Enphase Energy System commissioning using Enphase Installer App 4.X

Contents

1 Applicable countries

- United States of America
- United States Territories: Puerto Rico and U.S. Virgin Islands
- Canada
- Mexico
- Bermuda

2 Overview

This document is intended for Enphase Energy System certified installation professionals commissioning Enphase Energy System in the field. This document provides steps and requirements to perform system commissioning of the Enphase Energy System. Follow the steps below to establish successful communication between Enphase Energy System components and validate that the system operates as designed.

3 Preparing the Enphase Installer App communications

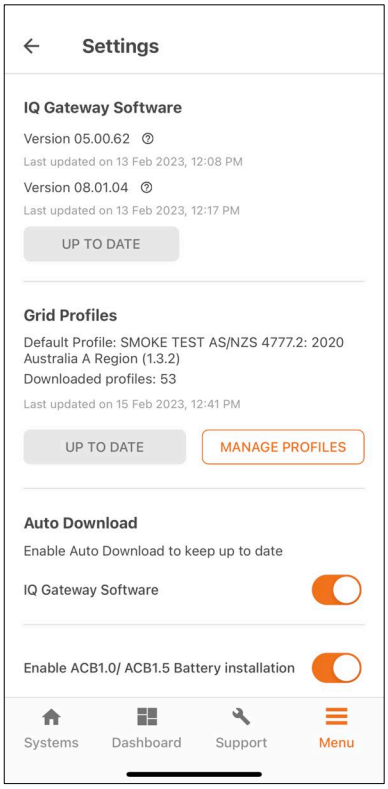
Prior to commissioning:

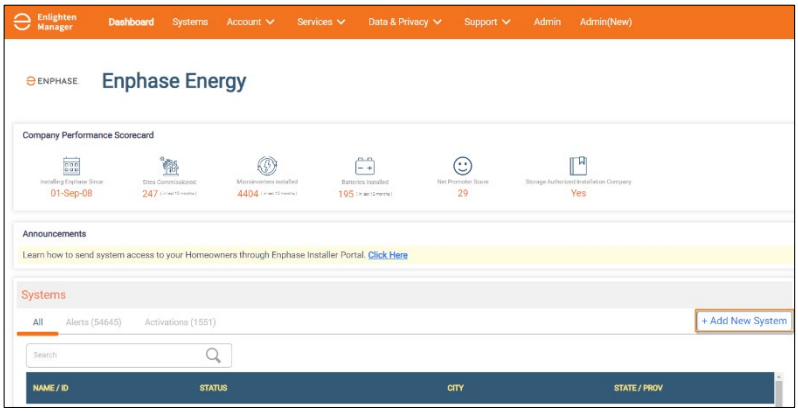
1. Ensure the system is installed as per the installation manuals.
2. Commissioning requires an Enphase-certified installer to provision Enphase devices. For more information about Enphase installer certification, visit Enphase University.
3. Ensure that you have the latest version of the Enphase Installer App. You can install the Enphase Installer App using the following links:
   - iOS
   - Android

4. Enable Bluetooth communication on the smartphone or tablet you use for commissioning, and turn off your device's auto-lock feature to prevent interruptions in the commissioning process.

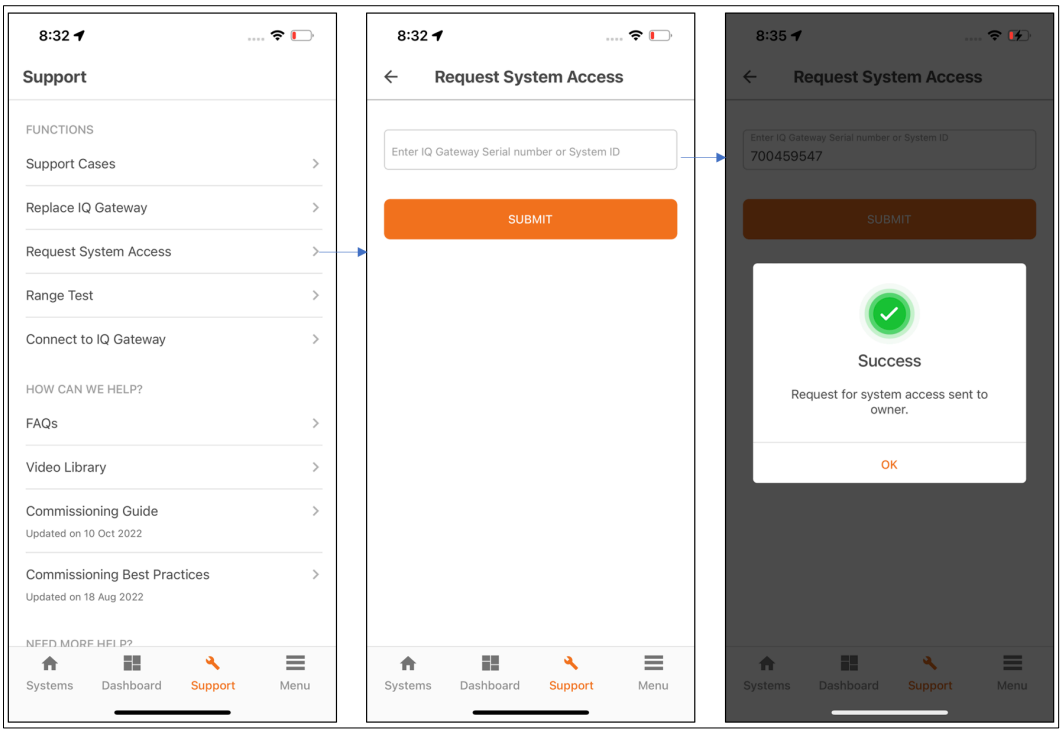
5. Confirm IQ Gateway software version 8.XX (or the latest available version) is available on the Enphase Installer App.
    - The Enphase Installer App will automatically download the latest software when the user logs in.
    - Go to **Menu** > **Settings** > **IQ Gateway Software**.
    - Tap the **Update Now** button to begin the IQ Gateway software update process. The update requires an internet connection. Make sure you have a reliable connection during the update.

6. Click **+** on the bottom right of the dashboard in the Enphase Installer App to create a system activation. We recommend entering the system details before commissioning on-site to save time and avoid mistakes. Alternatively, the site can be created on the Enphase Installer Portal by clicking **+ Add New System** on the system dashboard.

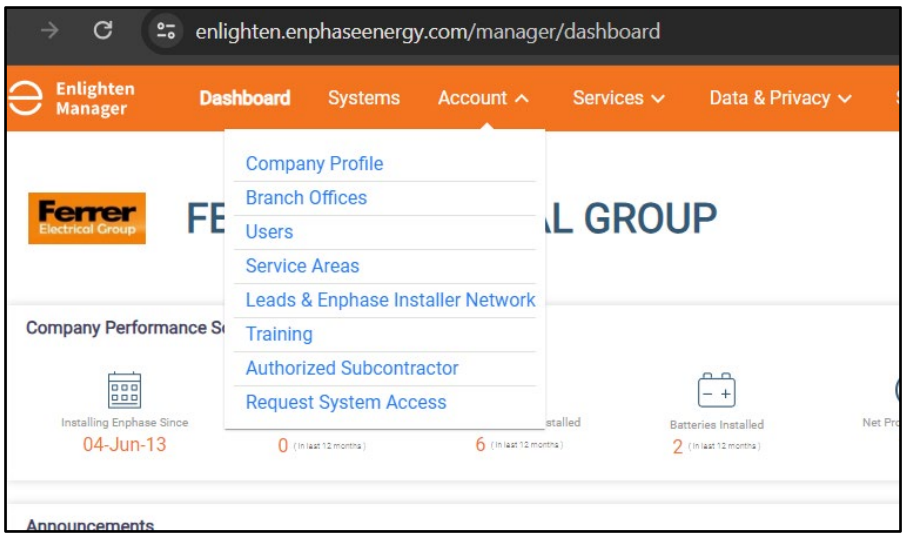




7. If you are not the original installer of the system, you must be granted access to the activation as a system maintainer. To request system access:
    - Go to **Support > Request System Access**.
    - Enter the IQ Gateway serial number and submit the request.
    - An email will be sent to the homeowner to provide access to the site.



Access can be given using the Enphase Installer Portal, as shown in the following figure.



NOTE:

- IQ Batteries are shipped with approximately 30% state of charge from the manufacturer.
- The default operational mode is *Self-Consumption*.
- Enphase Installer App will change the battery mode to *Full Backup Mode* after the IQ Battery is commissioned for the first time till the battery calibration is completed.

Important!

- Always follow the safety instructions given in the Enphase Installation Manual and Quick Install Guide.
- After installation, IQ Batteries must always be connected to the AC supply.
- Once AC power is connected to the IQ Batteries, DO NOT turn on the DC switch until the Enphase Installer App instructs it.

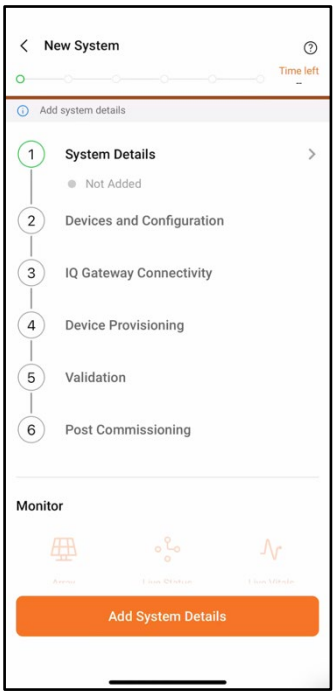
4 Commissioning instructions

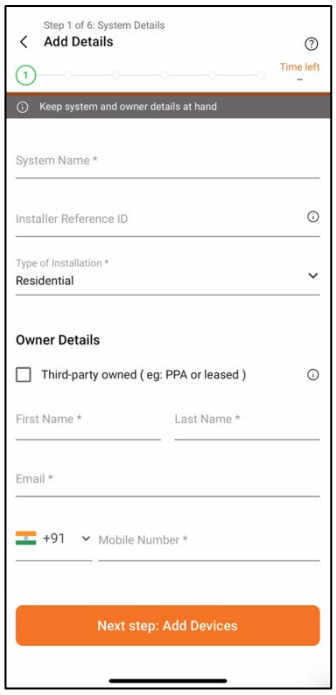
To commission the Enphase Energy System, use the Enphase Installer App commissioning wizard. Open the Enphase Installer App and tap the **Systems** tab on the lower left side of the screen.

4.1 System Details (Step 1)

This step is part of an activation creation. This requires the following information:

- System name
- Type
- Installer details
- Owner details
- Address
- Grid connection type (if applicable)
- Third-party storage details (if applicable)
- Installation and PV Details

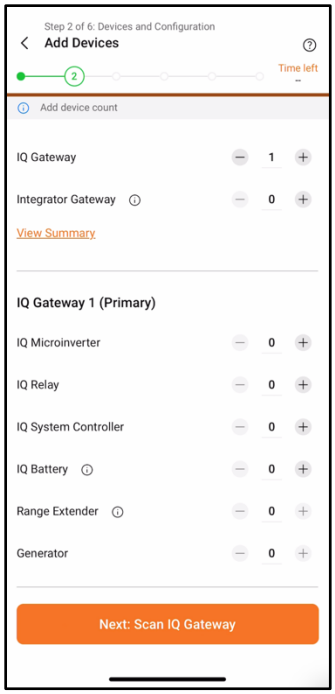


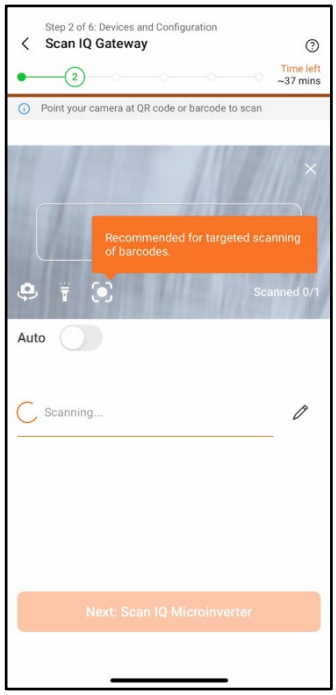


If the site activation is already completed on the Enphase Installer Portal, the site can be searched using the site name, site ID, postal code, city, installer reference, or IQ Gateway serial number.
Tap **Next step: Add Devices** to continue to the next step.

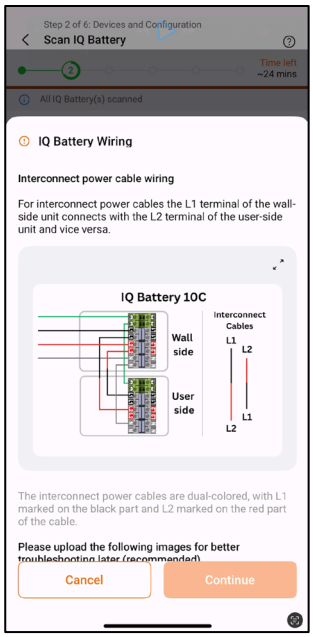
4.2 Devices and Configuration (Step 2a)

This step allows the installer to populate all the devices that should be installed.

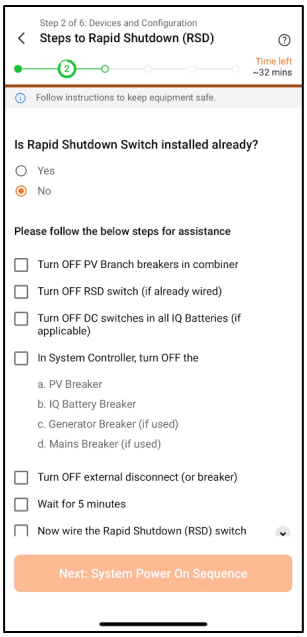




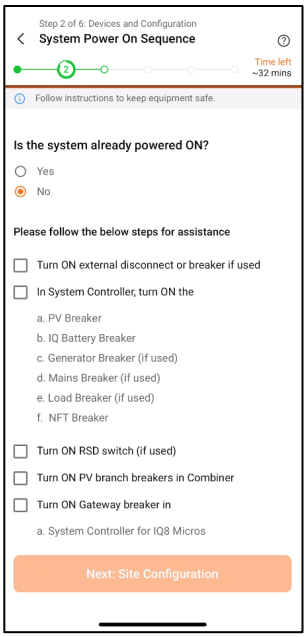
1. Tap each device and use the “–” and “+” buttons to decrease or increase the total count of the respective devices you are adding. Tap **Next: Scan IQ Gateway**.
2. Based on the devices that are added, you will be shown the respective scanning pages.
3. For IQ Battery 10C, follow the wiring instructions to ensure the wiring is done correctly. Upload an image for diagnosis later
4. Scan all the devices for the system.
5. Scan the microinverters’ barcodes [recommended] or use the powerline communication (PLC) scan under the IQ Gateway details page.
6. Follow instructions on how to set the breakers, switches, and disconnect the Enphase Energy System correctly to wire the RSD switch.
7. Select **Yes** if the system is powered ON and **No** if the system is not powered ON. If you select **No**, you will be shown steps to power ON the system.
8. Tap **Next: Site Configuration**.



IQ Battery 10C Power Cable wiring



Rapid shutdown instruction



System power on sequence instruction

NOTES:

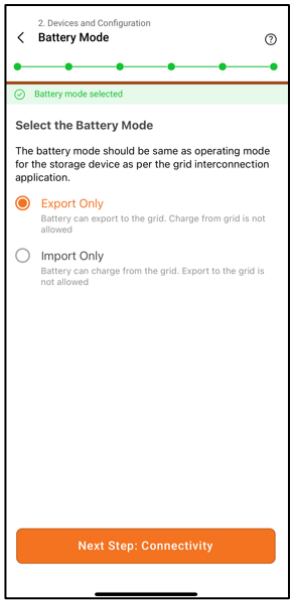
- Ensure you have selected the appropriate grid profile for the Enphase Energy System. You can change the grid profile through **Site configuration** > **Grid profile.**
- If retrofitting an existing site, microinverters will be listed in the activation.
- We strongly recommend that you use the barcode scan to add the PV microinverters because a power-line scan can poach an incorrect serial number from a nearby site.
- The LED status indicator and state of charge in the Enphase Installer App will be inaccurate until IQ Gateway software is updated at the end of step 1.
- Refer to the **Enphase Energy System Planning Guide** for details on PV-to-storage ratios, compatible microinverters, and other aspects of system design.

4.3 Site Configuration (Step 2b)

You can select the settings you want to configure from the Configuration List. The mandatory configurations are auto-selected and disabled for editing. Based on the site you are commissioning; you may find some optional configurations in the Configuration List. PCS-based limiting features are listed on this page. Details of the configurations are as below.

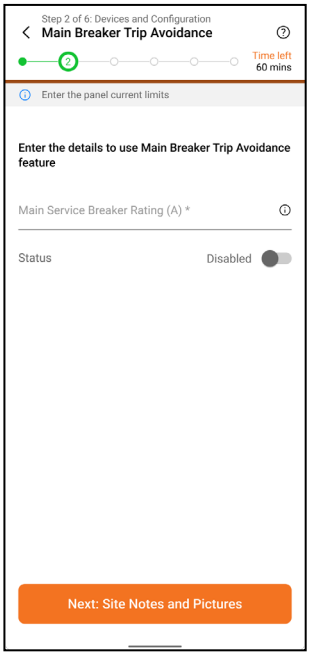
- **Select Backup Configuration**: This configuration selects the system as “Whole Home Backup” or “Partial Home Backup” and indicates the position of the Consumption CT.
- **DER Configuration**: This configuration indicates which IQ Battery is connected to which port.
- **Battery Mode (if applicable)**: This feature is applicable for NEM 3.0 geographies. It allows you to set the battery in Import only or Export only mode.

    a) Choose the Battery mode from the Site Configuration (Additional) page. You can select Import Only or Export Only for the battery mode.
    b) You can change the battery mode for up to seven days from the day you first set the mode.

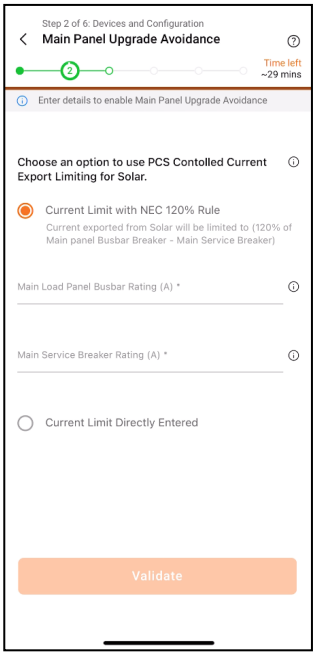


Battery mode

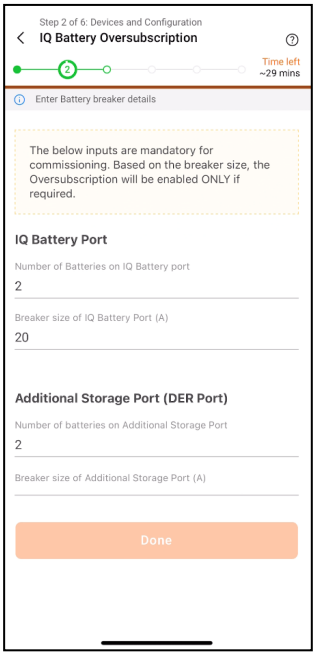
- **PCS Based Limiting:** To know more about PCS-based limiting, refer to the Power Control System integration in the Enphase Energy System document. The following configurations are available.
    - Main Panel Upgrade Avoidance
    - Battery oversubscription check
    - Aggregated export limit
    - Main Breaker Trip Avoidance (for IQ EV Charger sites)



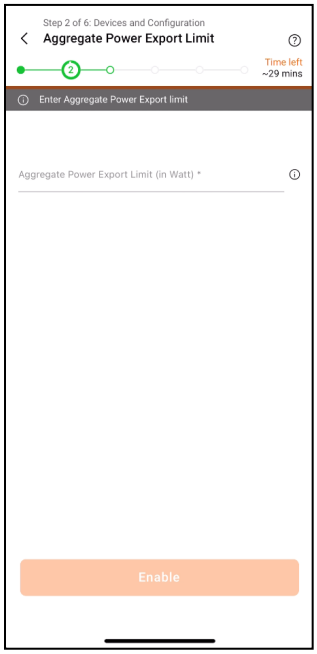
Main breaker trip avoidance



Main panel upgrade avoidance

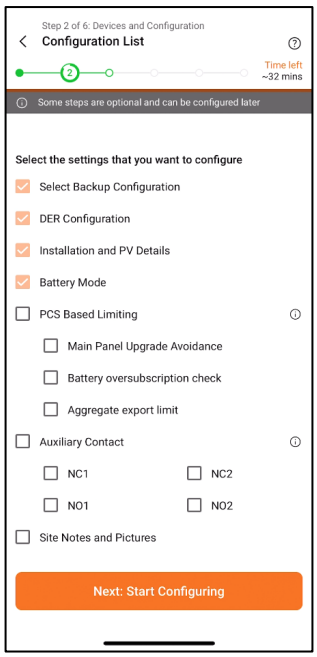


IQ Battery oversubscription

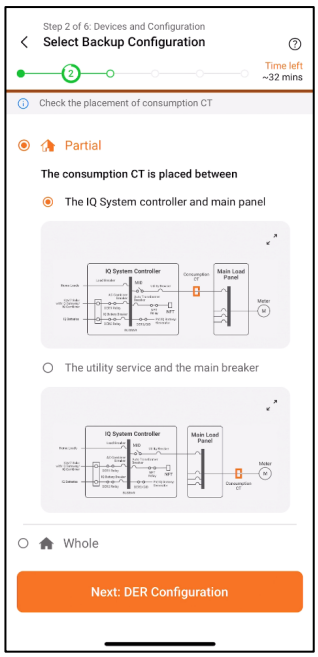


Aggregate power export limit

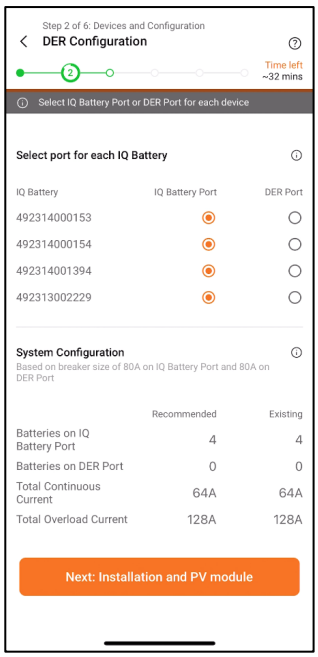
- **Auxiliary Contact:** This configuration is needed if you have installed an IQ Load Controller. You can configure contacts of the IQ Load Controller using this setting. Refer to the Aux contact configuration section for more details.
- **Site Notes and Pictures:** You can add notes and images of the site using the site notes feature.



Configuration list



Backup configuration



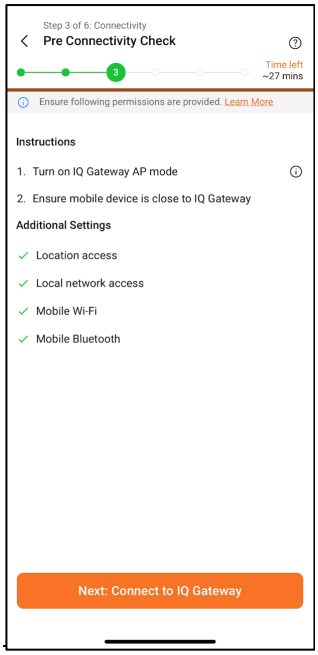
DER configuration

- If you select **Site Notes and Pictures** in the list of configurations, you can store important notes and installation images, which can be viewed later using the Enphase Installer Portal.
- You can update the grid profile from the Grid Profile configuration sub-menu of the Site configuration step. (Step 2b)

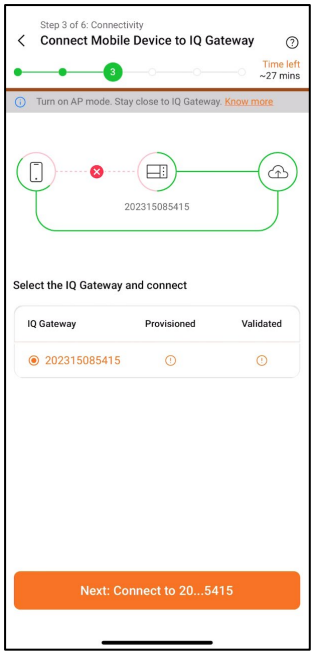
4.4 IQ Gateway Connectivity (Step 3)

Step 3 brings up a screen that displays the connectivity status between the IQ Gateway, the internet (or Enphase Cloud), and your smart device running Enphase Installer App.

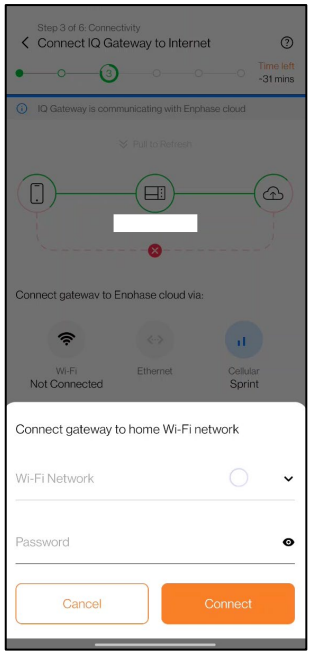
- At the end of the site configuration, tap **Next Step: IQ Gateway Connectivity** to start the pre-connectivity check for IQ Gateway.
- The Enphase Installer App performs an automated check at this step to ensure that all relevant permissions from the device are received. If an error is shown, tap **Resolve** against the error to provide the permission.
- After the pre-connectivity check is complete, tap **Connect to IQ Gateway** to reach the IQ Gateway connectivity page.
- Select the IQ Gateway you want to connect and tap **Connect to XXXX**. If you are commissioning a site of only one IQ Gateway, the IQ Gateway will be auto-selected.
- Configure Wi-Fi. If it was not configured earlier, select the Wi-Fi network you want to connect to and enter its password.
- If a gateway update is shown, perform the IQ Gateway update process.
- After all mandatory steps are completed for the step, you will be shown the option to start provisioning by tapping **Next Step: Provisioning**.



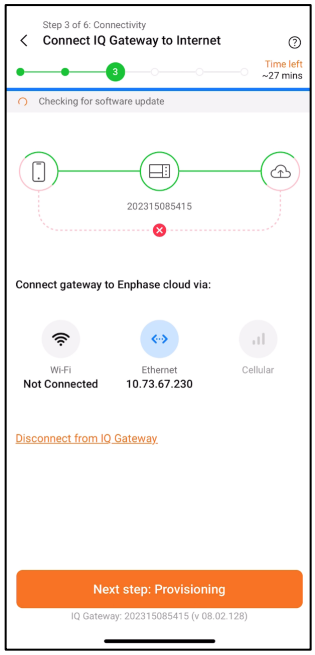
Pre-connectivity check



IQ Gateway connectivity page



Wi-Fi configuration



Mobile Connected to IQ Gateway in AP mode

NOTE: You can open help for the step by tapping the (?) icon on the top right of the app. On the gateway connectivity page, you have the option to start/stop the remote gateway connection and the diagnostic tools to check connectivity status.

4.5 Device Provisioning (Step 4)

Enphase Installer App performs the following pre-provisioning check before opening the provisioning screen:

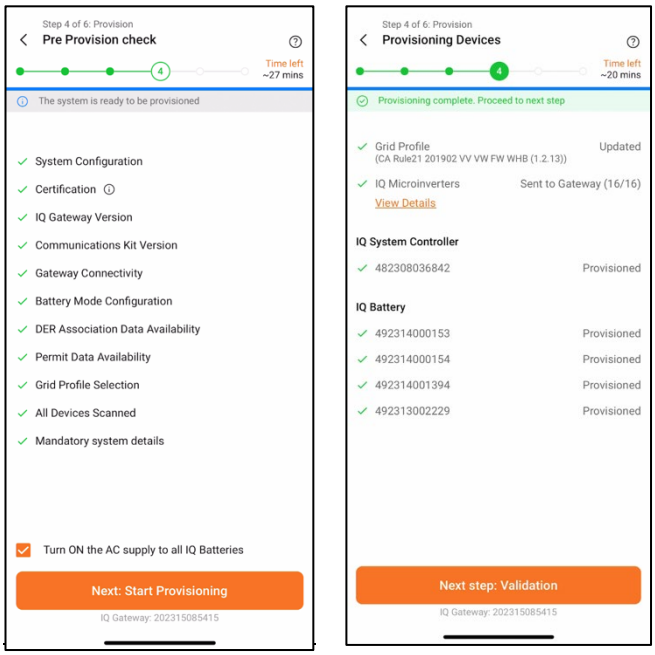
- Installer certification: If the installer is certified to commission the system.
- IQ Gateway version: If IQ Gateway software satisfies the minimum version required.
- Devices scanning: To check if any serial number of the device is not scanned.

Prior to provisioning:

- Ensure the Communications Kit is plugged into the left USB port of IQ Gateway.
- Ensure the Enphase Mobile Connect cellular modem is plugged into the correct port of the IQ Gateway (for a backup system). This is not mandatory for a grid-tied storage system.
- For a third-generation system, ensure the CTRL headers are correctly installed. For best practices regarding CTRL cable, refer to wiring section of IQ Battery 5P Quick Installation Guide.

To start provisioning:

- Press **Next: Start Provisioning**. The process will run the following steps automatically:
  - ✓ Update grid profile
  - ✓ Update tariff
  - ✓ Provision microinverters
  - ✓ Provision IQ System Controller
  - ✓ Provision IQ Battery



Pre-provisioning check **Provisioning page**

After the provisioning is complete, press the **Next step: Validation**.

IQ8 Series Microinverters and newer PV microinverters produce power immediately after provisioning, eliminating the "Enter Service" delay and ramp rate, thus cutting down commissioning time.

This early production mode is temporary and intended only for the commissioning phase. Once commissioning is fully completed (i.e., after the summary report is generated and the selected grid profile has been successfully propagated to all microinverters), the microinverters will resume normal operation with standard compliance behavior, including proper Enter Service timing and ramp rate limits.

NOTE:

1. These temporary commissioning settings are also automatically reverted once the microinverter reboots.
2. If you are commissioning IQ Battery 3T/10T and the IQ Batteries are not communicating with the IQ Gateway, power cycle the batteries by following the instructions mentioned in the Appendix 6.4

4.6 Validation (Step 5)

In this step, you will be configuring the production and consumption meters, updating the software, and running through the functional validation of the system to ensure it is operating correctly.

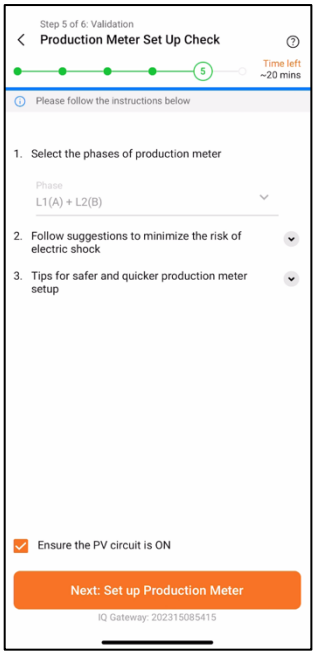
4.6.1 Meter configuration

4.6.1.1 Production meter

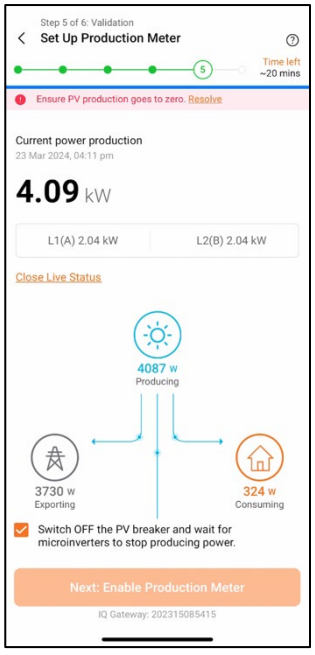
1. Select the correct phase for installing the microinverter branches. Ensure the PV breaker is turned ON and the microinverters are connected to the AC utility grid. Tap **Next: Set up Production Meter**.
2. Follow the instructions and power off the PV Breaker if suggested by the Enphase Installer App.
3. Wait for the PV to curtail production, and the app detects no production. Tap **Next: Enable Production Meter** to enable the production meter.

NOTE:

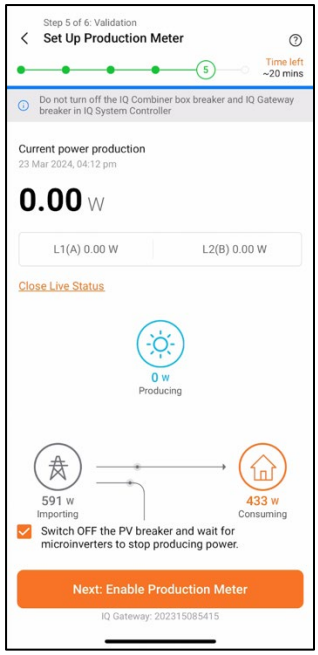
1. The IQ Microinverters are only powered from the DC supply of the individual solar panels.
   - In certain systems, the IQ Microinverters will be turned off automatically by the Enphase Installer App, and the installer need not turn OFF the breaker manually.



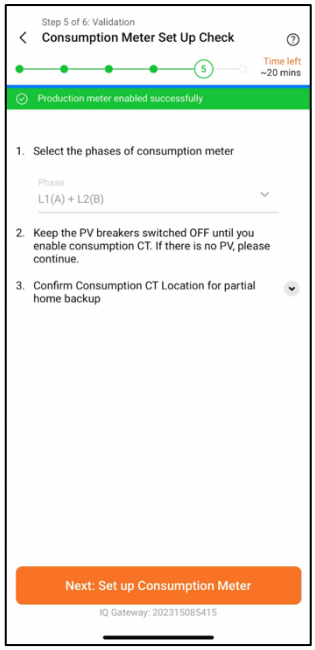
Production meter set up check.



Turn OFF the PV breaker



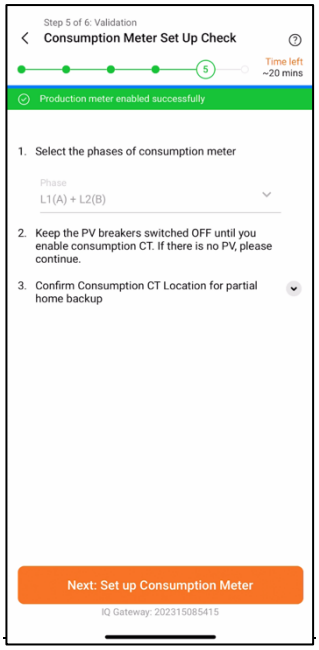
Tap Next: Enable Production Meter after the app detects no production



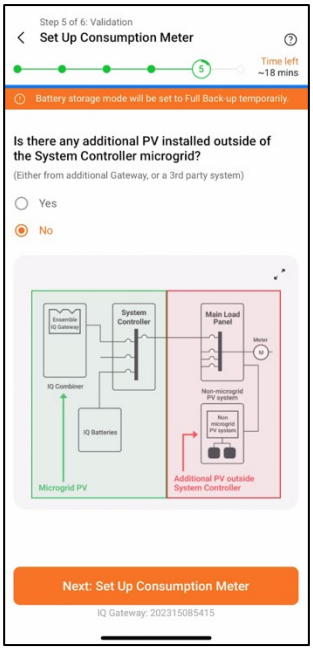
The production meter is enabled

4.6.1.2 Consumption meter

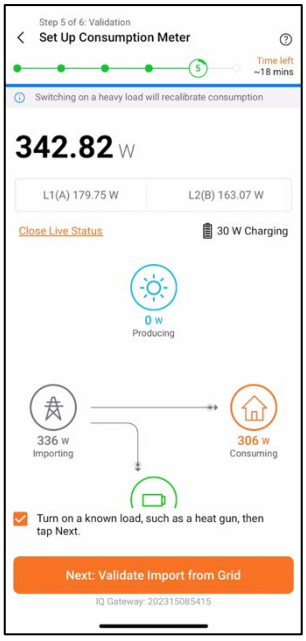
1. Verify that the configuration matches with what is installed (Partial vs. Whole Home Backup, location of the CT) and the number of phases connected to the system.
2. Check and confirm if any additional PV (third-party) is installed outside the Enphase system. Turn on a known load. Tap **Next: Validate Import from Grid**. Check and confirm the wiring of the IQ Gateway and IQ System Controller.
3. Switch ON the PV breaker to reduce the net import from the grid. Tap **Next: Enable Consumption Meter** to enable the meter.



Consumption meter setup check

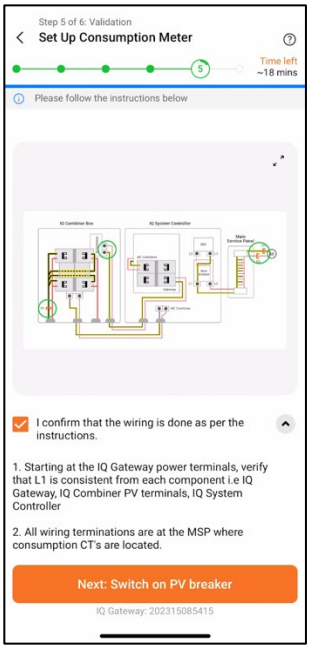


Third-party PV details

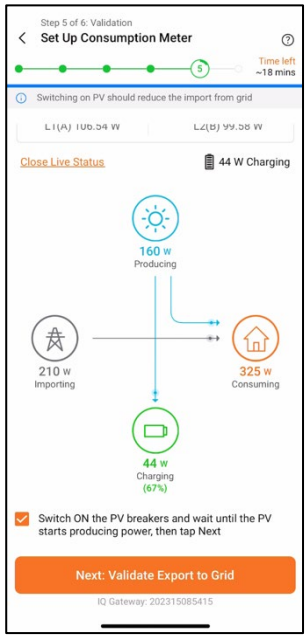


Turn ON the load in the house

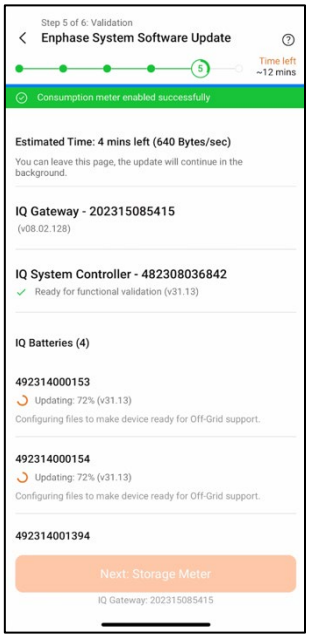
Confirmation if the importing has increased



Confirm the wiring of the IQ Gateway and IQ System Controller

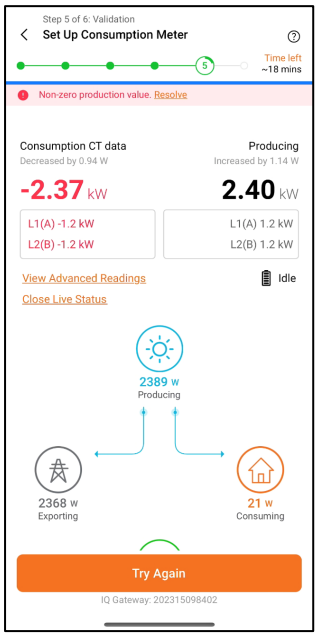


Switch ON the PV breaker to verify if the consumption reading is decreasing

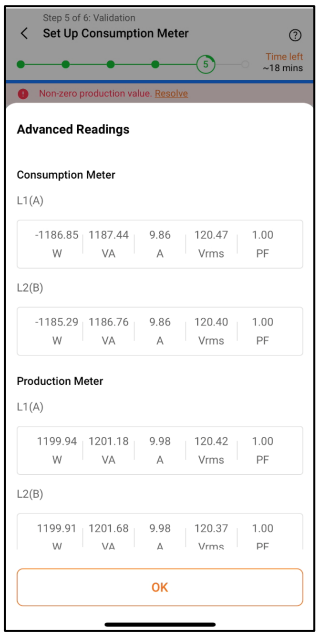


Consumption meter is enabled

4. Once the production and consumption meters are configured, tap **Next: Storage Meter** to configure the storage meter.
5. Advanced users can check the advanced meter readings like Power Factor (PF) and VA values for each phase in the consumption meters step.



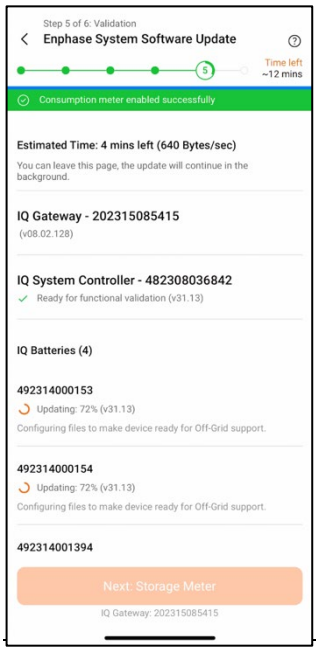
Advanced Meter reading available in Consumption meter wizard



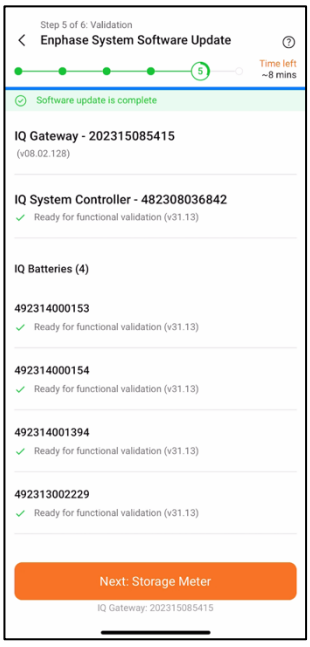
PF, VA, Vrms values are available in the advanced meter screen

4.6.1.3 Storage meter

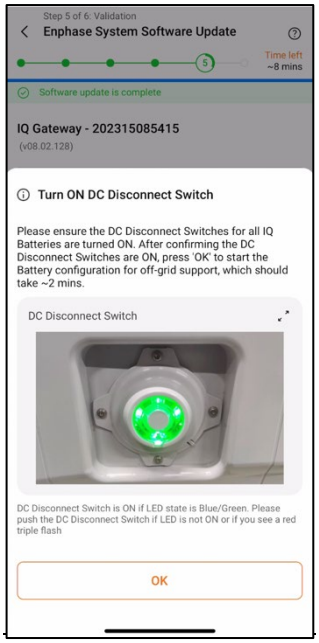
1. Tap **Enphase System Software Update** to start the update automatically.
2. Wait until all devices show ready for functional validation, then press **Next: Storage Meter**.
3. You will be shown instructions on how to turn on the DC disconnect switch of the IQ Battery if it is not turned ON.
4. Tap **Next: Validate Storage Meter** to perform storage meter validation.



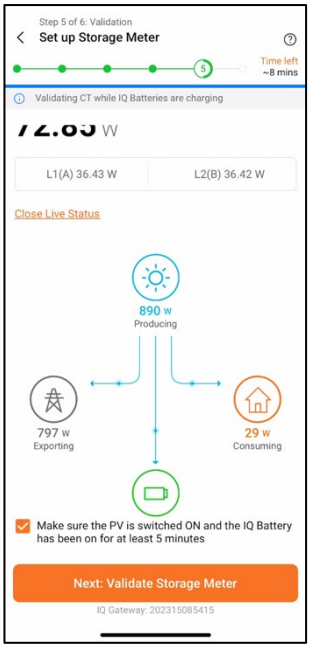
Pre-connectivity check



IQ Gateway connectivity page



Turn ON the DC disconnect switch



Start storage meter validation

The Enphase Installer App will validate the meter

4.6.1.4 Generator meter

If you are commissioning an Enphase Energy System with a generator, refer to the Generator section.

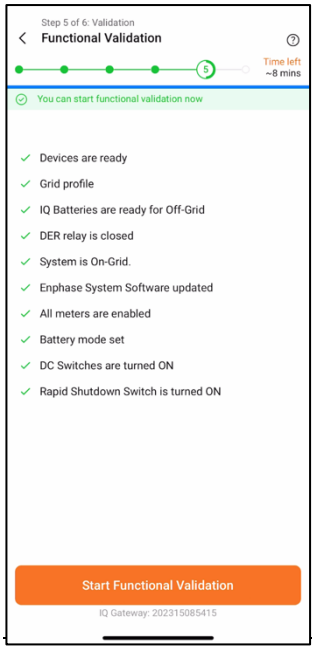
4.6.2 Auxiliary contact validation

If you are commissioning an Enphase Energy System with an IQ Load Controller, refer to the Aux Contact section to configure and validate the aux contact.

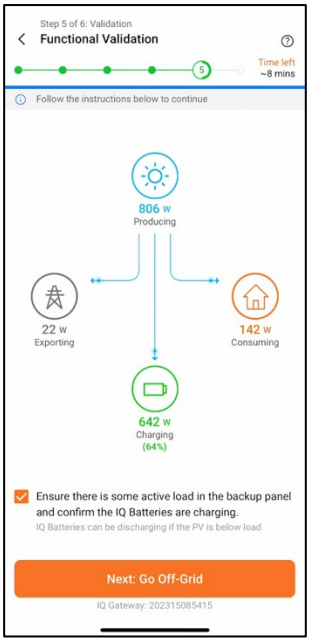
4.6.3 Functional validation

Functional validation includes six sub-steps, and you must confirm the condition of each step to proceed to the next step.

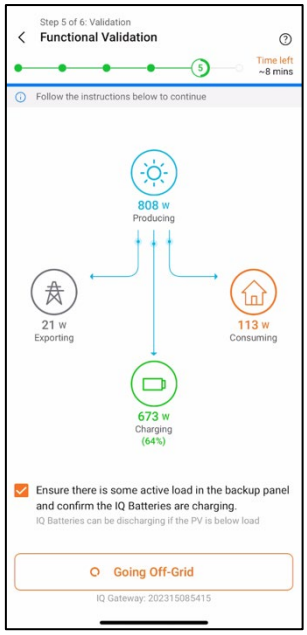
1. Ensure an active load in the backup circuit and confirm the battery is charging.
2. Ensure the load is under the installed IQ Battery capacity, then tap the **Next: Go Off-Grid** button and wait for approximately 45 seconds for the microgrid interconnect device (MID) to open. You will hear a click in the IQ System Controller when this occurs.
3. Confirm that the system is now off-grid and that backup loads remain powered.
4. Turn on additional backup loads and confirm that the consumption value has increased.
5. Tap the **Next: Go On-Grid** button and wait for the MID to resync to the grid. You will hear a click in the IQ System Controller when this occurs.
6. Confirm that the system has transitioned to on-grid.



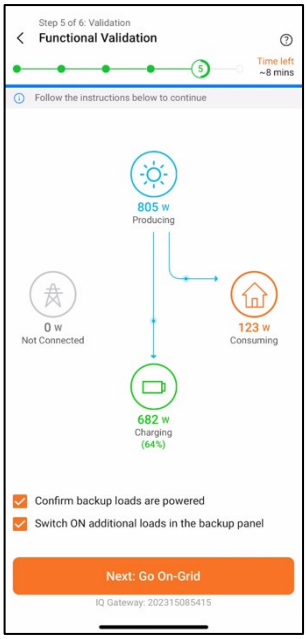
Functional validation precheck



Tap Next: Go Off Grid to go off-grid

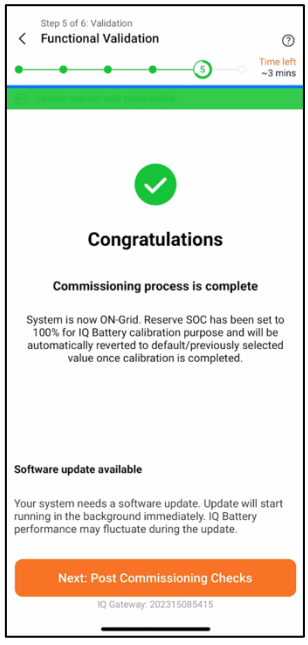


System is off-grid



Confirm if the backup loads are powered

System turning on-grid



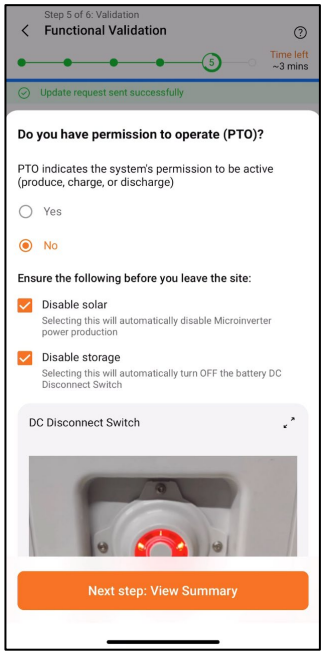
Commissioning is completed

Your system is now functionally validated. The IQ Battery mode will be changed to Full Backup automatically by the Enphase Installer App to bring the state of charge to 100%.

NOTE: Charging up to 100% state of charge is critical to ensure that the state of charge reported by the system is accurate.

4.6.4 Permit to operate instruction

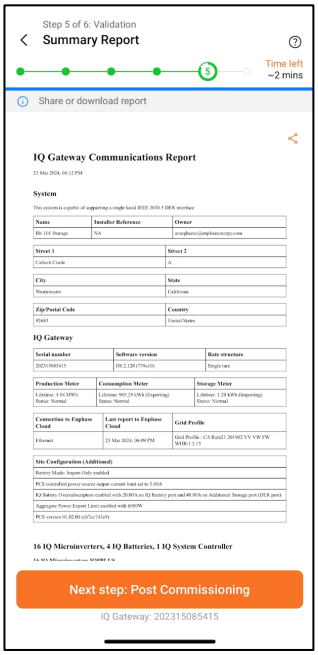
You will be shown a screen where you can indicate whether or not a permit to operate (PTO) has been received for the system. Select **Yes** or **No** based on whether PTO is received or not. If PTO is not received, the Enphase Installer App will show additional instructions on mandatory steps before leaving the sites.



4.6.5 Summary report

The summary report shows essential information about the system, including system details, device serial number, status, and grid profile.

You can share this report using email, GSM text, or AirDrop. It contains details of each provisioned device and the system's commissioned status.



4.7 Post-commissioning (Step 6)

In this step, you will be able to provide the homeowner with a walkthrough and access, set the tariff, and make changes to the IQ Battery operating modes. These settings do not require your device to be connected to the IQ Gateway AP mode, but it must be connected to the internet.

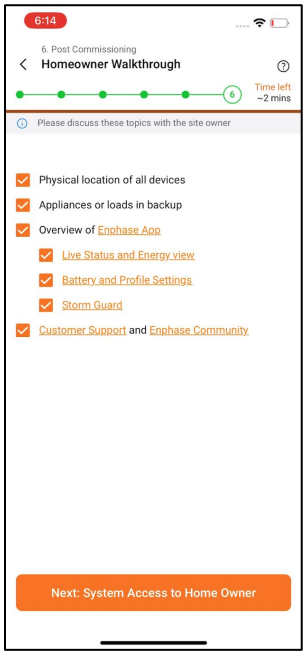
4.7.1 Homeowner walkthrough

In this step, you must verify each item on the checklist with the homeowner.

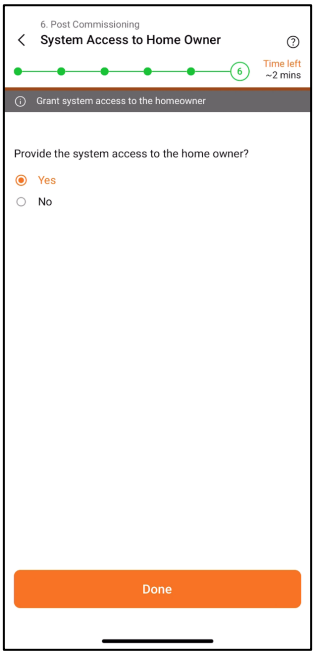
- Check all the tick boxes to acknowledge that you have communicated this information to the homeowner.
- Tap **Confirm** to complete this step and proceed to the next.

4.7.2 Access to homeowner

Tap **Yes** to provide homeowner access to the system.



Homeowner walkthrough



Providing system access to the homeowner

4.7.3 Electricity rate structure

There are two tariff settings in the Electricity Rate Structure feature.

- Electricity Import Rate
- Electricity Export Rate
  - Follow the prompts to set up the Import Rate.
  - Check the tariff structure with the customer and enter the information accordingly.
  - Check Add Electricity Export Rate.

5 Additional steps

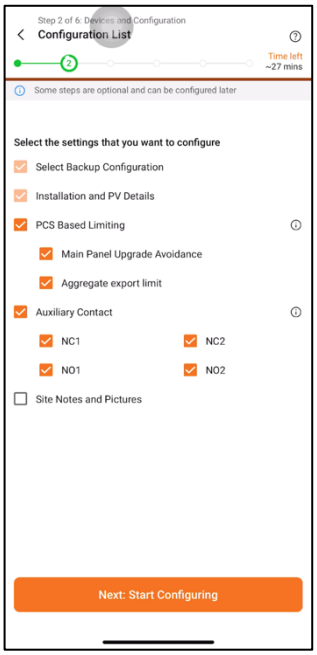
5.1 Aux contact

To control load by using the IQ Load Controller, perform the following steps:

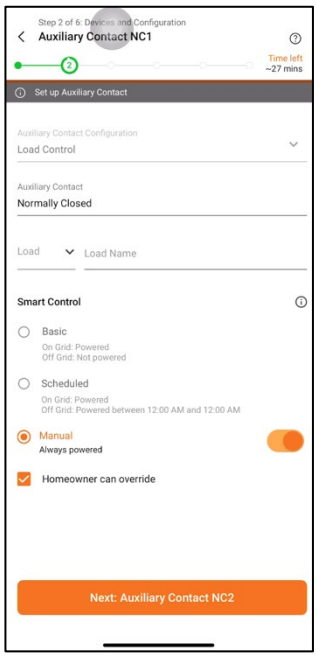
5.1.1 Aux contact configuration

1. In the site configuration screen, select the Aux contact that needs configuration and select all the contact types that you want to configure. IQ System Controller comes with two pairs of NO and NC contacts that can be used to control the contactors in IQ Load Controller. Opening or closing the contactors powers off or powers on the loads connected to the contactors.
2. Configure each of the contacts by entering the required details and using the Smart Control feature for each of the contacts.
3. Enable **Homeowner can override** option to let the homeowner change the load name and smart control for each contact.

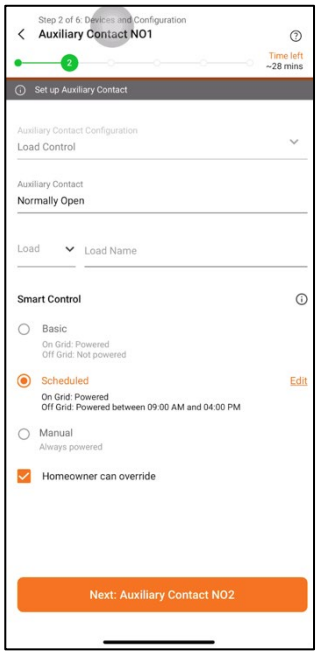
NOTE: The choice of feature under Smart Control determines the way the load is controlled. The type of contact, i.e., NO or NC is not relevant for this configuration.



Add auxiliary contact in the site configuration screen



Add details for the NC contacts

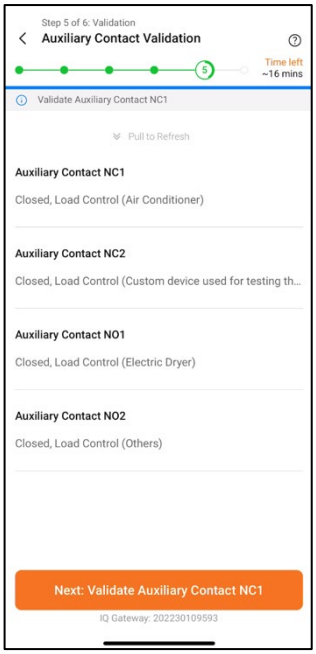


Add details for the NO contacts

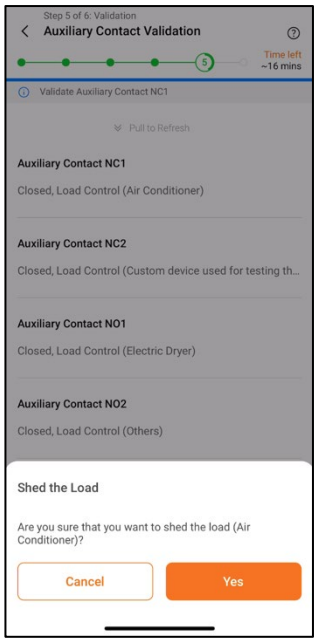
5.1.2 Aux contact validation

After meter validation is completed, you will be guided to the Auxiliary Contact Validation page.

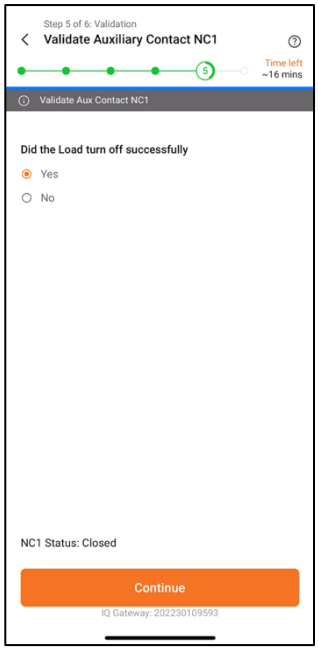
1. Tap each of the contacts to validate the contact.
2. Tap **Yes** to turn off the load contact.
3. Verify if the contact is turned Off.
4. Continue the validation for all NO and NC contacts.



Select the auxiliary contact



Confirm to shed the load



Confirm if the load is turned off

NOTES:

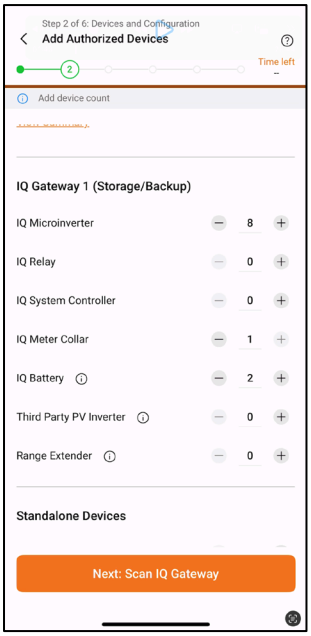
- The auxiliary contact can be revalidated if any settings are changed on-site.
- You can see the auxiliary contact state on the Auxiliary Contact Validation page to provide better assistance during commissioning.

5.2 IQ Meter Collar

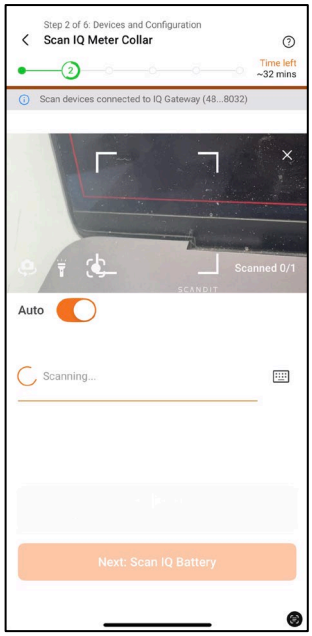
Before starting to commission a system with IQ Meter Collar, ensure that the system is installed according to the IQ Meter Collar quick installation guide and that you are certified to do the commissioning.

5.2.1 Device details page

1. Add the IQ Meter Collar to the Device Details page; you can add the IQ Meter Collar only to a system that has IQ System Controller 3M or IQ Combiner 6C.

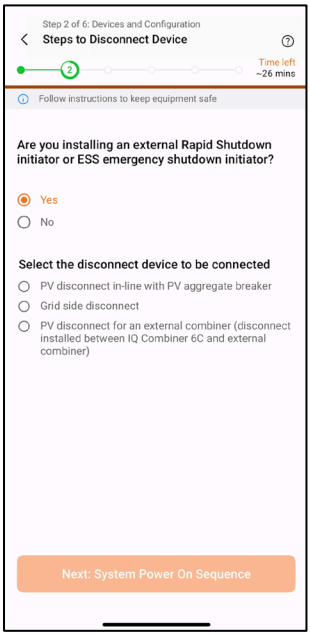


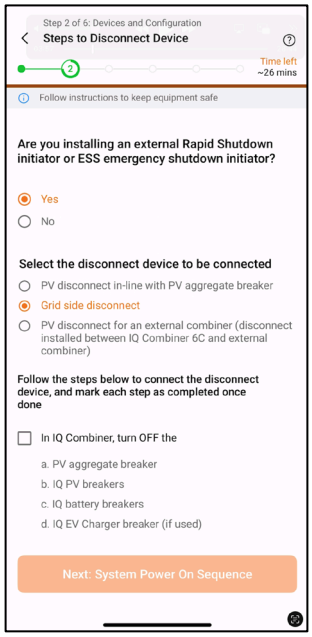
Add IQ Meter Collar



Scan IQ Meter Collar

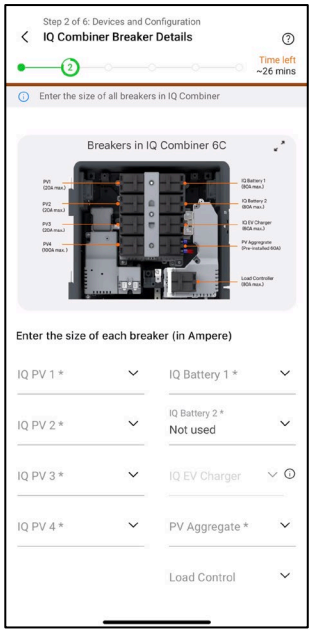
2. Scan the IQ Meter Collar and confirm whether the device will be installed by the installer or utility personnel.
3. Enter the details of the external rapid shutdown initiator device or ESS emergency shutdown initiator. It can be wired either to
    - PV disconnect in-line PV aggregate breaker
    - Grid-side disconnect
    - PV disconnect for an external combiner





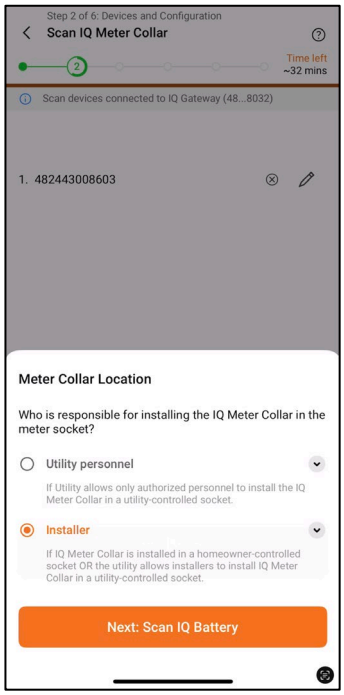
External rapid shutdown initiator selection

4. Add the combiner breaker details if IQ Combiner 6C is used along with IQ Meter Collar. Update the breaker size used for each breaker.



IQ Combiner Breaker details

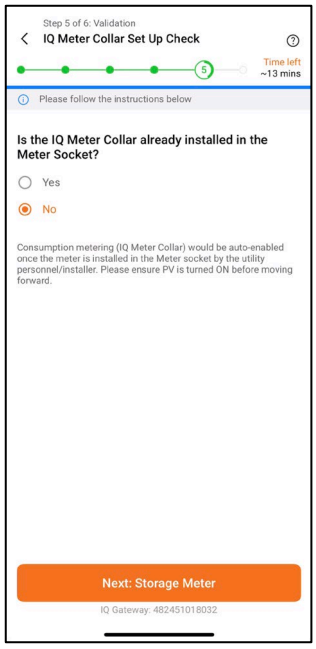
5. If the IQ Meter Collar is already connected to CAN cables, the device will be provisioned in the provisioning screen.
6. If the utility personnel need to connect the IQ Meter Collar, you can continue the commissioning without provisioning it.



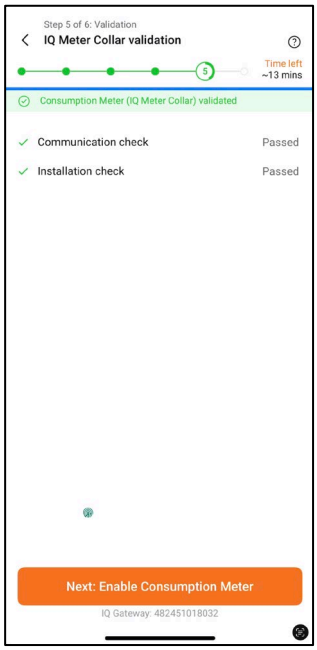
5.2.2 Validation

1. If the IQ Meter Collar is already installed in the meter socket, you can validate the Consumption CT and enable the meters. Follow the guided flow to complete the commissioning, which will be finalized after the grid transition test is completed.
2. If the IQ Meter Collar needs to be installed by utility personnel:

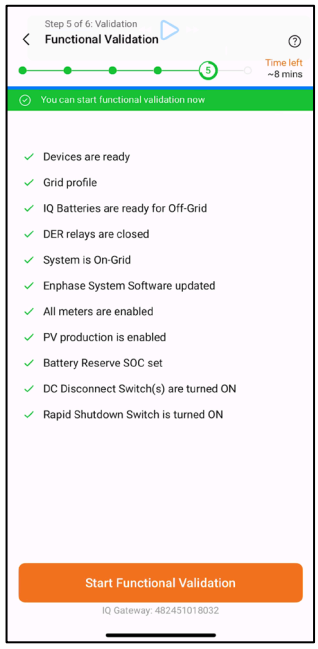
- You can skip the Consumption CT validation. Once the utility personnel install the IQ Meter Collar, the Consumption CT will be automatically enabled, and the system will become backup-capable.
- Once the utility personnel install the IQ Meter Collar, you can remotely perform functional validation using the Enphase Installer App or the Activation page in the Enphase Installer Platform.



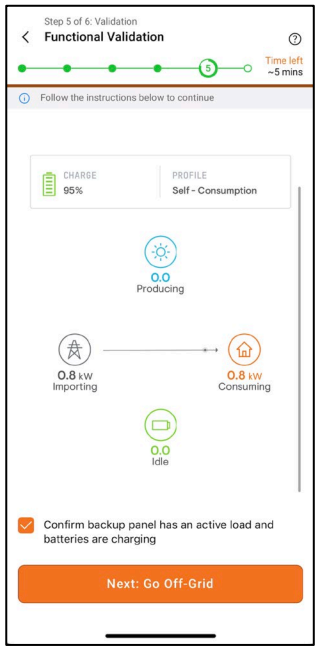
IQ Collar Set Up Check



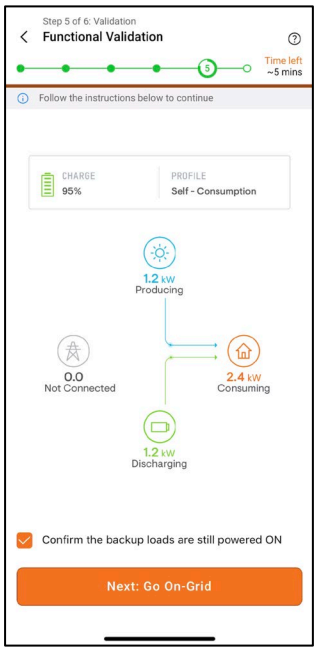
IQ Meter Collar validation



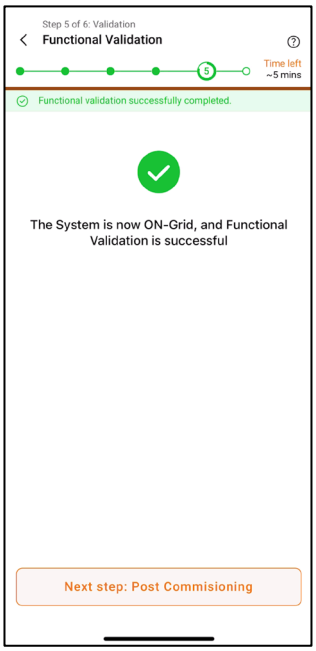
Pre-Functional Validation check



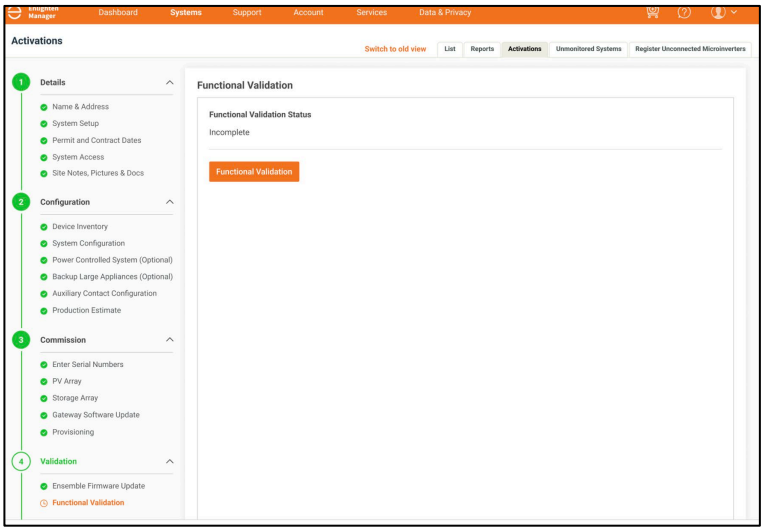
Go off-grid



Go on-grid



Functional validation complete

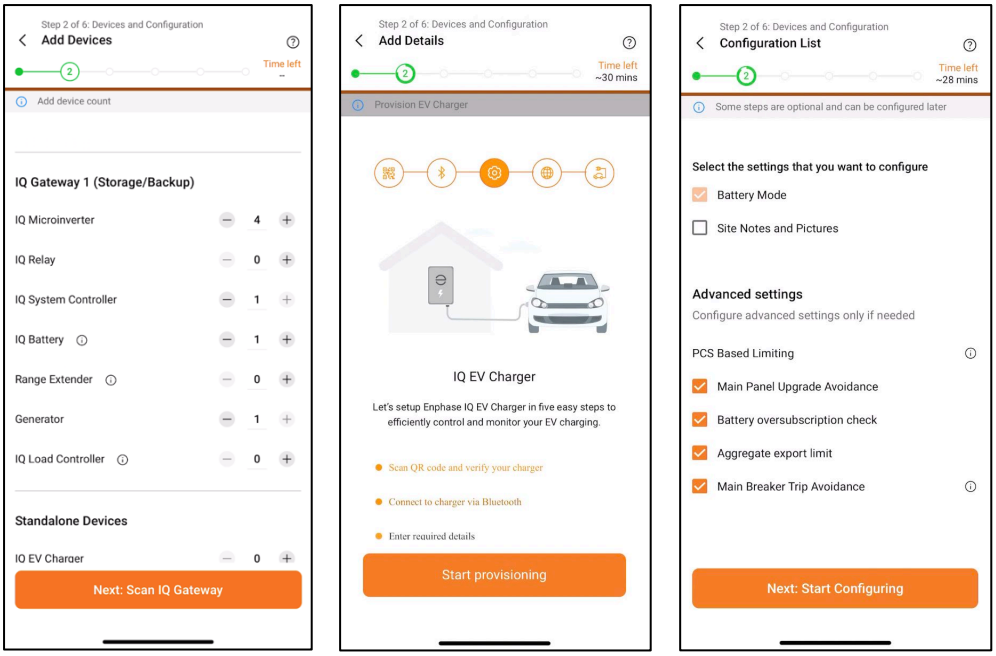


Functional validation in the Enphase Installer Portal

5.3 Commissioning IQ EV Charger

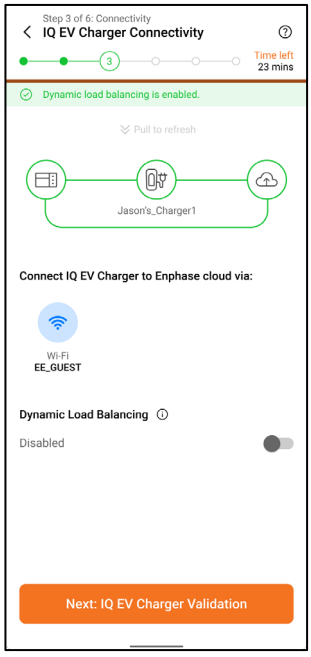
5.3.1 Commissioning process

1. Add the IQ EV Charger count in the Add Devices screen.
2. Ensure you are connected to the internet to complete the scanning and configuration of IQ EV Chargers.
3. Scan or enter the IQ EV Charger serial number, connect to Bluetooth to configure the Wi-Fi connectivity, and complete the provisioning process.
4. Once the IQ EV Charger is provisioned, enable the PCS settings for Main Breaker Trip Avoidance for the site. Enter the service breaker limits, which will be used to manage the charging limits if Dynamic Load Balancing (DLB) is enabled in the IQ EV Charger during the connectivity step.



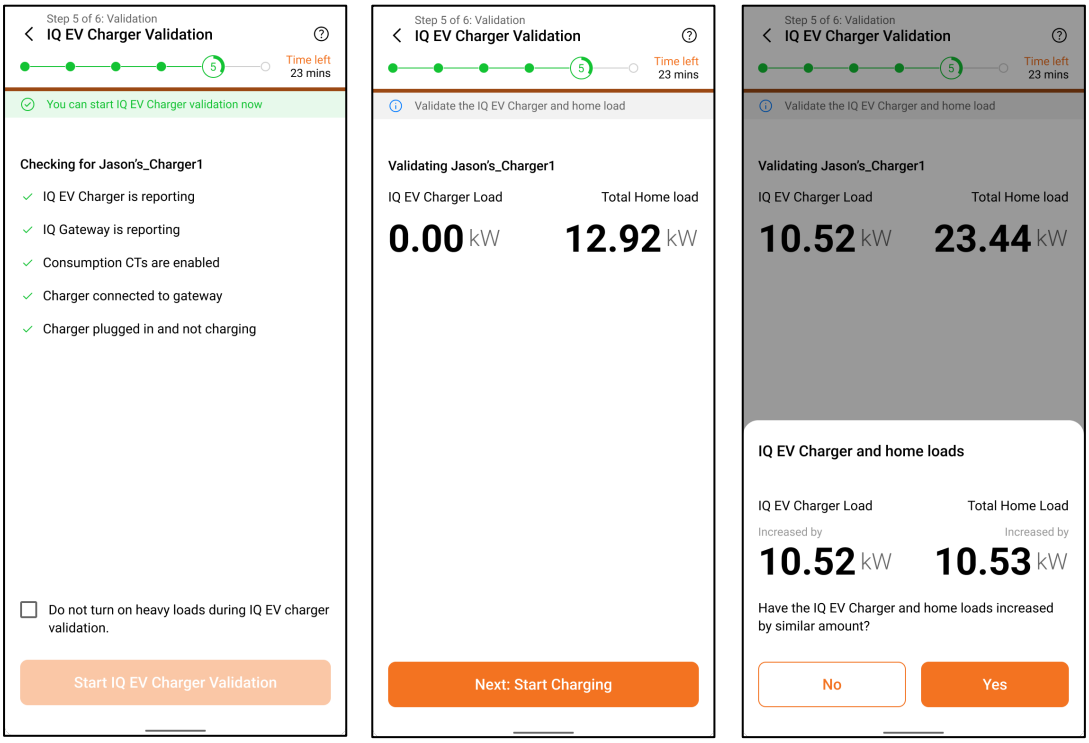
5.3.2 IQ EV Charger Connectivity

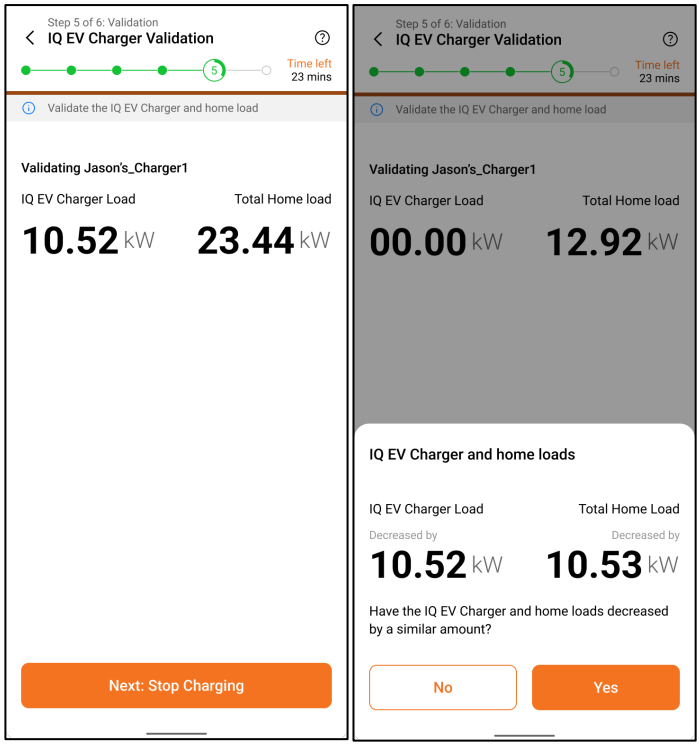
1. The IQ EV Charger connectivity step is available in Step 3 of the Enphase Installer App. This step allows you to:
    a. Reconfigure the Wi-Fi for the IQ EV Charger.
    b. Establish the communication between IQ EV Charger and the IQ Gateway.
    c. Enable the Dynamic Load Balancing (DLB) feature. DLB automatically adjusts the EV charger's charging level based on total home consumption, ensuring the home stays within its consumption limit and preventing the main breaker from tripping.



5.3.3 IQ EV Charger Validation

1. To start the validation, ensure the IQ EV Charger and IQ Gateway are online, Consumption CTs are enabled, and the IQ EV Charger is communicating to the IQ Gateway. The EV charger is plugged in and not charging or faulted.
2. Click **Start IQ EV Charger Validation** and confirm to keep home loads constant.
3. Allow the system to fetch live data for home and EV loads and retry if the process times out.
4. Start EV charging to validate the load increase, then stop EV charging to validate the load decrease.
5. Unplug the IQ EV Charger when prompted and exit the process once validation is complete.



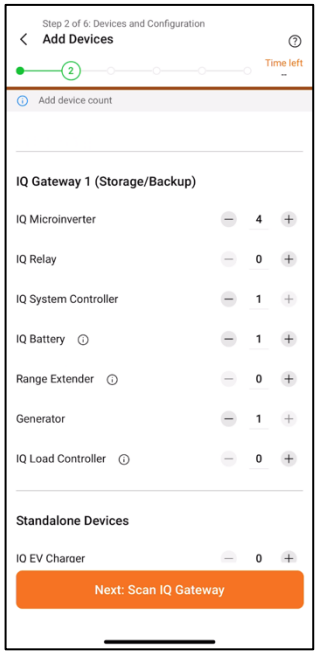


5.4 Generator

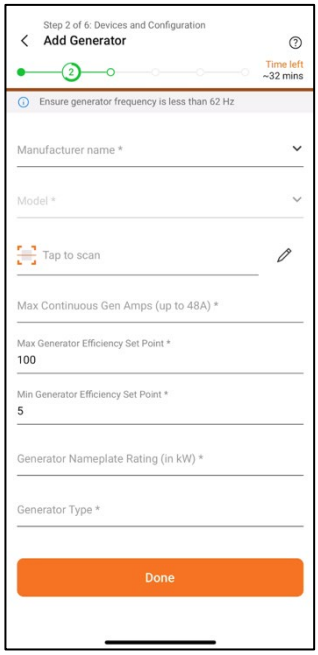
If you are commissioning a generator in the Enphase Energy System, complete the following steps.

5.4.1 Device details page

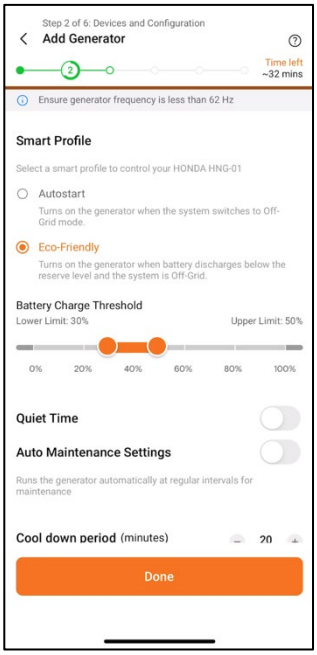
1. Add the generator count to the device details page; you will be shown a generator details page in the guided flow.
2. Update the generator details, i.e., manufacturer name, type, and smart profile.



Add generator count in the device count screen



Add details of the generator

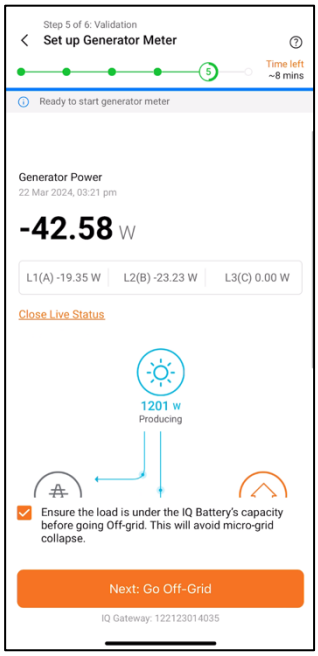


Select the mode of the generator

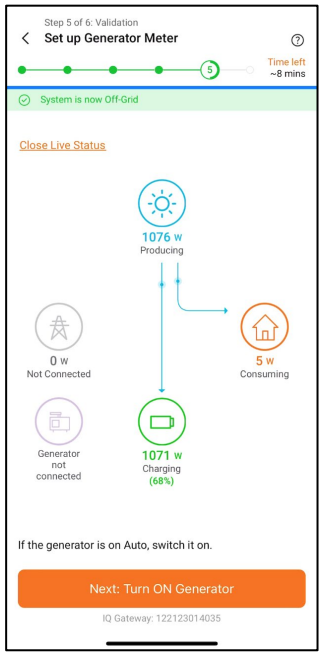
5.4.2 Validation

When you have a generator, you would need to wire and validate the generator meter.

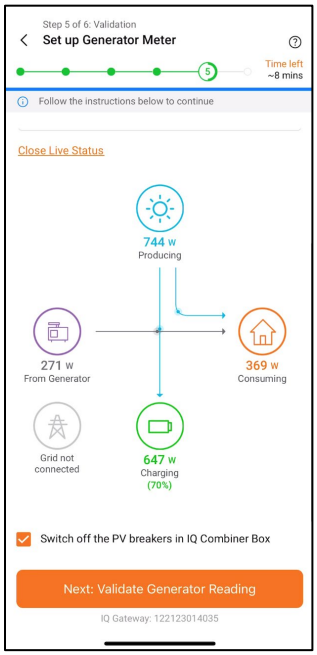
1. Tap **Next: Go Off-Grid**. This disconnects the system from the grid.
2. Tap **Next: Turn ON Generator**. This turns on the generator, and it will start supplying power to the home.
3. Turn OFF the PV breaker in the combiner box and tap **Next: Validate Generator Reading**.
4. Turn ON the PV breaker after you reach the next step. Tap **Next: Turn OFF Generator**.
5. Tap **Next: Go On-Grid** to connect to the grid.
6. Tap **Next: Enable Generator Meter** to complete generator meter validation.



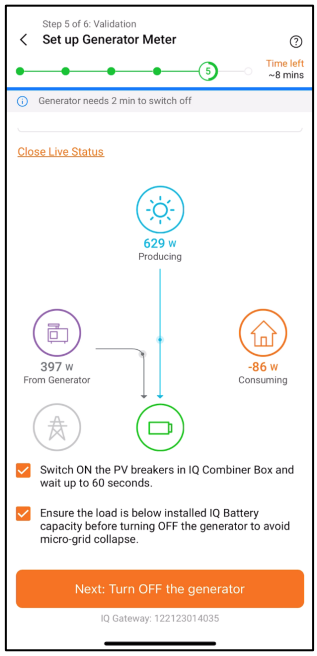
Tap “Next: Go Off-Grid”



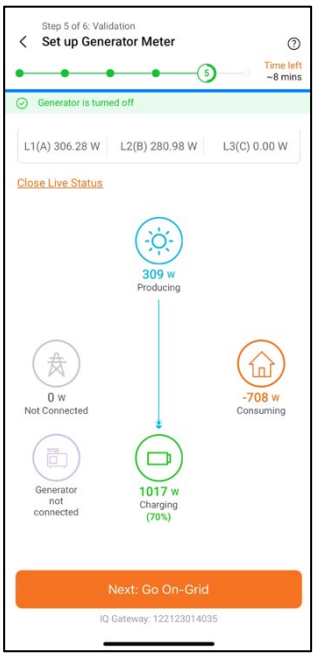
Turn on generator



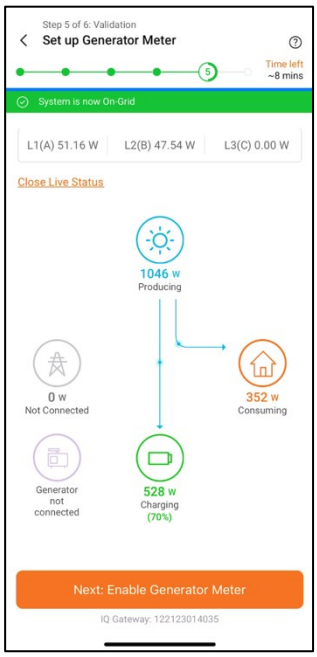
Validate generator reading



Turn off generator



Go on-grid



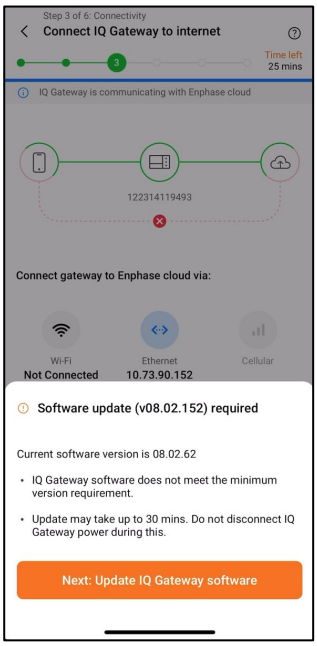
Enable generator meter

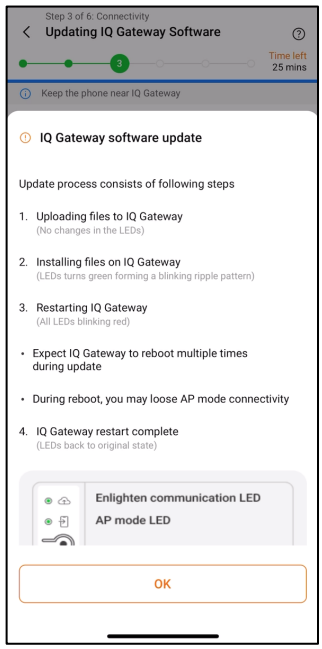
5.6 IQ Gateway upgrade using AP mode

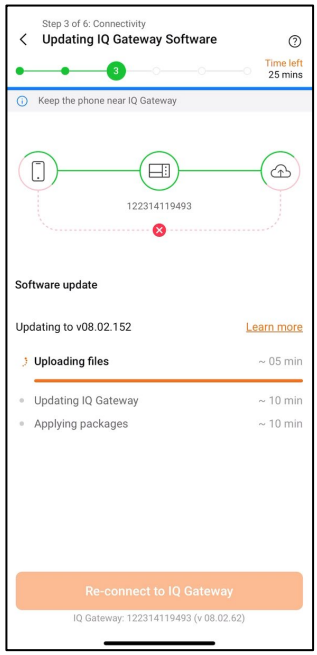
Connect to the IQ Gateway using AP mode. Retry connecting if the connection fails.

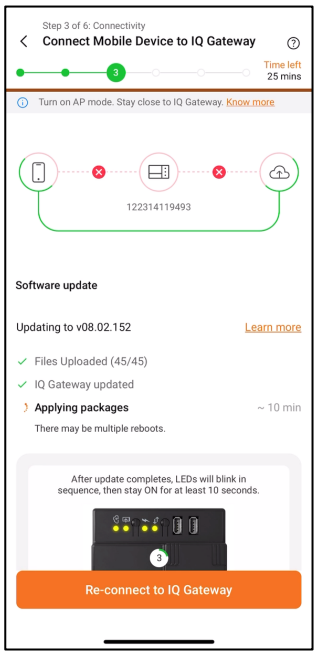
The Enphase Installer App will recommend that a mandatory IQ Gateway upgrade is required for the system's functioning.

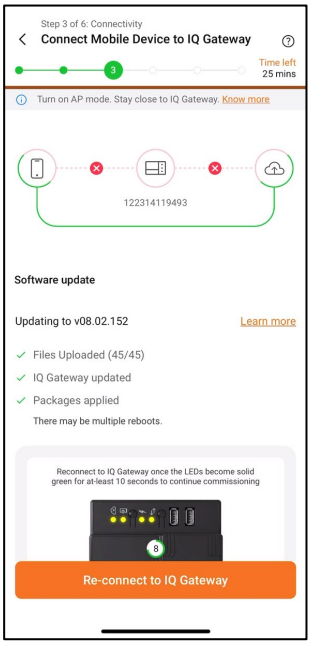
1. Tap **Next: Update IQ Gateway software** to start the update process.
2. The phone automatically disconnects after the packages are applied, and the IQ Gateway will undergo multiple restarts.
3. Reconnect to the IQ Gateway when the LEDs on the IQ Gateway are solid green for 10 seconds.
4. Verify the IQ Gateway software to confirm if the update happened successfully. You will be shown the button to start provisioning.

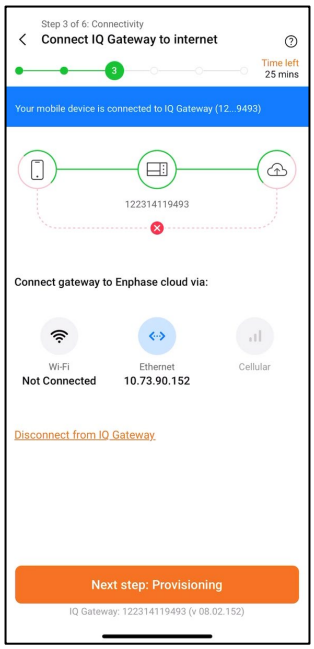












5.7 Remote IQ Gateway upgrade (Non-AP mode)

You can now upgrade the IQ Gateway remotely using the Enphase Installer App. This method allows you to upgrade the IQ Gateway without being physically present at the installation site.

Prerequisite

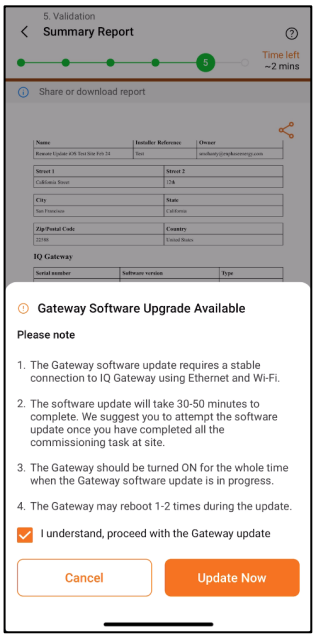
- The IQ Gateway must be connected to the Enphase Cloud via Wi-Fi or Ethernet
- The system commissioning must be completed before initiating a remote upgrade

Steps to upgrade after the Summary Report generation

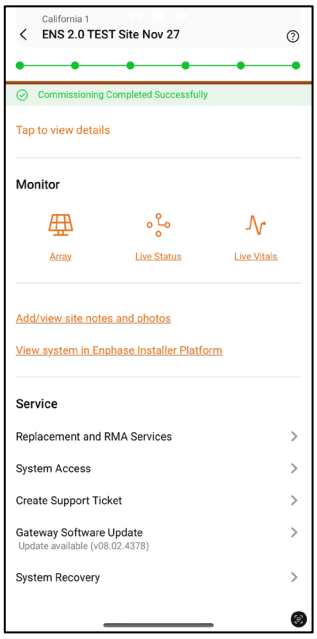
1. After the **Summary Report** generation, an option will be shown to upgrade the IQ Gateway.
2. Read the instructions carefully and tap on **Update Now** to start the upgrade process.

Steps to upgrade using Gateway Software Update module in the Services section

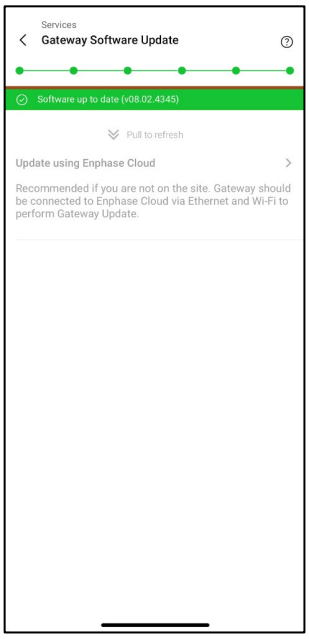
1. Tap **Gateway Software Update** under the **Services** section.
2. Select **Update using Enphase Cloud** to start the remote upgrade process.
3. Review the instructions carefully and tap **Confirm** to proceed.
4. The system will check for available updates and display the current and new software versions.
5. Tap **Upgrade Now** to begin the installation.
6. The upgrade process may take up to 30-40 minutes, and the IQ Gateway will undergo multiple restarts.
7. The Enphase Cloud will monitor the upgrade process and notify you when it is complete.
8. Verify the upgrade by checking that the software version banner displays the new version.



Upgrade after Summary report



Upgrade under Service section



Gateway upgrade completed

6 Appendix

6.1 Appendix A: Grid connection type for different geography

The Enphase Energy System accommodates various grid connection types available across different regions. It is essential to choose the appropriate grid connection type during the commissioning process to ensure compliance with regulatory requirements.

Choosing the appropriate grid connection type is essential for ensuring that the Enphase Energy System functions optimally and maximizes both savings and performance. Below are the various grid connection types supported in different regions.

California

- Net Billing Tariff (NEM 3.0): Applicable for new systems installed since April 15, 2023
- Net Metering (NEM 2.0): Applicable for systems installed before April 15, 2023
- Net Feed-in Tariff: Applicable for systems with a fixed export credit per kWh energy exported
- Gross Feed-in Tariff: Applicable for systems with fixed export credit per kWh energy produced
- Full Off-Grid (without utility service): Applicable for fully off-grid systems

Illinois

- Legacy: Net Metering Tariff: Applicable for systems installed before January 1, 2025, where ESS rebate is not claimed
- Legacy: Net Metering Tariff (With hourly dynamic pricing): Applicable for systems installed before January 1, 2025, where ESS (Battery) rebate is claimed
- Smart Solar Billing: Applicable for systems installed since January 1, 2025, where ESS (Battery) rebate is not claimed
- Smart Solar Billing (With hourly dynamic pricing): Applicable for systems installed since January 1, 2025, where ESS (Battery) rebate is claimed
- Full Off-Grid (without utility service): Applicable for fully off-grid systems

Other U.S. States (except Illinois and California)

- Solar and/or Storage (with utility service): Applicable for systems connected to the grid
- Full Off-Grid (without utility service): Applicable for fully off-grid systems

6.2 Appendix B: Interpreting LED indications for IQ Batteries

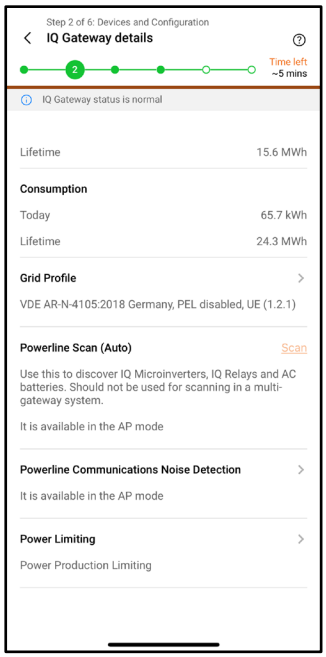
State	Description
Un-commissioned	
Flashing blue	After booting up, when IQ Battery has paired with an IQ Gateway but has not passed the commissioning three-way handshake to confirm that it is an Enphase device
Flashing green	After passing the three-way handshake with the IQ Gateway
After commissioning (normal operation)*	
Rapidly flashing yellow	Starting up/establishing communications

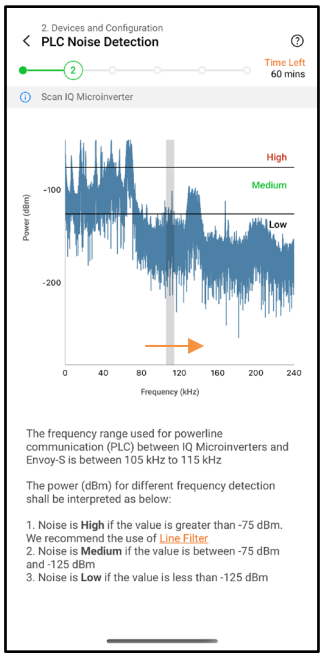
Red double flash	Error
Solid yellow	It is not operating because of the high temperature.
Solid blue or green	Idle. The color transitions from blue to green as the state of charge increases. You can check Enphase Cloud for charge status.
Soft pulse blue	Discharging
Soft pulse green	Charging
Soft pulse yellow	Sleep mode activated
Off	Not operating

* IQ Batteries have a one-hour orphan timer. If the IQ Gateway stops communicating with them after one hour, the IQ Batteries return to an "un-commissioned" state.

6.3 Appendix C: Noise detection over PLC

You can now monitor the quality of power-line communication between IQ Gateway and the microinverters. The PLC Noise Detection feature provides real-time data on the noise detected when communicating with IQ Gateway.





Refer to the latest Enphase Storage Best Practices document to learn more about troubleshooting steps in Enphase Energy Systems.

6.4 Appendix D: Replacing/decommissioning

For the replacement/decommissioning of IQ System Controller and IQ Battery, refer to the Enphase Installer Portal self-service return and replacement technical brief.

6.5 Appendix E: Steps to perform a power cycle of the IQ Battery 3T/10T

To power cycle IQ Battery 3T/10T, perform the following steps.

1. Turn off the IQ Battery DC switches.
2. Turn off the IQ Battery AC Breaker feeding.
3. Wait for five minutes.
4. Turn on the AC breaker feeding.
5. Verify the flashing red light in the IQ Battery for three seconds.
6. Wait for two minutes.
7. Turn on the IQ Battery DC switches.

7 Revision history

Revision	Date	Description
TEB-00020-7.0	June 2025	Added remote IQ Gateway upgrade (Non-AP mode) and IQ Collar Meter details.
TEB-00020-6.0	February 2025	Added IQ EV Charger commissioning steps and grid connection type for different geographies.
TEB-00020-5.0	June 2024	Added battery mode image in “Site Configuration (Step 2b)” section.
TEB-00020-4.0	June 2024	Enphase Installer App 4.x release updates.
TEB-00020-3.0	March 2024	Added NEM 3.0-related changes.
TEB-00020-2.0	October 2023	Enphase Installer App 3.32.0 release updates.
TEB-00020-1.0	July 2023	Initial release.