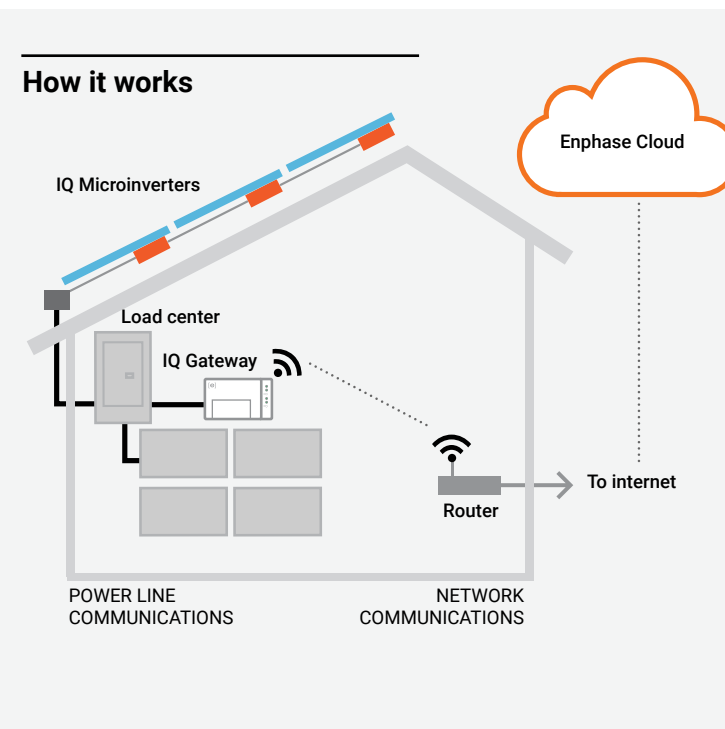


Installing the IQ Gateway Commercial

To install the IQ Gateway Commercial, read and follow all warnings and instructions in this Guide. Safety warnings are listed on the back of this guide.

IMPORTANT: IQ Gateway Commercial, IQ Gateway, and IQ Series Microinverters do not communicate with, and should not be used with, previous generation Enphase microinverters. Always use IQ Series Microinverters with an IQ Gateway Commercial or an IQ Gateway.



IQ Gateway Commercial display and controls

Track system installation progress with the Enphase Installer App. The LEDs on the IQ Gateway Commercial are solid green when a function is enabled or performing as expected, flashing when an operation is in progress, or solid red when troubleshooting with Enphase Installer App is required. For a legend of all LED states, see [Troubleshooting](#).

	Network communications LED Green when IQ Gateway Commercial is connected to Enphase Installer App™.	
	AP mode LED Green when IQ Gateway's AP Wi-Fi network is available.	
	AP mode button Press to enable IQ Gateway's AP Mode for connecting with a mobile device. Hold for five seconds to start WPS connection to a router.	
	Power production LED Green when microinverters are producing power.	
	Device communications LED Green when devices are communicating with IQ Gateway Commercial.	
	Device scan button Press to start/stop 15 minute scan for devices over the power line.	

FCC Statement: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and the receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.

This Class B digital apparatus complies with Industry Canada ICES-003. The ENV-IQ-AM3-3P (IQ Gateway Commercial) is in compliance with Resolution 680 from 06/27/2017, Act 14448 from 04/12/2017, Act 6506 from 08/27/2018 and Act 1120 from 02/19/2018 from ANATEL.

Safety instructions continued

✓	NOTE: Do not install CTs in an area where they will block ventilation openings, or in area of breaker arc venting.
✓	NOTE: The CTs are not suitable for Class 2 wiring methods and not intended for connection to Class 2 equipment.
✓	NOTE: Secure CT and route conductors so that they do not directly contact live terminals or bus.
✓	NOTE: Perform all electrical installations in accordance with all national and local electrical codes.
✓	NOTE: To ensure optimal reliability and to meet warranty requirements, the Enphase IQ Gateway Commercial must be installed according to the instructions in this guide.

Wireless module details:
Module type: WG7837V0 Wi-Fi & Bluetooth module 13.4x13.3 mm, LGA-100
Frequency band: 2.4 GHz and 5.0 GHz
Max power transmitted: 20 dBm

REVISION	DATE	DESCRIPTION
140-00105-05	June 2023	Updated the document for product names and editorial changes.

TROUBLESHOOTING

a LED overview

LED	State	Description
All	Flashing red in unison	The IQ Gateway Commercial is booting up
	Flashing green sequentially	Software upgrade in progress
Network communications	Solid green	Communicating with Enphase Installer App
	Flashing green	WPS connection in progress or the IQ Gateway is attempting to connect to Enphase Installer App
	Solid red	Local network connection only
	Off	No network connection
AP mode	Solid green	AP mode enabled: IQ Gateway Commercial Wi-Fi network available
	Off	AP mode disabled: IQ Gateway Wi-Fi network unavailable
Power production	Solid green	All communicating microinverters are producing
	Flashing green	Microinverter upgrade in progress
	Solid red	At least one microinverter is not producing
	Off	Microinverters are not producing or communicating (low light or night time)
Device communications	Solid green	All devices are communicating
	Flashing green	Device scan in progress
	Solid red	At least one device is not communicating
	Off	Devices are not communicating (low light or night time)

b Device detection issues

If the Device communications LED lights solid red, it may be a result of low light levels. If there is not enough sunlight to power up the microinverters, they cannot communicate with the IQ Gateway.

If there is sufficient daylight for the microinverters to power up, the issue may be that the IQ Gateway Commercial is having difficulty communicating over the power lines. To troubleshoot this issue:

- Check the Enphase Installer App to see which devices are not communicating.
- Check that the circuit breaker(s) for the PV array are in the "ON" position.
- Verify that the PV modules are connected to the microinverters.
- Verify the PV module DC voltage is within the allowable range for the microinverter.

c Power production issues

If the Power production LED lights solid red, check the Enphase Installer App to see which microinverters are not producing:

- If none of the microinverters are producing power, there may be a grid or wiring issue. First, verify that there is proper input voltage and frequency from the grid. Next, check the breaker and wiring, starting at the load center.
- If all the non-productive microinverters are on the same branch, check the breaker and wiring starting at the junction box for the affected branch.
- If only one or scattered microinverters are not producing power, first check to see that the AC connectors are fully seated in the IQ Cable connectors. Next, check that each module is providing the required startup voltage for the microinverter. A PV module that is failing or that is undersized may not generate enough power for AC conversion.

d Internet connection issues

If you are using Wi-Fi and the Network communications LED remains off:

- The WPS connection window may have timed out. Retry the connection steps.
- Make sure that the broadband router is operational by checking that other devices at the site can access the network.
- Be aware that metal enclosures or obstructions impede wireless communication.
- If you cannot see your router or access point in the list on the IQ Gateway, or cannot maintain a connection, it may be necessary to add a wireless repeater to extend the network range.

If you are using Wi-Fi and the Network communications LED lights solid red, make sure that the broadband router is connected to the internet by checking that other devices at the site can access the internet.

If you are using the Mobile Connect modem and the Network Communications LED remains off or lights solid red, see "Troubleshooting" section in the Enphase Mobile Connect Installation Guide.

For any connection method, you can troubleshoot network issues with the Enphase Installer App by tapping the "Network" button, then "Diagnostic Tools".

If you replace the broadband router, configure the IQ Gateway Commercial Wi-Fi settings for the new Wireless Network Name (SSID) and password. Or use the WPS function described in step 6.

SAFETY

Safety and advisory symbols

	DANGER: This indicates a hazardous situation, which if not avoided, will result in death or serious injury.
	WARNING: This indicates a situation where failure to follow instructions may be a safety hazard or cause equipment malfunction. Use extreme caution and follow instructions carefully.
✓	NOTE: This indicates information particularly important for optimal system operation. Follow instructions carefully.

Safety Instructions

	DANGER: Risk of electric shock. Risk of fire. Do not attempt to repair the IQ Gateway Commercial; it contains no user-serviceable parts. Tampering with or opening the IQ Gateway Commercial will void the warranty. Warranty is void if cover is removed. If the IQ Gateway Commercial fails, contact Enphase customer support for assistance (https://enphase.com/contact/support).
	DANGER: Risk of electric shock. Always open or disconnect circuit from power-distribution system (or service) of building before installing or servicing current transformers (CTs).
	DANGER: Risk of electrocution! Do not install CTs when current flowing in the sensed circuit. Always install CT wires in the terminal blocks before energizing the sensed circuit.
	DANGER: Risk of electric shock. Do not use Enphase equipment in a manner not specified by the manufacturer. Doing so may cause death or injury to persons, or damage to equipment.
	DANGER: Risk of electric shock. Be aware that installation of this equipment includes risk of electric shock. Always de-energize the load center before beginning wiring.
	DANGER: Risk of electric shock. Risk of fire. Only qualified personnel should troubleshoot, install, or replace the IQ Gateway Commercial.
	DANGER: Risk of electric shock. Risk of fire. Do not wire unused terminals or terminal blocks on the IQ Gateway Commercial.
	WARNING: Before installing or using the IQ Gateway Commercial, read all instructions and cautionary markings in the technical description and on the IQ Gateway Commercial.
	WARNING: Risk of equipment damage. If installing the IQ Gateway Commercial in an enclosure, choose area for installation where ambient temperature does not exceed 46° C (115° F).
✓	NOTE: Do not install the CTs in a panel where they exceed 75% of the wiring space of any cross-sectional area within the panel, or refer to local standards for guidance.



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Enphase Customer Support: <https://enphase.com/contact/support>

PREPARATION

- A) Download the Enphase Installer App and open it to log in to your Enphase Installer App account. With this app, you can connect to the IQ Gateway Commercial to track system installation progress. To download, go to <https://enphase.com/installers/apps> or scan the QR code at right.
- B) Download the latest version of the software to your mobile device. To do so, open Enphase Installer App and go to "Settings" > "IQ Gateway Resources".
- C) Check the box for the following items:
 - Enphase IQ Gateway Commercial (look for the IQ logo)
 - Three solid-core production metering current transformers (CTs)
 - DIN rail for mounting
 - Enphase IQ Gateway Commercial Quick Install Guide (this document)
- D) If you plan to do consumption metering, make sure you have three split-core consumption metering CTs (order CT-200-SPLIT).

NOTE: The consumption CTs monitor up to 200 A of consumption current and fit conductors with a maximum outside diameter of 0.84" (21.33mm). You can use up to two parallel connected consumption CTs for monitoring up to two conductors. For conductors or bussing greater than 200 A, the consumption CTs shall not be installed or enabled.

- E) Check that there is enough space in the load center to install CTs. Do not install CTs where they exceed 75% of the wiring space of any cross-sectional area within the load center.
- F) Install the IQ Gateway Commercial in an NRTL Certified, NEMA type 3R (or better) enclosure with conduit attachment when installing outdoors. Do not drill holes on the top of the enclosure or anywhere that allows moisture ingress. Metallic enclosures may impair Wi-Fi signal strength. Use an appropriately rated enclosure if installing indoors.
- G) Decide how to connect the IQ Gateway Commercial to the Internet: Use Wi-Fi or Ethernet. Then, make sure you have the following optional items if needed:
 - Ethernet cable [802.3, Cat5E or Cat6, unshielded twisted pair (UTP)]. Do not use shielded twisted pair (STP) cable.
- H) Create a paper installation map to record device serial numbers and positions in the array. You will scan this map later using Enphase Installer App and your mobile device.
 - As you do with the microinverters, peel the removable label from the bottom of the IQ Gateway Commercial and affix it to the paper installation map.
 - Always keep a copy of the installation map for your records.
- I) **NOTE: Installation of the IQ Gateway Commercial has two parts. To ensure successful device detection, complete Part 2 after installing any IQ Microinverters.**

NOTE: If needed, you can find an installation map at the back of the Enphase IQ Microinverter Quick Install Guide.

INSTALLATION – Part 1

It is a best practice to complete Installation Part 1 before installing Enphase microinverters.

For steps 2 and 3, refer to the wiring diagram on the next page.

1 Choose a location for the IQ Gateway Commercial



WARNING: Risk of equipment damage. When installing the IQ Gateway in an enclosure, choose area for installation where ambient temperature does not exceed 46°C (115°F).

- Install the IQ Gateway Commercial near the main load center or PCC (point of common coupling) and consider the length of the Production CT leads (5 feet) when choosing the location. Extending the leads of the CT may impact accuracy and hence is not recommended.
- Install the IQ Gateway Commercial in a protected dry space in an NRTL Certified, NEMA-type 3R (or better) enclosure with conduit attachment. Use an appropriately rated enclosure if hard wiring the IQ Gateway Commercial indoors.
NOTE: Metallic enclosures may impair Wi-Fi signal strength.
- Mount the IQ Gateway horizontally using the included DIN rail.

2 Wire the IQ Gateway Commercial for power and metering

The IQ Gateway uses terminal blocks for power and metering connections. Refer to the wiring diagram on the following page when performing this step.

You must install three solid-core current transformers (CTs) for production metering. Consumption monitoring is optional and requires that you order and install three additional split-core CTs. Use a protected route in conduit for the CT wires from the main load center to the IQ Gateway Commercial. The Consumption CT leads are 13 feet long. If you need to extend the leads, refer to the *Enphase IQ Gateway Commercial Installation and Operation Manual* at <https://enphase.com/contact/support>. Extending the leads of the CT may impact accuracy and hence is not recommended.



DANGER! Risk of electric shock. Always de-energize circuits before wiring for power and CTs.

DANGER! Risk of electrocution! Do not install CTs when current is flowing in the sensed circuit. Always install CT wires in the terminal blocks before energizing the sensed circuit.

NOTE: When installing CTs, it is important to match CT and sense voltage phases. Be sure to consistently identify the three AC lines at three points: the main load center feed, the IQ Gateway, and the solar production circuit breaker. Wire colors (typically black, red, and blue) may not always consistently identify L1, L2, and L3. If in doubt, use a multimeter to check.

NOTE: Because of variance in load center design and main power feed, there may not always be enough space to install consumption metering CTs. See our technical brief, *Assessing a Site for Installing Consumption CTs*, at <https://enphase.com/contact/support>

- Before running the CT wires through the conduit, use colored tape to mark each of the CTs and the free ends of its wires, marking each with a different color. You can run multiple CT wires through a single conduit.
- Wire the IQ Gateway Commercial for power
 - Use a three-pole circuit breaker of up to 20 A (maximum) for the supply wiring.
 - Make sure the supply wiring is 14 AWG or larger copper rated at 75 °C or better.
 - Use a screwdriver to loosen the screw on the terminal block door and open the door.
 - Flip open the terminal block door and wire the line and neutral conductors as shown: Connect Line 1 to L1, Line 2 to L2, Line 3 to L3, and Neutral to N. Tighten to 10.5 in-lbs (1.2 N m).
- Install the production CTs on active phases as required:
 - Locate the arrow on the CT label.
 - To monitor production on Line 1:**
 - Connect the white wire to the white "P1" terminal and the blue wire to the blue "P1" terminal.
 - Pass Line 1 of the solar production circuit through the CT with the arrow pointing toward the load (away from the solar array).
 - To monitor production on Line 2:**
 - Connect the white wire to the white "P2" terminal and the blue wire to the blue "P2" terminal.
 - Pass Line 2 of the solar production circuit through the CT with the arrow

NOTE: Only run active conductors of the same phase through each CT. Each CT can monitor multiple active conductors.


- pointing toward the load (away from the solar array).
 - To monitor production on Line 3:**
 - Connect the white wire to the white "P3" terminal and the blue wire to the blue "P3" terminal.
 - Pass Line 3 of the solar production circuit through the CT with the arrow pointing toward the load (away from the solar array).
 - Tighten all connections to 5 in-lbs (0.6 N m).**
- Install the Consumption CTs on active phases as required:
 - Locate the arrow on the CT label.
 - Make sure that the AC mains wire(s) are de-energized until you have secured the CT wires in the terminal blocks.
To monitor consumption on Line 1:
 - Connect the white wire to the white "C1" and the blue wire to the blue "C1" terminal.
 - Clamp the CT on the main supply Line 1. When the Consumption CT is on the Line 1 conductor, the arrow must point toward the load (away from the grid).
 - To monitor consumption on Line 2:**
 - Connect the white wire to the white "C2" terminal and the blue wire to the blue "C2" terminal.
 - Clamp the CT on the main supply Line 2. When the Consumption CT is on Line 2 conductor, the arrow must point toward the load (away from the grid).
 - To monitor consumption on Line 3:**
 - Connect the white wire to the white "C3" terminal and the blue wire to the blue "C3" terminal.
 - Clamp the CT on the main supply Line 3. When the Consumption CT is on Line 3 conductor, the arrow must point toward the load (away from the grid).
 - Tighten all connections to 5 in-lbs (0.6 N m).**

WARNING: Risk of mistaken phase connection! IQ Gateway Commercial is not equipped with any Loss-Of-Phase (LOP) feature. Installers should use an external loss of phase relay to meet utility requirement. External Loss of phase relay may be sensitive to phase sequence and installers should ensure correct phase connection for system to operate.

NOTE: Philippines requires a voltage configuration of 133 V L-N/ 230 V L-L. As of today, IQ Microinverters ship with a 240 V L-L voltage configuration and IQ Gateway Commercial ships with a 120 V L-N/208 V L-L. This will cause a voltage mismatch, and in doing so will trigger ACVOOR (AC voltage out of range) events with LEDs on the microinverters blinking red during commissioning. Installers are instructed to ignore such events/LED indicators. Philippines specific grid profiles 'PDC:2017 Philippines 133 V/230 V 60 Hz WYE, < 100 kW' or 'PDC:2017 Philippines 133 V/230 V 60 Hz WYE, < 100 kW with zero export' is selected in Enphase Installer App (ITK) to stop the LED blinking.

3 Energize the IQ Gateway Commercial

- Close the terminal block door, and secure it with the screw.
- Turn on the circuit feeding the IQ Gateway Commercial.

All four LEDs flash red during boot up (approximately three minutes). When boot up is complete, the Device communications LED  lights solid red, indicating that devices are not yet detected.

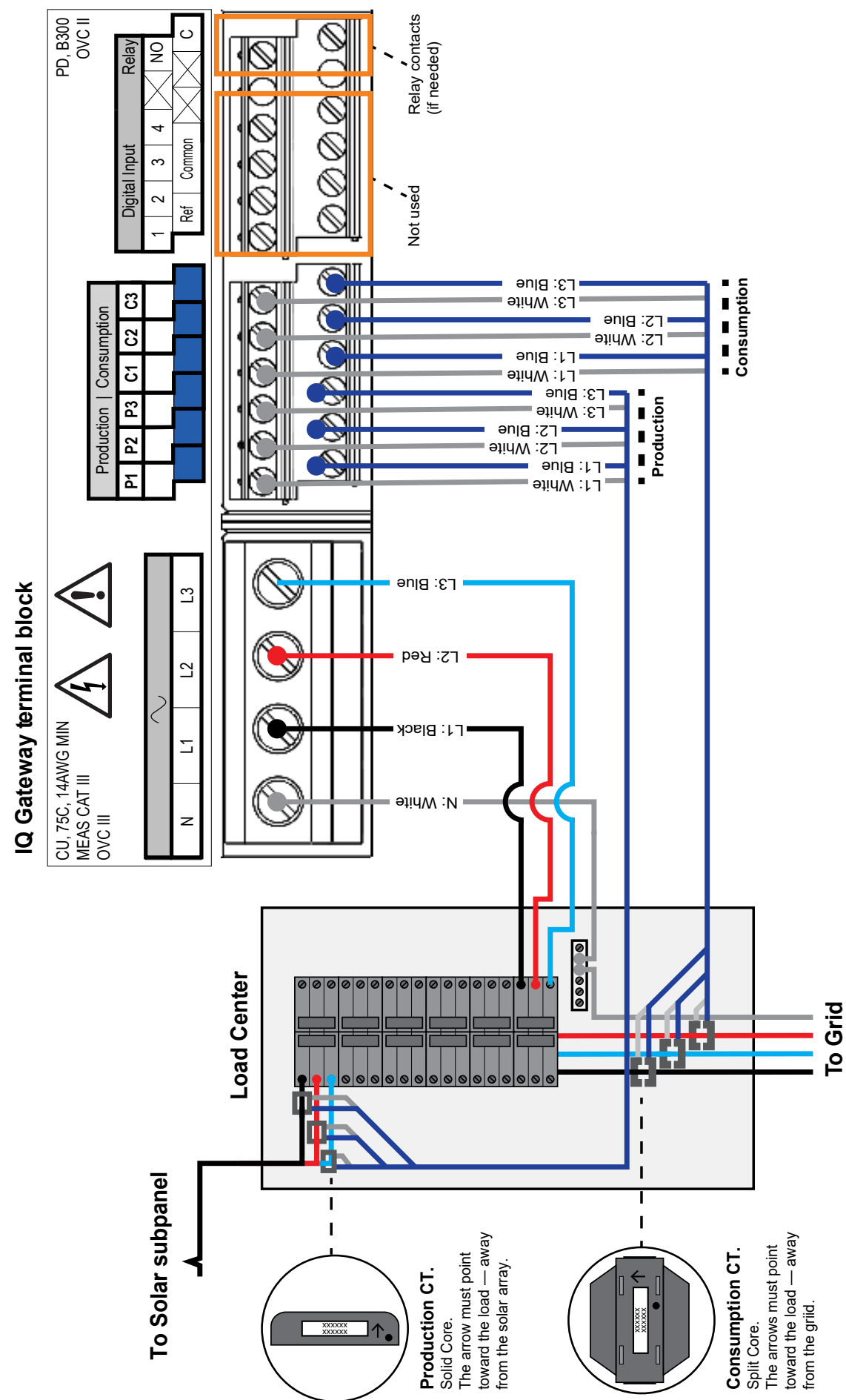


WARNING: Do not remove power from the IQ Commercial Gateway during the software update.

4 Launch Enphase Installer App and start System activation

- Launch the Enphase Installer App on your tablet or mobile device. To create an activation for a new system, tap the plus button on the bottom right corner of the screen.
- Tap "System Details" to enter the required information.
- Complete the system activation in Enphase Installer App by filling in the details.

The 'System created successfully' message will display at the bottom of your screen and system details will appear now as complete.



IQ Gateway Commercial wiring

INSTALLATION – Part 2

Once the update is finished and the PV system is installed, the IQ Gateway is ready for Installation Part 2. You must complete Installation Part 2 after installing the PV system.

5 Adding Devices and Array to the system

This step is used to enter unique serial numbers of all devices present on-site. It is recommended that you enter the serial number by scanning the barcode/QR code using the Enphase Installer App.

- Tap "Devices and Array" on the home page.
- Add the total number of devices to be installed in your system
- Scan device serial numbers through bar code or QR code in respective device sections.
 - In addition to using your device's camera to scan serial numbers, you can enter the serial numbers manually. Manual entry should be used only when you are not able to scan the bar code or QR code of any device
- After scanning the microinverters, you can use Array Builder to assign your scanned microinverters to an array or build an array manually.

This step can also be completed post commissioning.

6 Setting the tariff details (optional)

This step is used to enter the electricity rate structure of the utility

- Tap "Tariff & Storage Configuration" on the home page.
- Subsequently, tap on the "Tariff Editor" to enter the electricity import and export rate. Ensure that the mobile device or tablet is connected to the internet to complete this step.

7 IQ Gateway Connectivity

This step is used to establish/monitor IQ Gateway connectivity to the Enphase Cloud and Enphase Installer App. You can also update IQ Gateway in this step if it is needed for successful commissioning.

- Tap "IQ Gateway Connectivity" on the Enphase Installer App home page.
- If the "IQ Gateway" icon and "Enphase Installer App" icon (phone icon) are not connected on the "IQ Gateway Connectivity" page, follow these steps:
 - On the IQ Gateway, press the AP mode button (the first button from the top) for about one second. The LED will light solid green.
 - Go to your phone's settings and connect to IQ Gateway's Wi-Fi network. The IQ Gateway Wi-Fi network will appear as "Envoy_XXXXX" where XXXXX are the last six digits of your specific IQ Gateway's serial number.
 - Return to the Enphase Installer App "IQ Gateway Connectivity" page and connect.
- If the "IQ Gateway" icon and "Enphase Cloud" icon (cloud icon) are not connected on the "IQ Gateway Connectivity" page, follow these steps:
 - The IQ Gateway can connect to the Enphase Cloud through either Wi-Fi, Ethernet, or cellular.
 - If Wi-Fi is selected, input the username and password for the home/ office Wi-Fi.
 - If connecting using Ethernet, simply plug the cable into the IQ Gateway.

8 Provisioning the devices

To provision your devices, the Enphase Installer App should be connected to IQ Gateway via AP mode as described in the "IQ Gateway Connectivity" section.

- If a green checkmark displays between the IQ Gateway and Enphase Installer App, tap "START PROVISIONING DEVICES". The "Provisioning Devices" screen displays the steps being executed by Enphase Installer App. The Enphase Installer App verifies and updates the grid profile in IQ Gateway and provisions all the connected devices.
- When provisioning is complete, tap "DONE".

9 Verify meter configuration

The production meter can be configured as per the following step.

- Tap "Meter Configuration" on the Enphase Installer App home page and subsequently, tap "Production Meter" to start configuring the production meter. A pop-up appears asking you to follow the meter wizard to verify your CT configuration. Select "Yes" to proceed.
- Tap "Enable production meter" to finish the configuration of the production meter.

The consumption meter can be configured as per the following steps:

- Tap on the "Meter Configuration" on the installer app home page and subsequently, tap on the "Consumption Meter" to start configuring the consumption meter. A pop-up appears asking you to follow the meter wizard to verify your CT configuration. Select "Yes" to proceed.
- Tap "Enable consumption meter" to finish the configuration of the consumption meter.

10 Send Summary Report and complete Homeowner Walkthrough

This step is used to download the summary report of all the devices installed and reporting to IQ Gateway. The installer needs to disconnect AP mode and ensure connectivity to the internet at this stage. You can share this report using email, text, or airdrop. It contains details of each provisioned device and the commissioned status of the system.

- Tap "Summary" on the Enphase Installer App home page. The system report is displayed on the screen, which consists of a list of devices, their serial numbers, their last reports, and information about the grid profile applied to the devices.
- Tap "SHARE" on the right top corner to share the report as needed.
- Open Homeowner Walkthrough and discuss all listed points with the homeowner. You can also show the videos embedded in the links to the homeowner for better experience.