

Current transformer health check

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Enphase Installer App: Production and Consumption CT health check

This feature initiates a series of health checks for the Production and Consumption Current Transformers (CT). After the checks are completed, the user is informed of the results. If any checks fail, the user receives recommendations to rectify the situation. To use this feature, enable the meters and wait for 24-48 hours. This feature can be used to validate the Production and Consumption CTs in all regions.



NOTE: This feature is not available for Battery CT and Generator CT. Ensure batteries are not discharging while using this feature.

The following are the checks performed for the CTs:

- Production CT showing reversed polarity values (all negative).
- Production CT values become zero (less than 10 W) after the PV is turned OFF.
- Consumption CT values are not zero when the PV value is zero and the load is turned ON.
- Consumption CT values change when PV is turned ON for “Load + Solar” CT installation and do not change for “Load Only” installation.



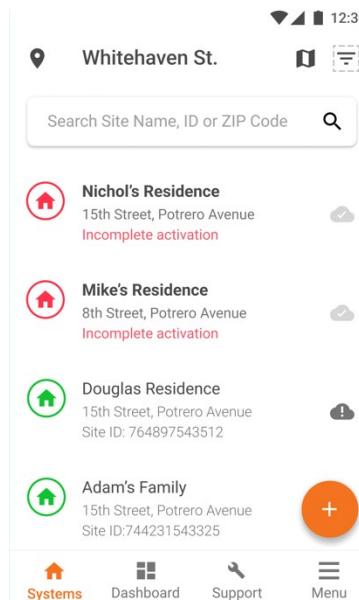
NOTE: To prevent CT issues, follow the instructions carefully while using the meter wizard.



NOTE: Ensure both Production and Consumption CTs are enabled to use the Verify CT feature.

Health check using the Enphase Installer App

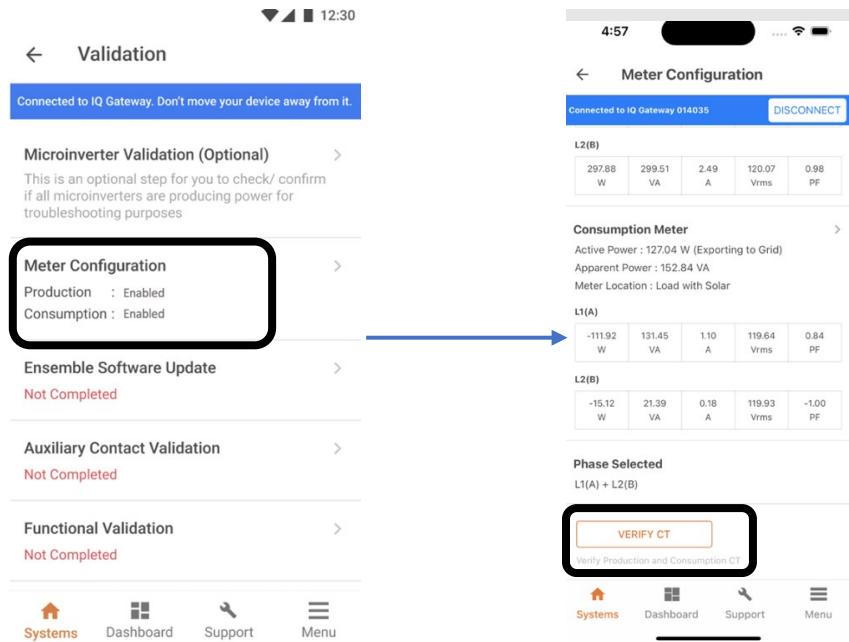
1. Log in to the Enphase Installer App and search for the site using one of the following: SITE NAME, SITE ID, ZIP CODE, and so on.



TECHNICAL BRIEF

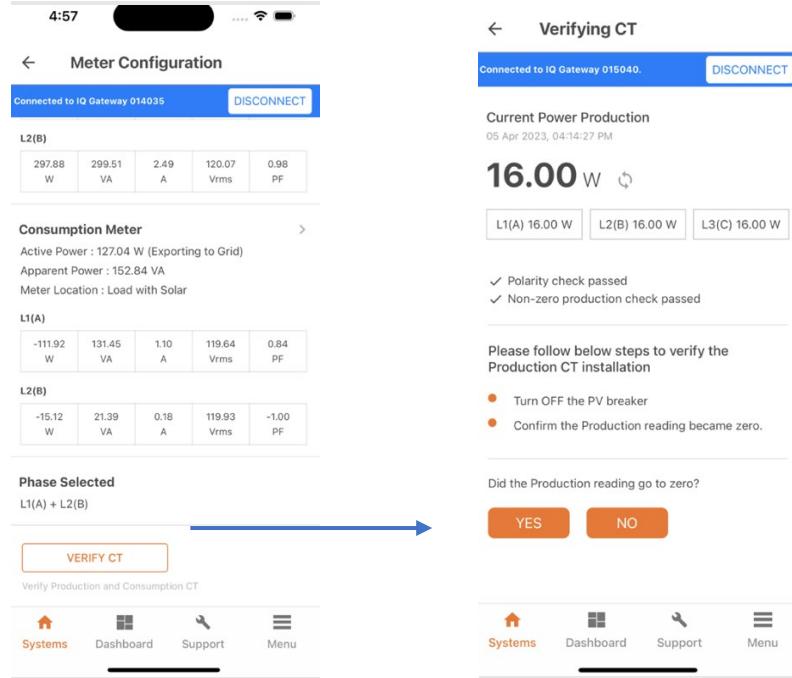


2. Connect to the Gateway AP mode. Refer to [this article](#) to learn how to accomplish this.
3. Go to **Validation** (Step 5) > **Meter Configuration** > **VERIFY CT**. The Enphase Installer App validates the Production and Consumption CTs.

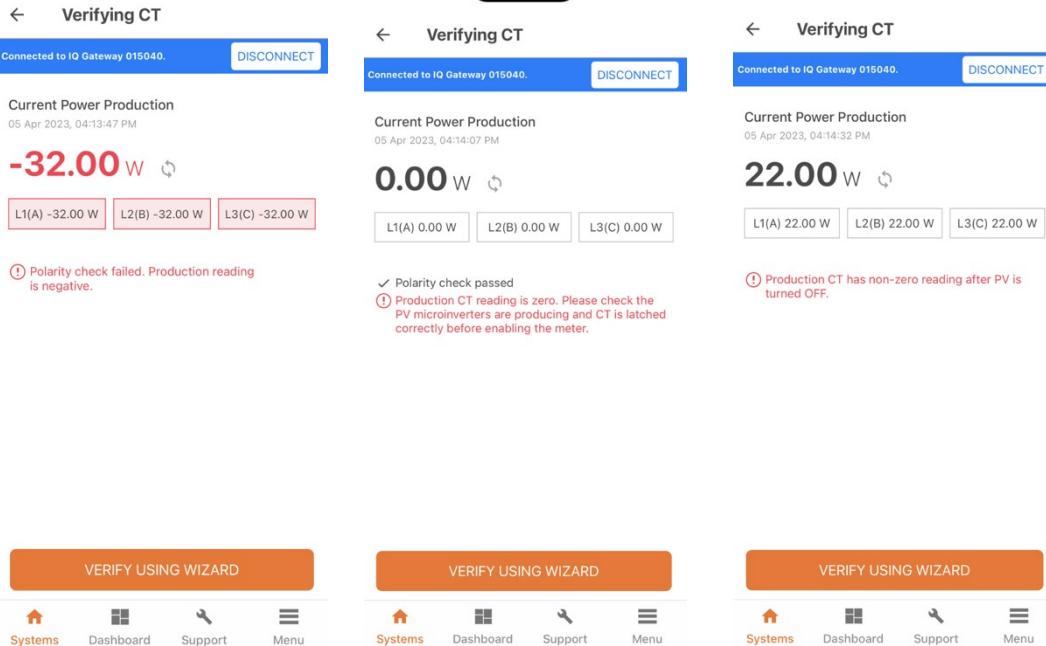


Validating Production CT

- Checks if the Production CT reading is positive and greater than 10 W.
- Instructs the user to turn OFF the PV and observe the value going to zero.

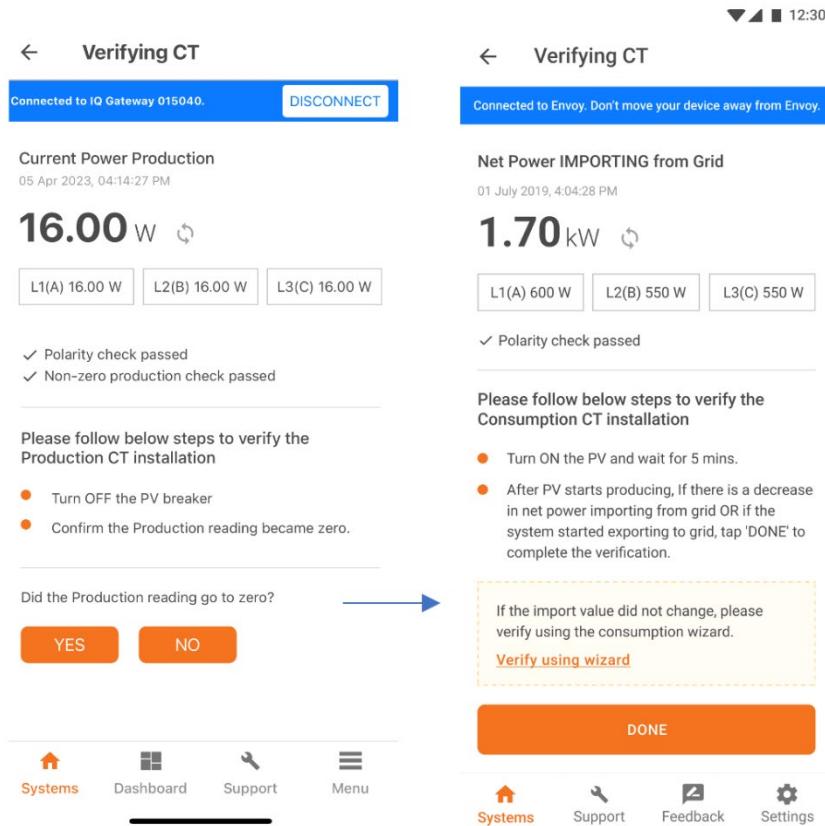


If the test fails, an error message appears (as shown below), and you can use the meter wizard to correct the error.



Validating Consumption CT

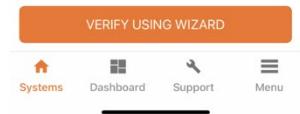
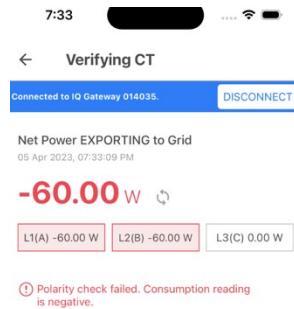
- Checks if the reading is positive and greater than 10 W on each line with a load turned ON and PV turned OFF.
- If the Consumption CT measures Net-Consumption (Load + Solar), instruct the user to turn ON the PV and observe a decrease in import (may take up to 5 minutes based on the grid profile).
- If the Consumption CT measures Load Only, instruct the user to turn ON the PV and observe no change in the reading (may take up to 5 minutes based on the grid profile). You can click **DONE** if no issue is observed.



TECHNICAL BRIEF



If the test fails, an error message is shown, and you can use the meter wizard to verify the error.



Enphase Installer Portal: Production CT health check

Similar to the Enphase Installer App, a **Verify CT** button is available on the production meter device page of the Enphase Installer Portal. This option provides a series of production meter health checks. After the checks are completed, the user is informed of the results. If any checks fail, the user receives recommendations to rectify the situation. To use this feature, you must enable the Production CT and wait for 24–48 hours.

The checks performed for the production meter are as follows:

- Production CT shows reversed polarity values (all negative).
- Production CT values are lower than reported microinverter production values.



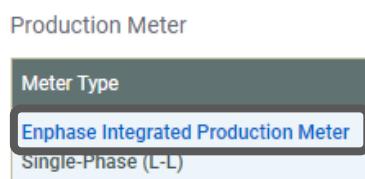
NOTE: To prevent meter issues, follow the instructions carefully while using the meter wizard in the Enphase Installer App.

Health check using the Enphase Installer Portal

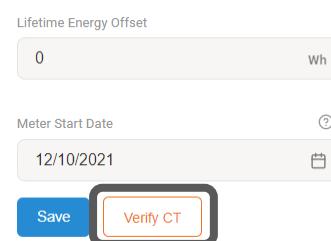
1. Log in to the Enphase Installer Portal and open the desired site.
2. Click the **Devices** tab.



3. Click **Enphase Integrated Production Meter**.



4. Click the **Verify CT** button.

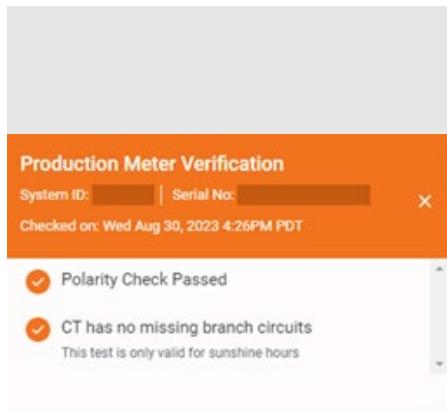


The results are displayed in a pop-up window at the bottom right of the page. The following figures show examples of successful and unsuccessful verifications.

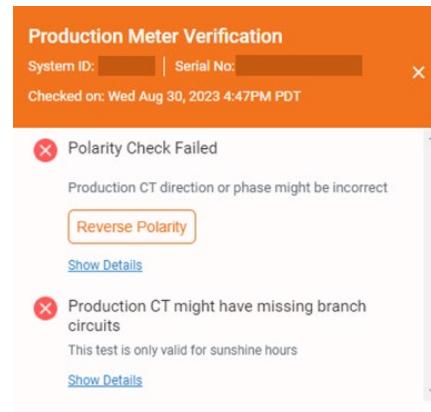
If the meter detects a polarity issue, use the **Reverse Polarity** button in the pop-up window, which takes you to the production meter device page to reverse the Production CT polarity. After reversing the polarity, allow 48 hours for new data before reusing this feature.

If it detects missing branches (the meter shows less production than the microinverter production values), then this must be resolved onsite.

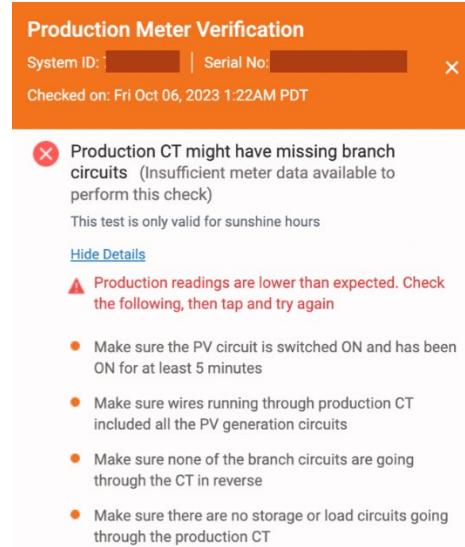
Successful verification



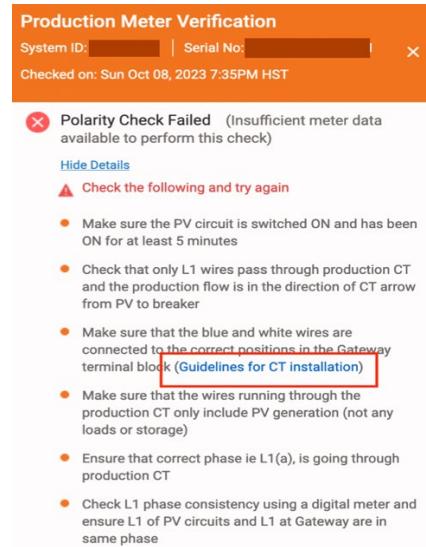
Unsuccessful verification



Unsuccessful verification



Unsuccessful verification



Enphase Installer Portal: Consumption CT health check

Similar to the Production CT Health Check in the Enphase Installer Portal, there is also a Verify CT button on the Consumption Meter device page. Clicking on this button will initiate a series of health checks for the consumption meter. Once the checks are completed, the user will be informed of the results. If any checks fail, the user shall receive possible recommendations to rectify the situation. To use this feature, the system must satisfy the following conditions.

- Single IQ Gateway systems.
- Systems must not have third-party batteries or IQ Batteries.
- Data should be available for the past 24 hours for the consumption and production meters.
- No missing branch circuits in the production meter.

- Both consumption and production meters are in an enabled state.

The checks for the consumption meter are as follows.

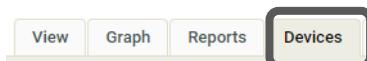
- Consumption CT is configured as a Load Only but installed as a Load with Solar production configuration.
- Consumption CT is configured as Load with Solar production but installed as a Load Only configuration.
- Consumption CTs are not installed but are enabled on the Enphase Installer Portal.
- Consumption CT polarity needs to be reversed.



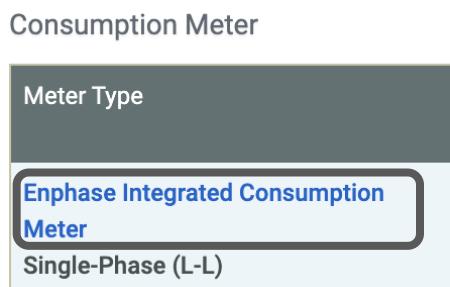
NOTE: To prevent meter issues, follow the instructions carefully while using the meter wizard in the Enphase Installer App.

Health check using the Enphase Installer Portal

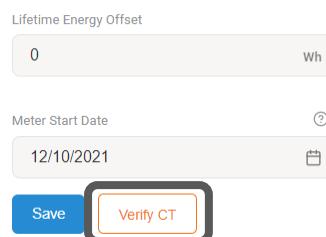
- Log in to the Enphase Installer Portal and open the desired site.
- Click the **Devices** tab.



- Click **Enphase Integrated Consumption Meter**.



- Click the **Verify CT** button.



The results are displayed in a pop-up window at the bottom right of the page. The following figures show examples of successful and unsuccessful verifications.

Successful verification

Consumption CT Verification

System ID: 701448216 | Serial No: 202308056915EIM2 ×

Checked on: Tue May 14, 2024 1:22PM EDT

Could not find any issues with the Consumption Meter. Please contact customer support if you need further help.

Unsuccessful verification

Consumption CT Verification

System ID: 701448216 | Serial No: 202308056915EIM2 ×

Checked on: Tue May 14, 2024 1:20PM EDT

× Consumption CT configuration is incorrect
Please change the configuration of the Consumption CT from Load Only to Load with Solar production

Unsuccessful verification

Consumption CT Verification

System ID: 701635033 | Serial No: 202342031987EIM2 ×

Checked on: Tue May 14, 2024 12:18PM CDT

× Consumption CT configuration is incorrect
Please change the configuration of the Consumption CT from Load with Solar production to Load Only

Unsuccessful verification

Consumption CT Verification

System ID: 701636844 | Serial No: 202147053198EIM2 ×

Checked on: Tue May 21, 2024 11:07PM PDT

× Consumption CT is not installed
Please disable the Consumption CT until a site visit can be made to evaluate and correct the error onsite

Unsuccessful verification

Consumption CT Verification

System ID: 701636836 | Serial No: 202402013266EIM2 ×

Checked on: Mon May 13, 2024 5:48AM EDT

× Polarity Check Failed

[Reverse Polarity](#)

[Hide Details](#)

⚠ Check the following and try again

- Please reverse the polarity of the meter for L2
- Once you reverse the polarity, please wait 24 hours before you perform the check again
- If you are performing the check post 24 hours and it is still failed, please contact customer support for further help

References

- [Guidelines for CT installation](#) (technical brief)
- [CT Troubleshooting](#) using the Enphase Installer App (video)

Revision history

Revision	Date	Description
TEB-00079-3.0	August 2024	Removed references to North America.
TEB-00079-2.0	June 2024	Added the “Enphase Installer Portal: Consumption CT health check” section.
TEB-00079-1.0	October 2023	Initial release

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