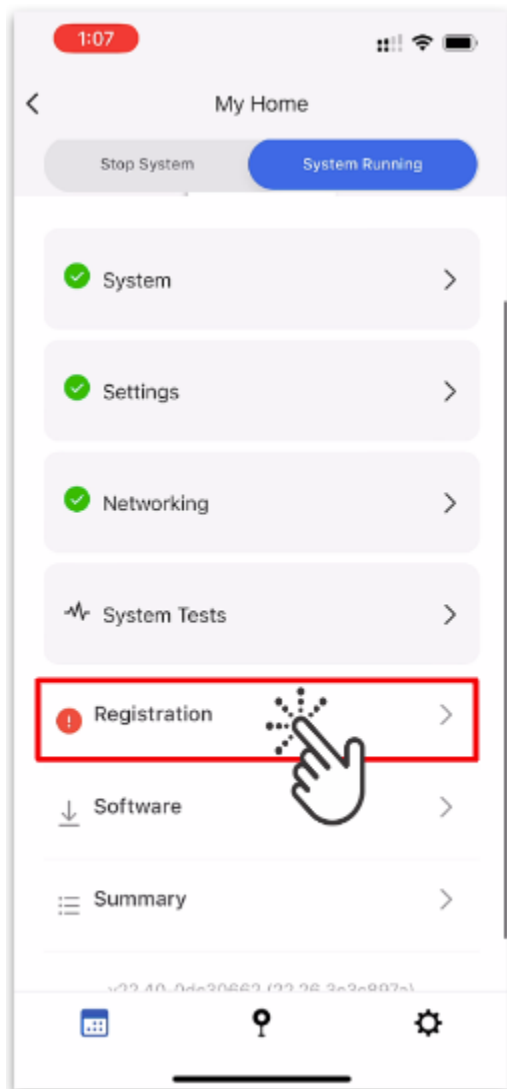
Step 16: Registration

NOTE: The system must be running to complete registration.

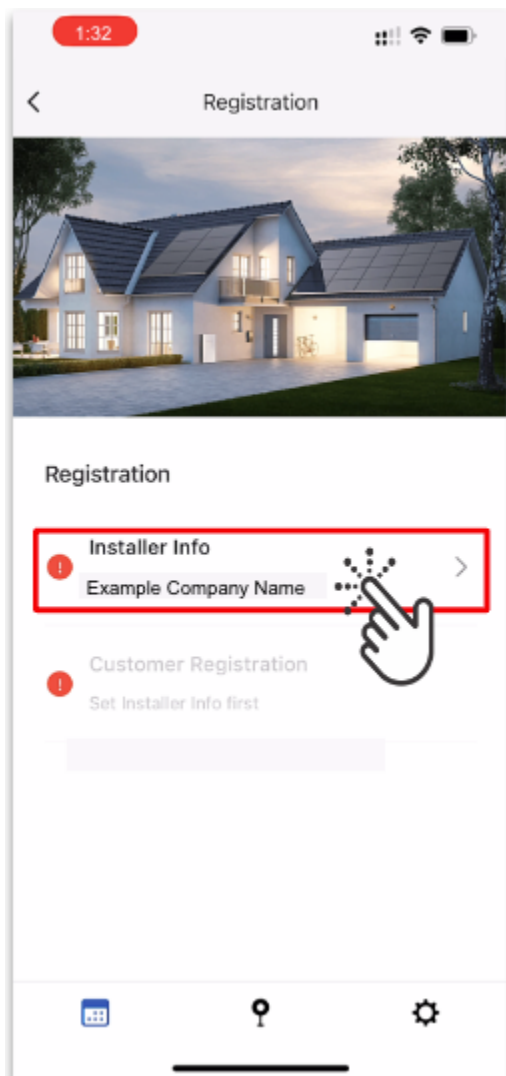


Company:

1. Navigate to the commissioning page and verify the system operation and grid connection.



2. Tap **Installer Info**



NOTE: The Email section will auto-populate based on the login information provided and cannot be edited.

- Under **Company**, verify **Sunrun, Inc. (USA)** is selected. **Tap Continue.**



< Registration

Installer

Company

Sunrun Inc (USA) ✕

Email

XXXXXXXXX @ EMAIL.COM

Partners

Partners are companies that have additional responsibility to the site.

Add Partner

Continue

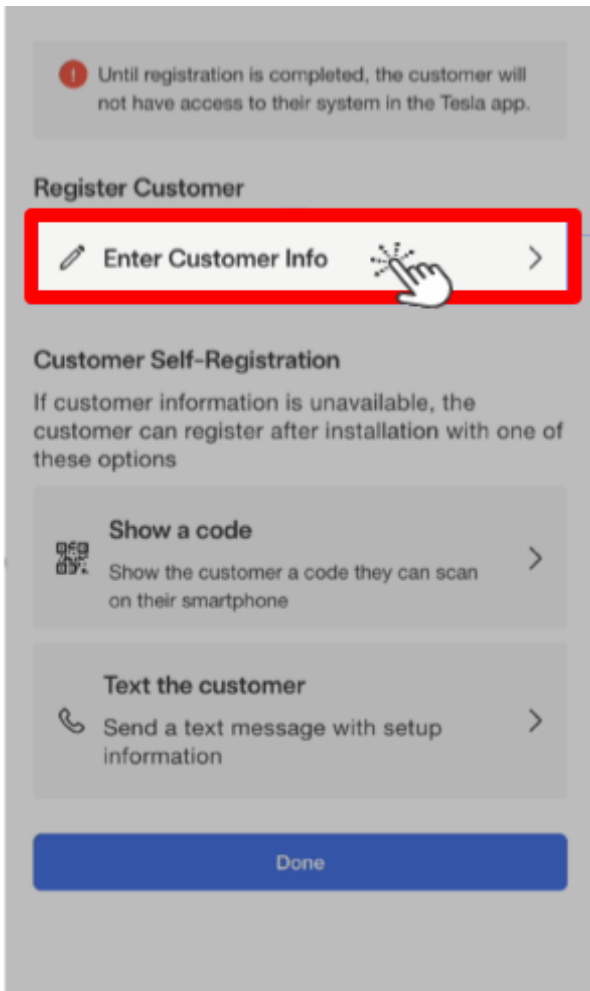
IMPORTANT: Partners installing systems for Sunrun shall use their company name and Email as the Installer information:

Tap **Add Partner** > enter **Sunrun Inc. (USA)** > tap **Done**.

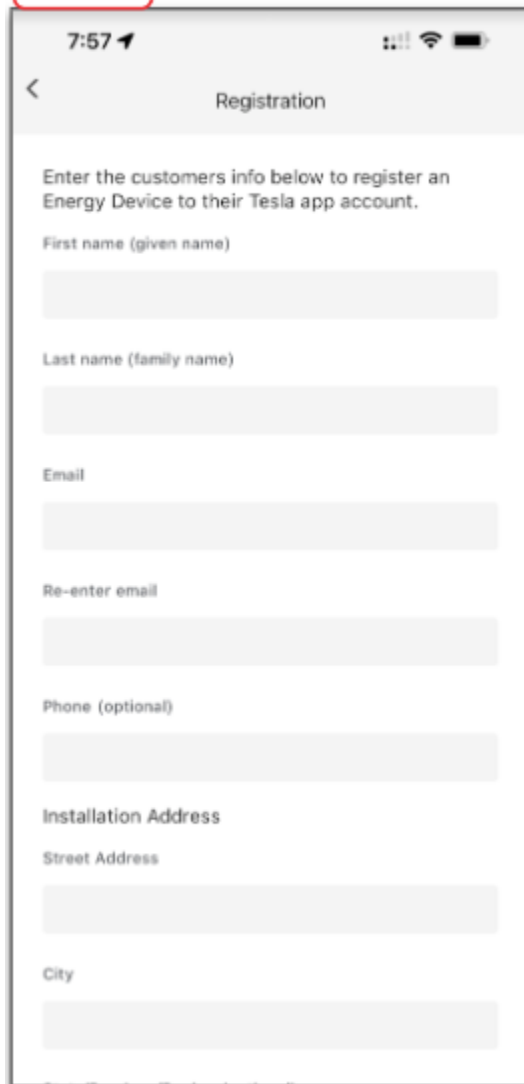


Customer:

1. Under Registration, tap **CUSTOMER IS UNAVAILABLE.**



2. Complete the form and tap **CONTINUE**.

A screenshot of a mobile application's registration screen. At the top, the status bar shows the time 7:57, signal strength, Wi-Fi, and battery icons. Below the status bar is a navigation bar with a back arrow and the title "Registration". The main content area contains the instruction "Enter the customers info below to register an Energy Device to their Tesla app account." followed by several input fields: "First name (given name)", "Last name (family name)", "Email", "Re-enter email", "Phone (optional)", "Installation Address" (with a sub-label "Street Address"), and "City". Each field is represented by a light gray rectangular box.

7:57

< Registration

Enter the customers info below to register an Energy Device to their Tesla app account.

First name (given name)

Last name (family name)

Email

Re-enter email

Phone (optional)

Installation Address

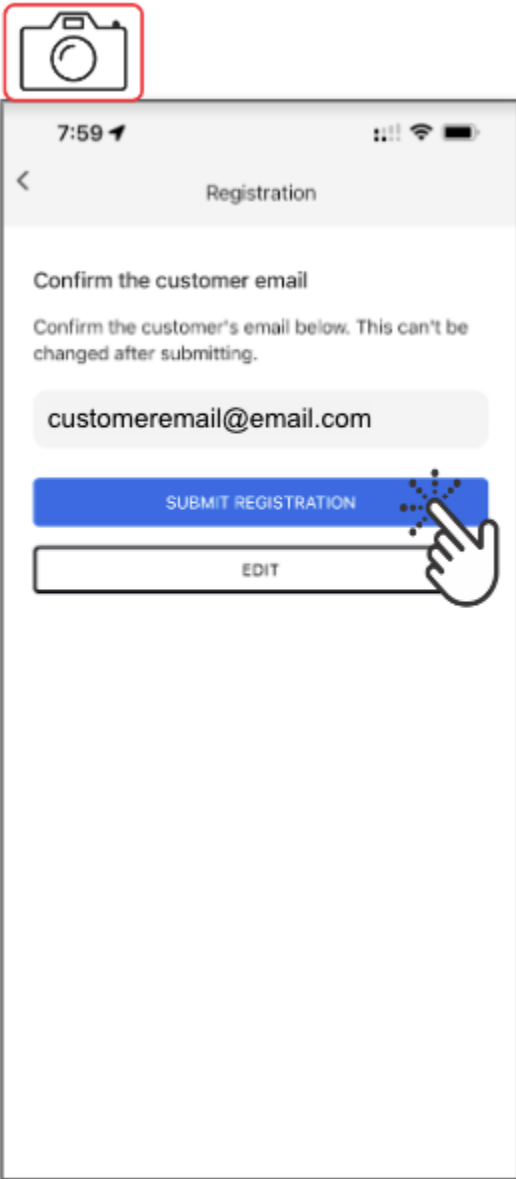
Street Address

City

IMPORTANT: The email entered must match the email the customer uses for their Tesla App or they will not be able to see the system.

The customer address must match the address on the plan set.

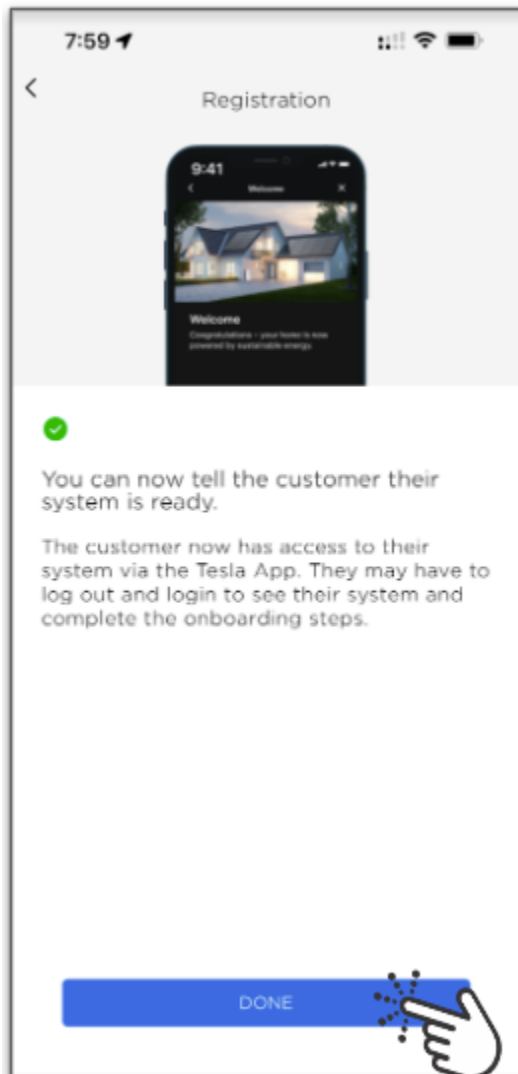
3. Confirm the customer's email address and tap **SUBMIT REGISTRATION**.



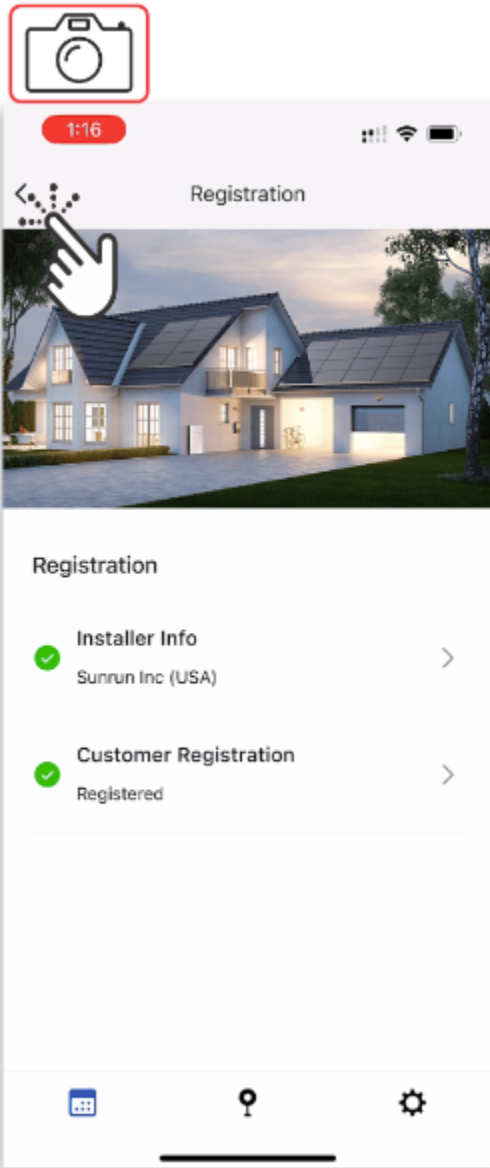
- The customer can now register the system with the Tesla Homeowner App.

NOTE: If the customer cannot access their system, Tesla support must be contacted for assistance at 1 (650) 963 - 5655.

4. Tap **DONE** to continue.



5. Tap the **back arrow**



Step 17: Summary Report

- From the bottom of the main screen tap **Summary**
- Take a screenshot of the summary screen

NOTE: This will take at least two screenshots to capture the entire summary.

Summary	
IG123138001FMW	
Powerwalls	1707000-20-G-- TG123138001FMW Max Current: 48A (11.5 kW)
Meters	Backup Switch: 1624171- 00-G--GF2213330005ZY (Site, Site)
Operation Settings	
Software Version	24.36.11 c365326b
Mode	Self Consumption
Backup Reserve	100%
Timezone	America/Los_Angeles
Network	Wi-Fi
Grid Code	60Hz_240V_s_SMC_IEEE15 47-2018_UL1741SB-CA- Rule21_2023
Grid Charging Permission	Disallowed
Grid Exporting Permission	Export Battery & Solar
Site Import Limit	None
Site Export Limit	None
Panel Maximum Current Limit	80A
Backup Behavior	Automatic
PCS controlled source(s) output-circuit current	0A - 48A

If Max Current Output is noted in CD2.0, all Powerwalls Max Current: 41.7A(10kW)

1707000-11-J--
TG1240780028KP
Max Current: 41.7A (10 kW)
Expansion: 1807000-20-B--
TG12427700109P

1707000-11-J--
TG124078002V2F
Max Current: 41.7A (10 kW)

Grid charge only allowed in Texas market or for Standalone systems.

All systems shall have Battery & Solar Export Permission (except HI). If noted in CD2.0 as non export second system, Export permission shall be "AC Coupled Solar Only"

Grid Exporting Permission AC-Coupled Solar Only

Site Export Limit only set if required by CD 2.0

Only set if required by CD 2.0 (Default is 80A)

Panel Maximum Current Limit XXA

Step 18: System Leave State - Customer Activation

1. Leave all system disconnects in the **ON** position.
2. Leave the battery ON/OFF switch in the **ON** position.
3. If multiple Powerwalls are installed, ensure that all are left **ON**.

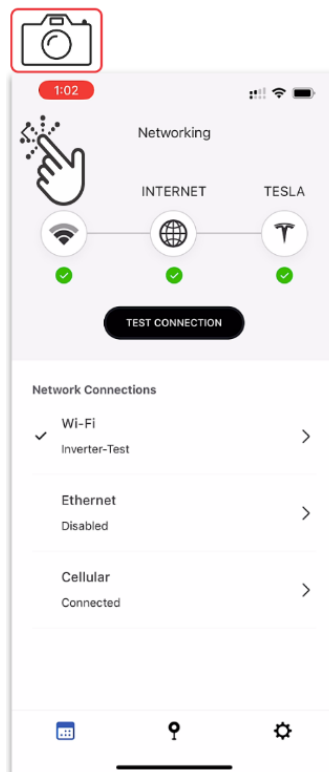
IMPORTANT: Power to the Gateway shall remain powered ON regardless of remote or non-remote activation. Turning power off to the Gateway will de-energize all connected backup panels and circuits.

4. The customer will enable solar export once PTO is granted via the Tesla Homeowner App.

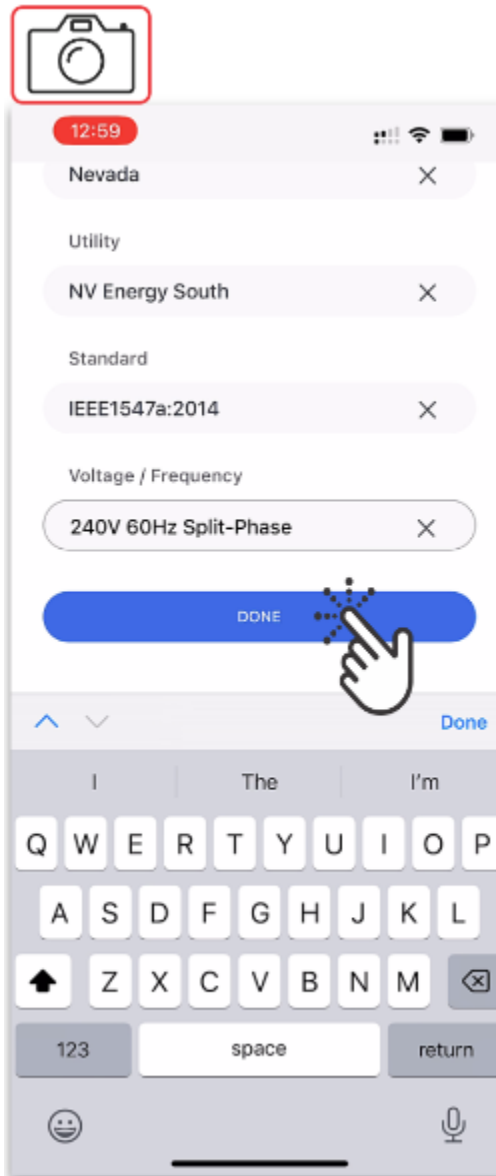
IMPORTANT: The customer must have the system registered to access through the Tesla Homeowner App.

Required Photos

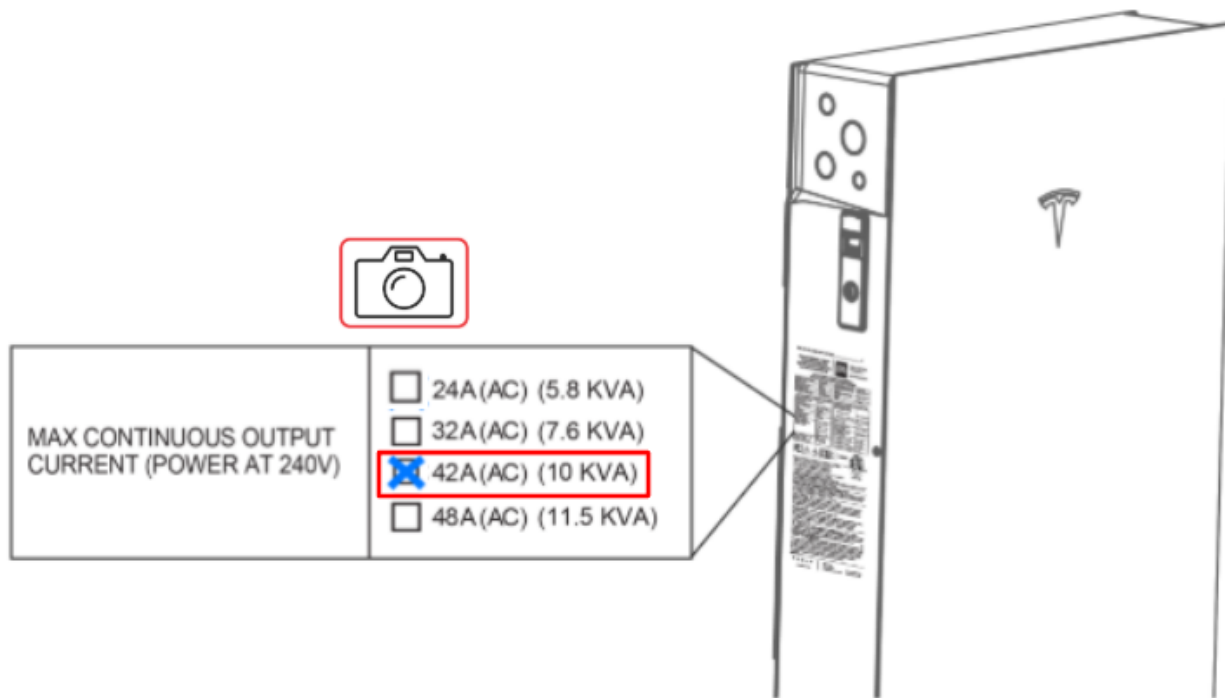
- Successful connection test



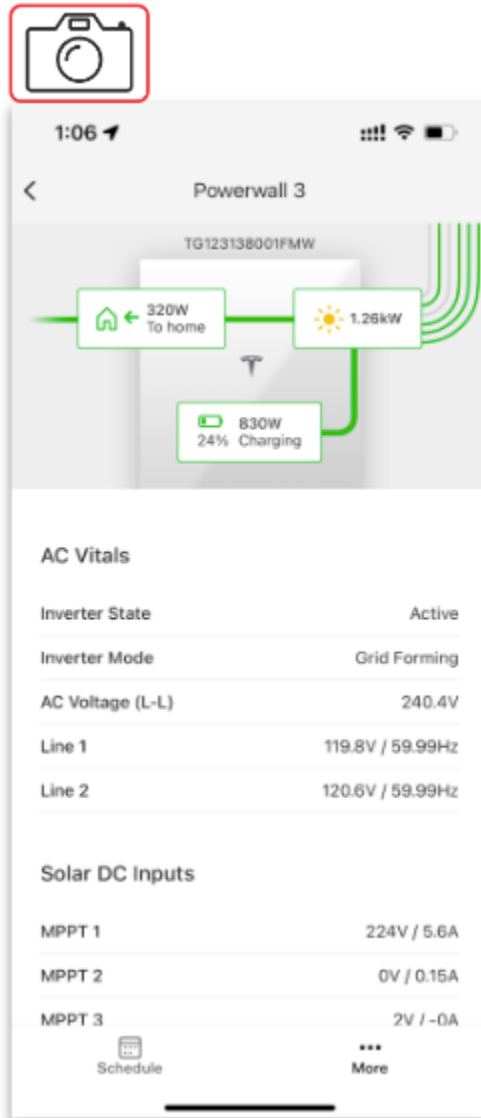
- Set Grid Code



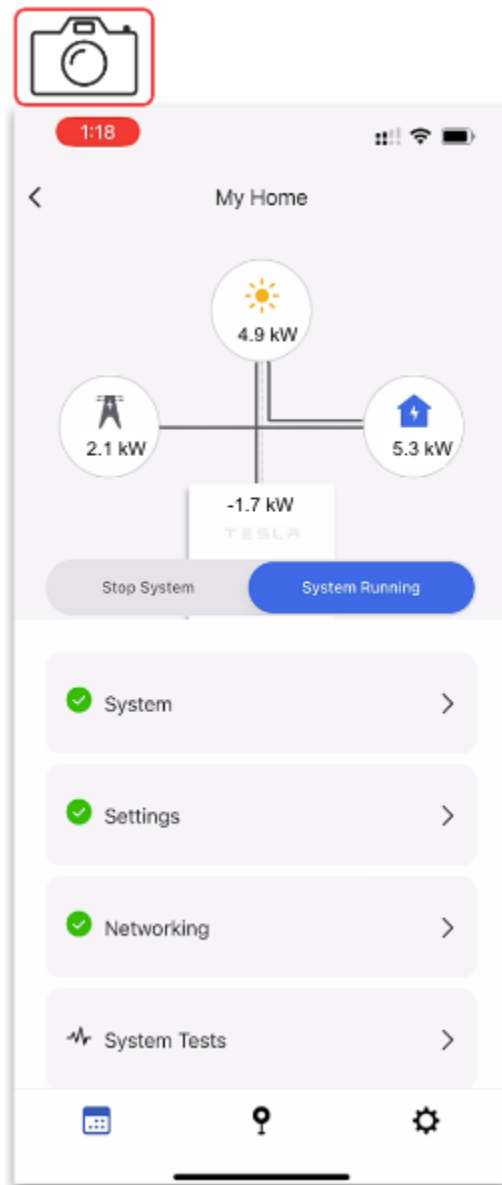
- Configured maximum current output on the Powerwall 3 product label using a paint pen



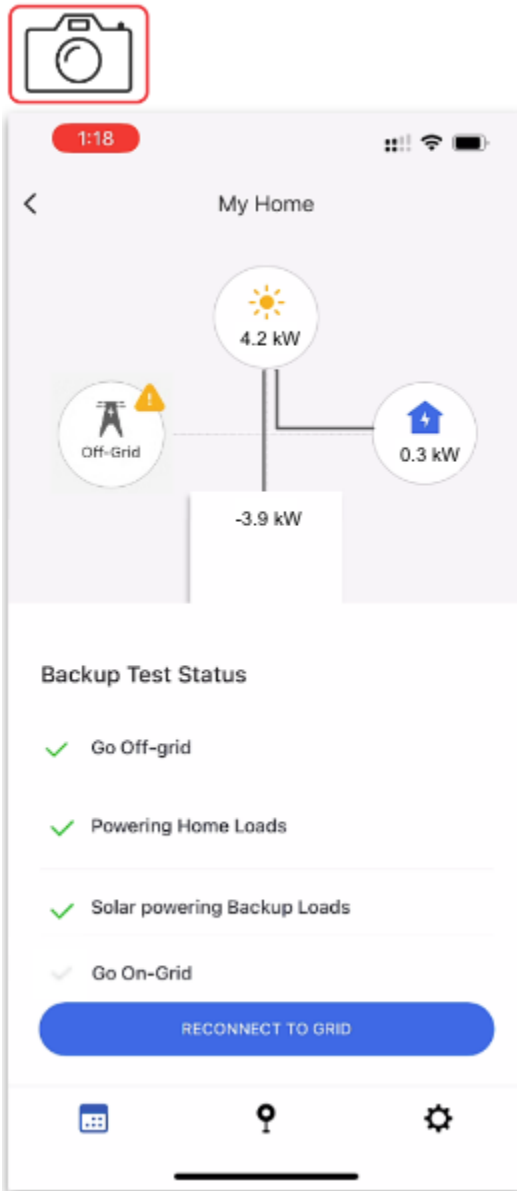
- Inverter State



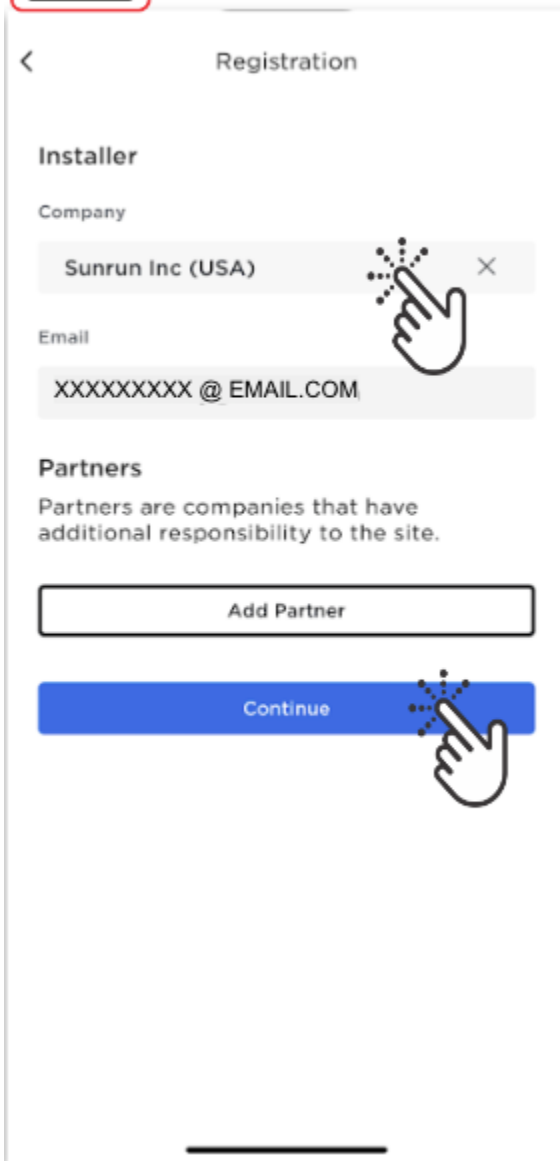
- Accurate Power Flow Screen



- Backup Test Status



- Registration



The image shows a mobile application registration screen. At the top left, there is a camera icon enclosed in a red square. The screen itself has a white background with a grey header bar containing a back arrow and the title "Registration". Below the header, the section "Installer" is displayed. It includes a "Company" field with a text input containing "Sunrun Inc (USA)" and a clear button (an 'X' icon). A hand icon is shown clicking the clear button. Below the company field is an "Email" field with a text input containing "XXXXXXXXX @ EMAIL.COM". Further down, the "Partners" section is shown, with a description: "Partners are companies that have additional responsibility to the site." Below this description are two buttons: a white "Add Partner" button and a blue "Continue" button. A hand icon is shown clicking the "Continue" button.

Registration

Installer

Company

Sunrun Inc (USA) X

Email

XXXXXXXXX @ EMAIL.COM

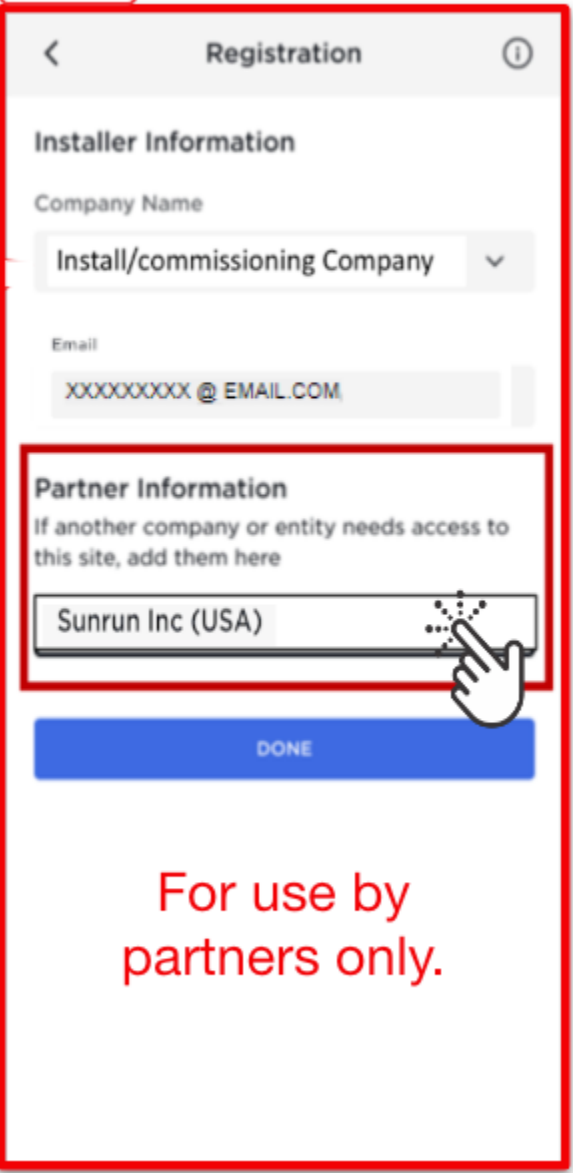
Partners

Partners are companies that have additional responsibility to the site.

Add Partner

Continue

- (If Applicable) Partner Registration



The screenshot shows a mobile application interface for a registration process. At the top, there is a camera icon. Below it is a header bar with a back arrow, the title "Registration", and an information icon. The form is divided into two sections: "Installer Information" and "Partner Information". The "Installer Information" section includes a "Company Name" dropdown menu with "Install/commissioning Company" selected, and an "Email" field with the placeholder "XXXXXXXXX @ EMAIL.COM". The "Partner Information" section has a sub-header "Partner Information" and a note: "If another company or entity needs access to this site, add them here". Below this is a text input field containing "Sunrun Inc (USA)". A hand icon is pointing at the end of this field. At the bottom of the form is a blue button labeled "DONE". Below the form, the text "For use by partners only." is displayed in red.

Registration

Installer Information

Company Name

Install/commissioning Company

Email

XXXXXXXXX @ EMAIL.COM

Partner Information

If another company or entity needs access to this site, add them here

Sunrun Inc (USA)

DONE

For use by partners only.

- Registration: Customer Info



7:57

< Registration

Enter the customers info below to register an Energy Device to their Tesla app account.

First name (given name)

Last name (family name)

Email

Re-enter email

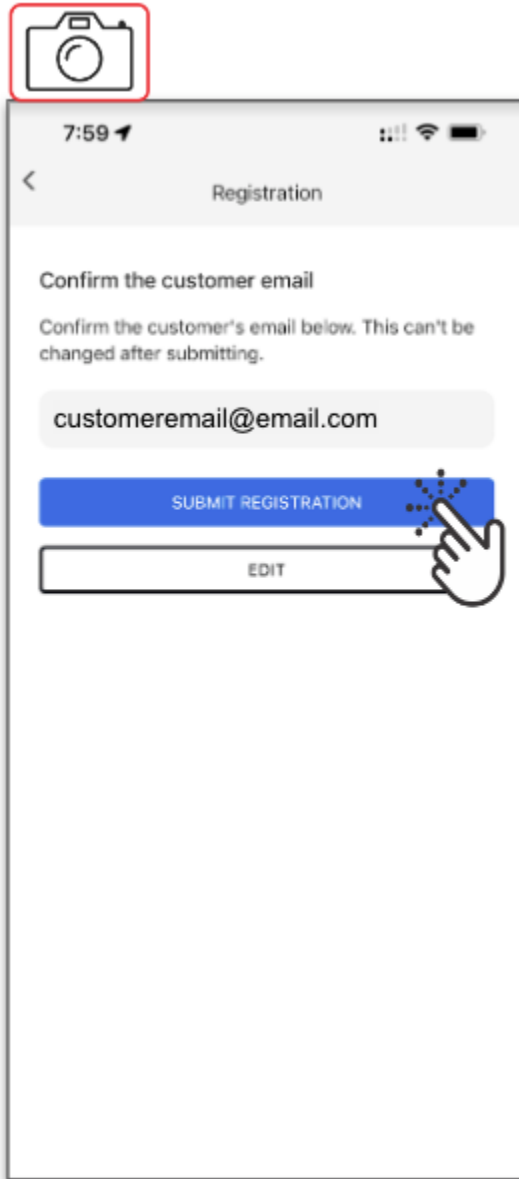
Phone (optional)

Installation Address

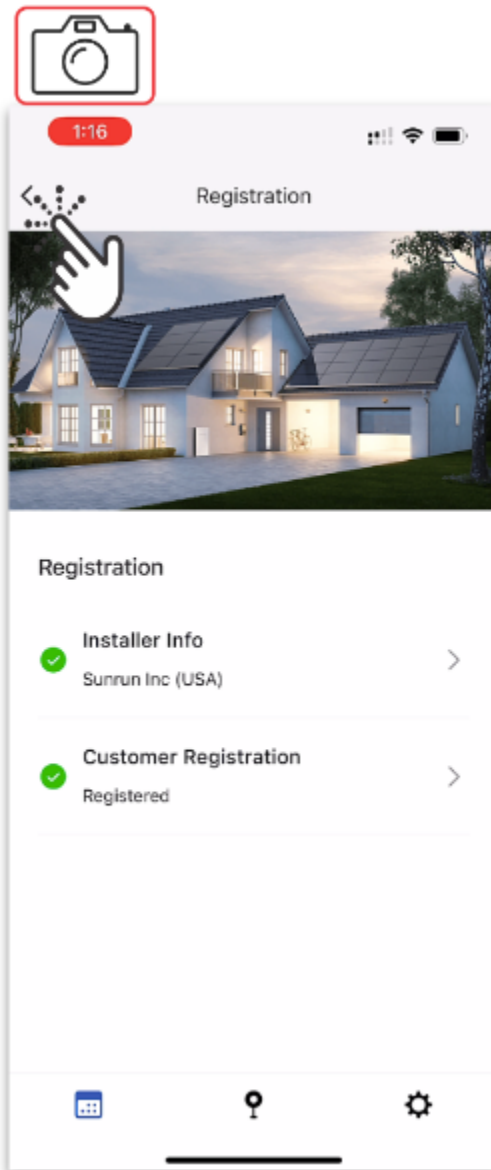
Street Address

City

- Customer Email Confirmation



- Complete Registration



- Summary Report



Summary

IG123138001FMW

Powerwalls	1707000-20-G-- TG123138001FMW Max Current: 48A (11.5 kW)
Meters	Backup Switch: 1624171-00-G--GF2213330005ZY (Site, Site)

Operation Settings

Software Version	24.36.11 c365326b
Mode	Self Consumption
Backup Reserve	100%
Timezone	America/Los_Angeles
Network	Wi-Fi
Grid Code	60Hz_240V_s_SMC_IEEE15 47-2018_UL1741SB-CA- Rule21_2023
Grid Charging Permission	Disallowed
Grid Exporting Permission	Export Battery & Solar
Site Import Limit	None
Site Export Limit	None
Panel Maximum Current Limit	80A
Backup Behavior	Automatic
PCS controlled source(s) output-circuit current	0A - 48A

If Max Current Output is noted in CD2.0, all Powerwalls Max Current: 41.7A(10kW)

1707000-11-J--
TG1240780028KP
Max Current: 41.7A (10 kW)
Expansion: 1807000-20-B--
TG12427700109P

1707000-11-J--
TG124078002V2F
Max Current: 41.7A (10 kW)

Grid charge only allowed in Texas market or for Standalone systems.

All systems shall have Battery & Solar Export Permission (except HI). If noted in CD2.0 as non export second system, Export permission shall be "AC Coupled Solar Only"

Grid Exporting Permission AC-Coupled Solar Only

Site Export Limit only set if required by CD 2.0

Only set if required by CD 2.0 (Default is 80A)

Panel Maximum Current Limit XXA

Verification

- All network settings are correct with a minimum of two communication sources connected.
- All applicable updates are complete.
- Meters are connected and communicating.
- Commissioning has been completed successfully, if commissioning is performed before Backup switch is installed, alerts will be present for Off Grid and Backup Switch not located.
- The system is fully operational, if a Backup Switch is to be installed by the utility after commissioning, Backup tests will not be possible.

- The system backup functionality has been verified within the Tesla One app backup test.
- All registration information is correct and the customer has successfully registered the system.
- All settings and serial numbers on the Summary Screen are correct.
- System is left in the correct leave state.

Product Feedback

Use the links below to provide feedback on SOPs and/or products:

- [SOP/Work Instruction Feedback](#)
- [Product Feedback](#)

Approvals

Approvals			
Prepared by: N. Rumley	3/4/2024	Training: D. Takahashi	5/6/2024
Reviewed by: J. Costner	5/17/2024	Safety:	

Electrical:		Structural:	
Design:		CRT: Z.Thibert	12/18/2024
Product:		Other:	
Quality: A. Chiu	5/6/2024	Other:	

Revision History

Revision	Date	Description	Approval
1	5/17/2024	Initial Release	J. Costner
2	8/13/2024	Revised per CO-0115	J. Costner
3	9/24/2024	Revised per CO-0117	J. Costner
4	11/19/2024	Revised per CO-0118	J. Costner

5	12/12/2024	Revised per CO-0124	N. Rumley
6	1/15/2024	Revised Per CO-0127	N. Rumley
7	6/18/2025	Revised Per CO-0141	N. Rumley
8	9/3/2025	Revised per CO-0147	J. Costner

SUNRUN Document Control Change Order

INS-FRM-0001-03

Field Operations

Change Order number: CO-0115	New Revision: 02	Submitted By & Date: Zac Thibert 8/12/2024
Document Title and Number: Tesla Powerwall 3/Gateway 2 or Backup Switch: Commissioning - INS-SOP-0233		
Reason for Change (in detail): The summary report in the Tesla One app is sufficient to cover multiple screenshots and reduce the number required at installation.		
Description of Change (in detail): - Photo icons were removed to align the the Central Review Team's requirements for photo submissions at job completion. - Added step for capturing the summary report in multiple screenshots		

References: N/A		
Effectivity: (Installations in field, New installations, Work in Progress) All new Tesla product installations.		
Other documents affected: (Spanish version, other SOPs, Work Instructions) Current versions		
Approvals	Training:	Quality:
Product: J. Costner 8/13/2024	Electrical:	Structural:
Other:	Other:	Other:

Field Operations

Change Order number: CO-0117	New Revision: 03	Submitted By & Date: N. Rumley 9/24/2024
Document Title and Number: Tesla Powerwall 3/ Gateway 2 or Backup Switch : Commissioning - INS-SOP-0233		
Reason for Change (in detail): Gateway 3 was released and included in this single document for commissioning		
Description of Change (in detail): - Title of SOP changed from: Tesla Powerwall 3/Gateway 2 or Backup Switch: Commissioning - INS-SOP-0233 to: Tesla Powerwall 3: Commissioning - INS-SOP-0233 - Information throughout the SOP was updated to detail Gateway 2 - specific settings, and generalize other Gateway settings when common procedures apply.		
References: N/A		
Effectivity: (Installations in field, New installations, Work in Progress) All new Tesla product installations.		
Other documents affected: (Spanish version, other SOPs, Work Instructions) Current versions		
Approvals	Training:	Quality:
Product: J. Costner 9/24/2024	Electrical:	Structural:

Other:	Other:	Other:
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Document Control

Change Order

INS-FRM-0001-03



Field Operations

Change Order number: CO-0118	New Revision: 04	Submitted By & Date: N. Rumley 11/12/2024
Document Title and Number: Tesla Powerwall 3: Commissioning - INS-SOP-0233		
Reason for Change (in detail): The Tesla Remote Meter became available for monitoring remote loads and allowing for partial home backup systems to be installed with proper monitoring.		
Description of Change (in detail): Step 9: Energy Metering was updated to reflect the installation and wiring of this new meter.		
References: N/A		
Effectivity: (Installations in field, New installations, Work in Progress) All new Tesla Powerwall 3 installations.		
Other documents affected: (Spanish version, other SOPs, Work Instructions) Current versions		
Approvals	Training:	Quality:
Product: J. Costner 11/19/2024	Electrical:	Structural:
Other:	Other:	Other:

Document Control Change Order		 Field Operations INS-FRM-0001-03
Change Order number: CO-0127	New Revision: 06	Submitted By & Date: N.Rumley 01/15/2025
Document Title and Number: Tesla Powerwall 3: Commissioning - INS-SOP-0233		

Reason for Change (in detail): Added export permissions to avoid confusion about what settings need to be applied during commissioning. Previously there was no specific indication for setting export permissions.

Description of Change (in detail): Added “Set Export Permissions” step, updated summary screenshot to reflect Solar and Battery export allowed.

References:

Effectivity: (Installations in field, New installations, Work in Progress)

Installation

Other documents affected: (Spanish version, other SOPs, Work Instructions)

Spanish?

Approvals

Training:

Quality:

Product: N. Rumley 1/15/2025

Electrical:

Structural:

Other:

Other:

Other:

Document Control Change Order

SUNRUN

Field Operations

INS-FRM-0001-03

Change Order number: CO-0141

New Revision: 07

Submitted By & Date: N.
Rumley 06/18/2025

Document Title and Number: Tesla Powerwall 3: Commissioning - INS-SOP-0233

Reason for Change (in detail): IL markets will need details for derating Max Current Output, CA markets will need process for NESS (NEM integrity) re order process, new summary details

Description of Change (in detail): Export permissions changed to include "AC coupled Solar only", PCS section updated with Max current limitation to 10kW. Metering section moved before Grid code and export permissions. Summary page detailed with CD2.0 callouts.

References: Tesla Device setup		
Effectivity: (Installations in field, New installations, Work in Progress) Installations, Powerhouse		
Other documents affected: (Spanish version, other SOPs, Work Instructions) N/A		
Approvals	Training:	Quality:
Product: N. Rumley 06/18/2025	Electrical:	Structural:
Other:	Other:	Other:

Document Control Change Order		 Field Operations INS-FRM-0001-03
Change Order number: CO-0147	New Revision: 08	Submitted By & Date: J. Costner 9/3/2025
Document Title and Number: Tesla Powerwall 3: Commissioning - INS-SOP-0233		
Reason for Change (in detail): Standalone configuration enabled new summary details added		
Description of Change (in detail): New sub-section within step 12 for Solar Installation Type added to cover settings for standalone configuration. Summary page detailed with CD2.0 callouts.		
References: Tesla Device setup		
Effectivity: (Installations in field, New installations, Work in Progress) All standalone installations.		
Other documents affected: (Spanish version, other SOPs, Work Instructions) N/A		
Approvals	Training:	Quality:

Product: J. Costner 9/3/2025	Electrical:	Structural:
Other:	Other:	Other: