

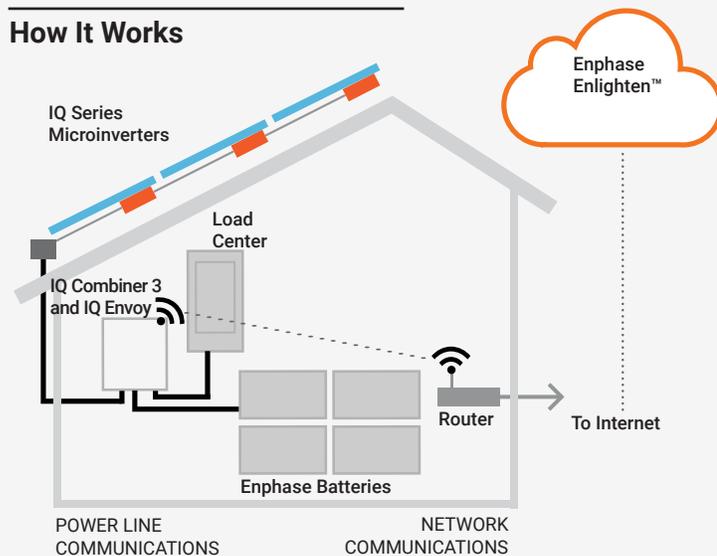
# Installing the Enphase IQ Combiner 3

The Enphase IQ Combiner 3™ combines up to four AC branch circuits of Enphase IQ Series Microinverters and/or Enphase IQ Batteries. To install the IQ Combiner 3, read and follow all warnings and instructions in this guide. Safety warnings are listed on the back of this guide. If you do not fully understand any of the concepts, terminology, or hazards outlined in these instructions, refer installation to a qualified electrician or installer. These instructions are not meant to be a complete explanation of a renewable energy system. All installations must comply with national and local electrical codes. Professional installation is recommended.

The IQ Combiner 3 is an outdoor-rated, NRTL-certified NEMA type 3R enclosure containing an Enphase IQ Envoy™, circuit breakers, and wiring for IQ Envoy connections. Use the IQ Combiner 3 for single-phase applications and to support the AC connections needed for an Enphase residential solar installation.

**IMPORTANT: Enphase IQ Series Microinverters require the Q Cable and are not compatible with previous Enphase cabling. The IQ Envoy inside the Combiner is required to monitor performance of the IQ Microinverters. The Q Accessories work only with Enphase IQ Series Microinverters.**

## How It Works



## IQ Envoy Display and Controls

Track system installation progress with the **Enphase Installer Toolkit** mobile app. The LEDs on the IQ Envoy PCB (printed circuit board) are solid green when a function is enabled or performing as expected, flashing when an operation is in progress, or solid amber when troubleshooting with Installer Toolkit is required. For a legend of all LED states, see [Troubleshooting](#) **a**.

-   — **Network Communications LED**  
Green when IQ Envoy is connected to Enlighten.
-   — **AP Mode LED**  
Green when IQ Envoy's AP Wi-Fi network is available.
-  — **AP Mode Button**  
Press to enable IQ Envoy's AP Mode for connecting with a mobile device. Hold for 5 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 Envoy.
-  — **Device Scan Button**  
Press to start/stop 15 minute scan for devices over the power line.



Enphase Installer Toolkit mobile app

## PREPARATION



- A) Download the Enphase Installer Toolkit mobile app and open it to log in to your Enlighten account. With this app, you can connect to the IQ Envoy to track system installation progress. To download, go to [enphase.com/toolkit](http://enphase.com/toolkit) or scan the QR code at right.
- B) Check the box for the following items:
  - Enphase IQ Combiner 3 with IQ Envoy printed circuit board
  - **Enphase IQ Combiner 3 Quick Install Guide** (this document)
- C) Make sure you have the following **required** items:
  - Tools: screwdriver, pliers, and torque wrench.
  - Up to four Eaton BR-style breakers (one for each DG branch circuit). You can install 10A, 15A, or 20A breaker(s) in the IQ Combiner 3 (order BRK-10A-2-240V, BRK-15A-2-240V, and/or BRK-20A-2P-240V).
  - Overcurrent protection in the load center in accordance with NFPA 70, §705.12.
  - Suitable mounting hardware: use #8 (or larger) screws that are long enough to secure the unit to the vertical mounting surface
  - Copper conductors rated for wet locations and sized to meet local code requirements and voltage drop/rise considerations. Wire sizes and torque values are listed on the door of the unit.
  - UL Listed rain-tight hubs for wire entry into the enclosure.
- D) If you plan to do consumption metering:
  - Make sure you have two split-core consumption metering CTs (order CT-200-SPLIT).
  - Check that there is enough space in the load center to install CTs. Do not install the CTs in a panel where they exceed 75% of the wiring space of any cross-sectional area within the load center.
- E) Decide how to connect the IQ Envoy to the Internet: Use Wi-Fi, an Enphase Mobile Connect modem, or Ethernet. Then, make sure you have the following optional items, if needed:
  - Enphase Mobile Connect modem
  - Ethernet over power line communication (PLC) bridge with Ethernet cables (order EPLC-01). If you choose this option, you will need to install an Enphase accessory receptacle (order XA-PLUG-120-3) inside the Combiner.
  - Ethernet cable: 802.3, Cat5E or Cat6, unshielded twisted pair (UTP). Do not use shielded twisted pair (STP) cable. You must install a ferrite bead (we recommend Fair-Rite 0431167281) as close as possible to the IQ Envoy on the Ethernet cable.
- F) Create a paper installation map to record device serial numbers and positions in the array. You will scan this map later using Installer Toolkit and your mobile device.
  - Write the IQ Envoy serial number on the paper installation map. Later, you will need to enter this number in Installer Toolkit. You can type it in manually or scan the label on the inside of the Combiner door.
  - Always keep a copy of the installation map for your records.
- H) **Note that installation of the Combiner has two parts. To ensure successful device detection, complete Part 2 after installing any Enphase IQ Microinverters and/or Enphase AC Battery(ies).**

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

## INSTALLATION – Part 1

It is a best practice to complete Installation Part 1 before installing Enphase Microinverters and/or Batteries.

### 1 Choose a location for the IQ Combiner 3

- A) Install the IQ Combiner 3 in a readily accessible location, at least three feet (91 cm) off the ground if outdoors. Install it at least 12 inches (30.5 cm) off the ground if installed indoors.
- B) Consider the dimensions of the IQ Combiner 3, easy access, box height, and length of cable when selecting the location. The IQ Combiner 3 is rainproof but not watertight.
- C) Mount the IQ Combiner 3 on a vertical surface.

**NOTE:** You must mount the Combiner within 15 degrees of vertical.

### 2 Install Circuit Breaker(s)

The combiner includes one two-pole 10A circuit breaker that feeds the IQ Envoy and the AC outlet (if present). You can install additional breakers, if needed. You must follow all NEC and local electrical codes.

- A) Open the enclosure door. Pinch the top of the hinge rod using a pair of needle-nosed pliers. Slide the door up and away to remove it. Set the door aside for later reattachment.

**NOTE:** Risk of equipment damage. Do not remove the pre-installed heat shield attached to the enclosure door.

- B) Remove the plastic deadfront. It is not necessary to completely remove the screws.



**Warning!** Risk of electric shock. To maintain the warranty, do not modify the dead-front other than to remove or replace filler plates, as needed.

- C) Remove a filler plate on the deadfront for each breaker position you will use. To remove the filler plate, press the single latch inward while gently pushing the filler plate out.
- D) Snap the breaker onto the busbar, using only the breaker positions indicated in the diagram on the door of the unit.

### 3 Drill Holes to Accept Conduit



**Warning!** Risk of equipment damage. Do not drill conduit holes on the top of the box or at any location that allows moisture ingress.

- A) The bottom and sides of the Combiner 3 are the best locations to drill holes for conduit fittings. Rear conduit entry below the busbar assembly is also supported.

**Note:** When drilling, consider the internal parts of the combiner. Make sure that the holes do not interfere with the internal workings, mechanics, or the deadfront legs in the corners of the Combiner.

**Best Practice:** Use a stepped drill bit for making the conduit holes. Using a hole saw may crack the plastic housing. As an alternative, use a sharp chassis punch with caution.

- B) Use a snap punch or other type of center punch to prevent the drill from wandering. Drill a pilot hole with a smaller drill before using a step drill bit.
- C) Use only UL-listed rain-tight hubs for wire entry into the enclosure.



**Warning!** Risk of equipment damage. Observe bend radius requirements when routing wires.

### 4 Wire the Output Connections

Refer to the diagram on the door of the IQ Combiner 3 and do the following:

- A) Use conductors sized per local code requirements taking into consideration the voltage drop/rise and upstream breaker or fuse.
- B) The two terminals below the circuit breaker(s) are the output connections. Install L1 into the left terminal and L2 into the right terminal.
- C) Connect the neutral (white) to the neutral busbar.

**Note:** Enphase IQ Series Microinverters use a two-wire system and do not use a Neutral. However, the IQ Envoy in the combiner still requires a Neutral from the load center.

- D) Connect the ground (green or green/yellow) to the Ground busbar.
- E) Torque all connections as indicated by the table below.

### 5 Wire Inputs from the AC Branch Circuits

You can install AC branch circuit breakers up to 80 A total (sum of handle ratings, excluding the 10 A breaker). With individual branch circuits, you will typically use up to four 20 A breakers. Refer to the diagram on the door of the IQ Combiner 3 and do the following:

- A) Use copper conductors sized to meet local code requirements and voltage drop/rise considerations.
- B) Bring in the wires from each AC branch circuit.
- C) Connect the ground (green or green/yellow) to the ground busbar.
- D) Pass the L1 conductors from each PV branch circuit through the production CT in the same direction as the arrow on the side of the CT.
- E) If you use the fourth (Battery/PV) breaker position for PV, you must route the L1 conductor through the production CT.

**Note:** Do not pass conductors from AC Battery branch circuits through the production CT. This will distort production readings.

- F) Connect L1 and L2 (usually one black and one red) from each AC branch circuit (PV and/or battery) to the circuit breaker(s). Observe the L1 and L2 polarity marking at each breaker position.
- G) Torque all connections as indicated by the following table.

CONNECTION	WIRE SIZES	TORQUE
Eaton BR series DG breaker(s)	14-10 AWG 8 AWG 6-4 AWG	2.2 Nm (20 in-lb) 2.8 Nm (25 in-lb) 3.0 Nm (27 in-lb)
60 A circuit breaker only	4-1/0 AWG	5.0 Nm (45 in-lb)
Neutral and ground		
Large screw	14-1/0 AWG	5.0 Nm (45 in-lb)
Small screw	14 - 6 AWG	2.2 Nm (20 in-lb)
Main lug	10-4 AWG 3-2/0 AWG	5.0 Nm (45 in-lb) 5.6 Nm (50 in-lb)
Copper conductors only, rated minimum 75°C. Follow NFPA 70 (NEC) or CSA C22.1 part 1 and all local codes.		
For DG breakers larger than 20 A, use wire insulated for 90°C based on 75°C ampacities.		

## 6 Install CTs for Consumption Metering (optional)

The IQ Envoy printed circuit board inside the IQ Combiner 3 is pre-wired at the terminal blocks for power and production metering connections. One solid-core current transformer (CT) is provided for revenue grade production metering. You can install two optional split-core CTs to provide consumption metering. To do this, you must create a protected route using conduit for the CT wires from the main load center to the IQ Envoy. If you need to extend the wires, refer to the *Enphase IQ Envoy Installation and Operation Manual* at: [enphase.com/support](http://enphase.com/support).

**Note:** Because of variance in load center design and main power feed, there may not always be enough space to install consumption metering CTs.

- Make sure that the main load center wires are de-energized until you have secured the CT wires in the terminal blocks.
- Before running the CT wires through the conduit, use colored tape to mark one of the CTs and the free end of its wires.
- For the marked CT wires, connect the white and blue wires to the white and blue "C1" terminals.
- For the unmarked CT wires, connect the white and blue wires to the white and blue "C2" terminals.
- Tighten all connections to 5 in-lbs.
- Clamp the marked CT on the load center feed wire Line 1 (matching the Envoy's "L1" voltage terminal) **with the CT arrow pointing toward the load (away from the grid)**.
- Clamp the unmarked CT on the load center feed wire Line 2 (matching the Envoy's "L2" voltage terminal) **with the CT arrow pointing toward the load (away from the grid)**.

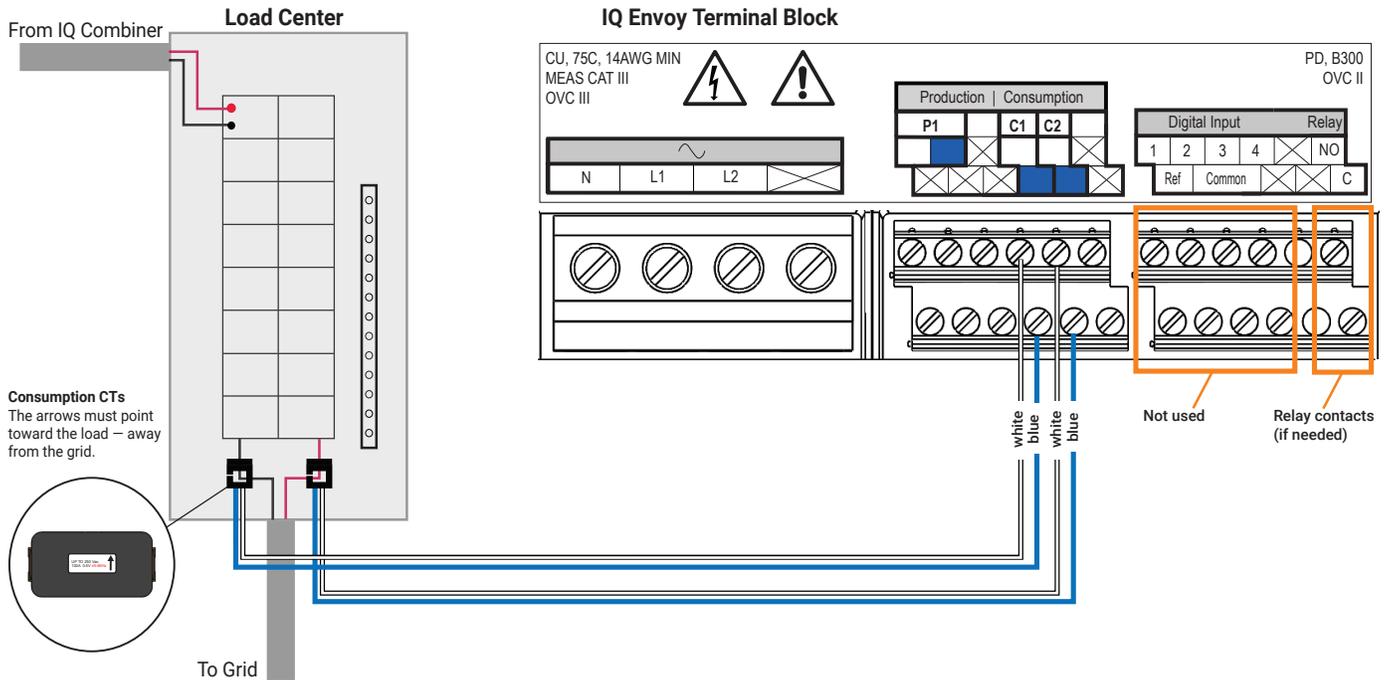


**DANGER!** Risk of electric shock. Always de-energize the load center before beginning wiring.



**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.

**Notes:** It is important to match CT and sense voltage phases. To properly measure power and energy, CT inputs must align with the respective voltage inputs. Be sure to consistently identify and match the two AC lines at two points: the main load center feed and the Envoy. Wire colors (typically black and red) may not always consistently identify Lines 1 and 2. If in doubt, use a multimeter to check.



## 7 Energize and Update the IQ Envoy

- Re-install the plastic deadfront. Start all of the screws, but do not completely tighten them.
  - Once all screws are partially tightened, go back and tighten each one completely.
  - Turn off the DG breaker(s).
  - Reinstall the IQ Combiner 3 door.
  - Turn on the circuit feeding the combiner.
  - On the IQ Envoy (inside the Combiner), if the AP Mode LED is not lit, press the AP Mode button.
  - On your mobile device, go to Settings and join the Wi-Fi network "Envoy\_ nnnnnn" (where "nnnnn" equals the final six digits of the Envoy serial number).
  - The app informs you if the software on the Envoy is not the latest version by displaying the Envoy Software Update message. If the app displays this message, follow the on-screen instructions to update the Envoy.
  - For a short period (5-10 minutes), you must keep your mobile device near the Combiner. Follow the on-screen instructions while the update takes place.
- The update may take up to 20 minutes. The Envoy reboots several times during the update and the LEDs light up in varied sequences until the update is complete.
- Once the update is finished and the PV system is installed, the Envoy is ready for Installation Part 2.
- All four LEDs flash amber during boot up (approximately 3 minutes). When boot up is complete, the Device Communications LED  lights solid amber, indicating that devices are not yet detected.

## INSTALLATION – Part 2

You must complete Installation Part 2 after installing any Enphase IQ Microinverters and/or Enphase Battery(ies).

### 8 Detect Devices

- Turn on the DG breaker(s).
- Use one of the following methods to detect devices (Enphase IQ Microinverters and/or Enphase Batteries):

#### Method A // Provision devices with Installer Toolkit

Use the Installer Toolkit mobile app to configure the IQ Envoy with the serial numbers of the installed devices.

- Launch the Installer Toolkit app and tap **View Systems**.
- Select the system you are working with, or tap **[+]** to add a system.
- Connect to the IQ Envoy with your mobile device (smart phone or tablet). The AP Mode LED  lights solid green when the network is available.
  - On the Envoy, if the AP Mode LED is not lit, press the **AP Mode** button.
  - On your mobile device, go to Settings and join the Wi-Fi network "Envoy\_nnnnnn" (where "nnnnn" equals the final six digits of the IQ Envoy serial number).
- If the serial number for the Envoy you are installing is not displayed on the System Overview screen, tap the **[+]** next to the word "Envoys". When the app displays the serial number of the Envoy, tap it to add it to the system.
- Following the on-screen instructions to create the arrays and scan the serial numbers from the installation map.
- Tap the **Connect** button. This provisions the scanned devices on the Envoy.
- When prompted, confirm the number of devices that you installed.
- If your system is in Hawaii or in a region that does not use the **Factory-Installed Grid Profile**, select and apply a grid profile to the devices.

The Device Communications LED  lights solid green if all provisioned devices are communicating or solid amber if any devices are not communicating.

#### Method B // Discover devices with Installer Toolkit

Use the Installer Toolkit mobile app to set the number of devices the IQ Envoy should search for on the power line.

- Connect to the IQ Envoy with your mobile device (smart phone or tablet). The AP Mode LED  lights solid green when the network is available.
  - On the Envoy, if the AP Mode LED is not lit, press the AP Mode button.
  - On your mobile device, go to Settings and join the Wi-Fi network "Envoy\_nnnnnn" (where "nnnnn" equals the final six digits of the IQ Envoy serial number).
- Launch Installer Toolkit and tap **Connect to an Envoy**.
- When prompted, enter the number of devices that you installed.
- If your system is in Hawaii or in region that does not use the **Factory-Installed Grid Profile**, select and apply a grid profile to the devices.
- When prompted to start a device scan, tap **OK**.

The Device Communications LED  flashes green while scanning, solid green when all the devices you installed are communicating, or solid amber if any devices are not communicating.

#### With both methods

If the Device Communications LED remains solid amber, see *Troubleshooting* .

### 9 Verify System Configuration

While still connected to the IQ Envoy with Installer Toolkit, check the Overview screen for the following:

- Confirm that the expected number of devices are detected and communicating.
- Check that the new profile is set on all the devices. Setting the profile may take up to 5 minutes for a typical system.
- Tap the **Meters** button.

- Tap **Production Meter** and follow the on-screen instructions to enable the Production Meter.
- If you installed consumption metering CT(s), tap **Consumption Meter** and follow the on-screen instructions to enable the Consumption Meter.
- Return to the **Overview** screen and verify the meter reading(s).

If you used Installer Toolkit to detect devices, the Power Production LED  lights solid green when all **expected** microinverters are producing power. If you did not use Installer Toolkit, it lights solid green if all **communicating** microinverters are producing power. It flashes green when devices are upgrading. Check Installer Toolkit for production status details. If the Power Production LED remains solid amber, see *Troubleshooting* .

### 10 Connect to Enlighten

This step describes using the IQ Envoy integrated Wi-Fi or the Mobile Connect modem to connect to the Internet. For information about using Ethernet and/or PLC bridges, refer to the *Enphase IQ Envoy Installation and Operation Manual* at: [enphase.com/support](http://enphase.com/support).

#### Method A // Integrated Wi-Fi

Requires a wireless router with an Internet connection.

- On the Envoy, verify that no Ethernet cable is plugged into the RJ45 port.
- If the router supports WPS, press and hold the WPS button on the wireless router for a few seconds. On most routers, a WPS indicator begins flashing.

- If you are using the Installer Toolkit mobile app, tap the **Network** button, tap **Wi-Fi**, and then tap your network from the list of available networks. If the wireless router does not support WPS, you may be prompted to enter a password.



The Network Communications LED  begins **flashing** green. Within three minutes the same LED lights **solid** green, indicating a successful connection to Enlighten. If the Network Communications LED remains off or lights solid amber, see *Troubleshooting* .

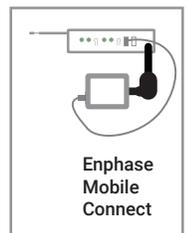
#### Method B // Enphase Mobile Connect Modem

(Order CELLMODEM-01 or CELLMODEM-03 separately)

- Connect the antenna(s) to the modem, and mount the modem as described in the *Enphase Mobile Connect Installation Guide*.
- First, connect the USB cable to the IQ Envoy and then connect the mini-USB connector to the modem.

If receiving power from the IQ Envoy, the modem power LED lights.

Within three minutes the Network Communications LED  lights solid green, indicating a successful connection to Enlighten. If the Network Communications LED remains off or lights solid amber, see *Troubleshooting* in the *Enphase Mobile Connect Installation Guide*.



IQ Combiner 3

### 11 Send System Summary Report

When you have completed your system setup, you can generate and email a summary report.

- From Installer Toolkit, tap **Done** in the upper-right corner of the screen to disconnect from the Envoy. Installer Toolkit will ask if you want to view a summary report.
- Tap **View Report**. The report displays IQ Envoy and system information with a list of device serial numbers, their last power reports, and information about the grid profile applied to the microinverters.
- Tap  to email the report to your office as a record of successful system installation or to the utility for evidence of grid profile settings.

## 12 Activate Monitoring

Register the IQ Envoy in Enlighten ([enlighten.enphaseenergy.com](http://enlighten.enphaseenergy.com)).

### Method A // If the IQ Envoy is associated with a system in Installer Toolkit

- On your mobile device, go to Settings and disconnect from the Envoy's AP Wi-Fi network.
- Return to the Installer Toolkit app and tap the **Sync** button on the System Overview screen.
- When you have access to a computer, log in to Enlighten and select the system name from the Activation List on the dashboard.
- From the activation form, open Array Builder.

If you used Installer Toolkit to build arrays and scan device serial numbers, the array(s) are built. Make any necessary adjustments in Array Builder.

If you did NOT use Installer Toolkit to build arrays and scan device serial numbers, create the virtual array in Array Builder using the installation map as your reference.

### Method B // If the IQ Envoy is NOT associated with a system in Installer Toolkit

- Log into Enlighten and click **Add a New System** from the dashboard.
- Enter the System, Installer, Owner, and Location information.
- Enter the IQ Envoy serial number.
- Click **Save** to submit the form.
- After the devices have reported to Enlighten, open Array Builder from the activation form, and create the virtual array, using the installation map as your reference.

## TROUBLESHOOTING

Contact Enphase Customer Support ([enphase.com/en-us/support/contact](http://enphase.com/en-us/support/contact)) if you have any questions about troubleshooting your system.

### a LED overview

LED	State	Description
All	Flashing amber in unison	The IQ Envoy is booting up
	Flashing green sequentially	Software upgrade in progress
 Network communications	Solid green	Communicating with Enlighten
	Flashing green	WPS connection in progress, or IQ Envoy is attempting to connect to Enlighten
	Solid amber	Local network connection only
	Off	No network connection
 AP mode	Solid green	AP mode enabled: IQ Envoy Wi-Fi network available
	Off	AP mode disabled: IQ Envoy Wi-Fi network unavailable
 Power production	Solid green	All communicating microinverters are producing
	Flashing green	Microinverter upgrade in progress
	Solid Amber	At least one microinverter is not producing
	Off	Microinverters are not communicating (low light or night time)
 Device communications	Solid Green	All devices are communicating
	Flashing Green	Device scan in progress
	Solid Amber	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 amber, it may be a result of low light levels. If there isn't enough sunlight to power up the microinverters, they can't communicate with the Envoy.

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

- Check the Installer Toolkit mobile app to see which devices are not communicating.
- Check that the circuit breaker(s) in the IQ Combiner 3 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 amber, check the Installer Toolkit mobile 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 utility. Next, check the breaker and wiring, starting at the load center.
- If all of 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. Next, check that each module is providing the required startup voltage for the microinverter (22V). 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 or solid amber:

- The WPS connection window may have timed out. Retry the connection steps.
- Make sure that the broadband router is connected and 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 don't see your router/access point in the list on the Envoy, or cannot maintain a connection, you may need to add a wireless repeater to extend the network range.

You can troubleshoot network issues with the Installer Toolkit mobile app by tapping the **Network** button, then **Diagnostic Tools**.

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

If you replace your router, configure the IQ Envoy Wi-Fi settings for the new Wireless Network Name (SSID) and password, or use the WPS function described in Installation Step 10.

### e Loss of AC to a single branch of microinverters

If a single branch of microinverters is not producing, it may indicate loss of AC to the branch.

- Use a multi-meter set to AC to test the breaker lugs. The result should be around 240 VAC.
- If not, switch the breaker off and on to reset.

### f Inoperable IQ Envoy (all LEDs off)

If the IQ Envoy is not receiving power, all LEDs will be off.

- Use a multimeter set to AC to test line 1 on the Envoy breaker to the AC neutral busbar. The result should be around 120 VAC.

### g Inoperable IQ Envoy and no AC to branch

If a branch of microinverters is not producing and the IQ Envoy LEDs are off:

- Test at the main lugs for L-L and L-N voltages. The results should be around 240 VAC and 120 VAC respectively. If not, there may be a problem with the wiring from the panel.

# SAFETY

## IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

Follow these important instructions during installation and maintenance of the IQ Combiner 3.

### Safety and Advisory Symbols

	<b>DANGER:</b> This indicates a hazardous situation, which if not avoided, will result in death or serious injury.
	<b>WARNING:</b> 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.
	<b>NOTE:</b> This indicates information particularly important for optimal system operation. Follow instructions carefully.

**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.

### Safety Instructions

	<b>DANGER:</b> Risk of electric shock. Risk of fire. Do not attempt to repair the IQ Envoy; it contains no user-serviceable parts. Tampering with the IQ Envoy will void the warranty. If the IQ Envoy fails, contact Enphase Customer Support for assistance ( <a href="http://enphase.com/en-us/support/contact">enphase.com/en-us/support/contact</a> ).
	<b>DANGER:</b> 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.
	<b>DANGER:</b> 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.
	<b>DANGER:</b> Risk of electric shock. Be aware that installation of this equipment includes risk of electric shock. Do not install the IQ Combiner 3 without first removing AC power from the Enphase System. Ensure the power coming from the microinverters is de-energized before servicing or installing.
	<b>DANGER:</b> Risk of electric shock. Risk of fire. Only qualified personnel should troubleshoot, install, or replace the IQ Combiner 3.
	<b>DANGER:</b> Risk of electric shock. Improper servicing of the IQ Combiner 3 or its components may result in a risk of shock, fire or explosion. To reduce these risks, disconnect all wiring before attempting any maintenance or cleaning.
	<b>DANGER:</b> Risk of electric shock. Always de-energize the AC branch circuit before servicing. While connectors are rated for disconnect under load, it is a best practice to de-energize before disconnecting.
	<b>DANGER:</b> Risk of electric shock. Risk of fire. Only use electrical system components approved for wet locations.
	<b>DANGER:</b> Risk of electric shock. Risk of fire. Ensure that all wiring is correct and that none of the wires are pinched or damaged.
	<b>DANGER:</b> Risk of electric shock. Risk of fire. Do not work alone. Someone should be in the range of your voice or close enough to come to your aid when you work with or near electrical equipment. Remove rings, bracelets, necklaces, watches etc. when working with batteries, photovoltaic modules or other electrical equipment.
	<b>DANGER:</b> Risk of electric shock. Risk of fire. Before making any connections verify that the circuit breaker(s) are in the off position. Double check all wiring before applying power.
	<b>DANGER:</b> Risk of electric shock. Risk of fire. Do not wire unused terminals or terminal blocks on the IQ Envoy.
	<b>WARNING:</b> Risk of electric shock. To maintain the warranty, do not modify the dead-front other than to remove filler plates, as needed.
	<b>WARNING:</b> Before installing or using the IQ Combiner 3, read all instructions and cautionary markings in the technical description and on the equipment.
	<b>WARNING:</b> Use the circuit breakers in the Enphase IQ Combiner 3 only for serving Enphase equipment. No other loads are allowed.
	<b>WARNING:</b> This unit is not provided with a GFDI device. This inverter or charge controller must be used with an external GFDI device as required by the Article 690 of the National Electrical Code for the installation location.

	<b>WARNING:</b> The IQ Combiner 3 has a pre-installed heat shield attached to the enclosure door. Do not remove the heat shield.
	<b>WARNING:</b> This product is intended for operation in an environment having a maximum ambient temperature of 46°C (115°F).
	<b>WARNING:</b> BONDING BETWEEN CONDUIT CONNECTIONS IS NOT AUTOMATIC AND MUST BE PROVIDED AS PART OF THE INSTALLATION.
	<b>NOTE:</b> Perform all wiring in accordance with all applicable local electrical codes, with the Canadian Electrical Code, Part I, and with the National Electrical Code (NEC), ANSI/NFPA 70.
	<b>NOTE:</b> Protection against lightning and resulting voltage surge must be in accordance with local standards.
	<b>NOTE:</b> Using unapproved attachments or accessories could result in damage or injury.
	<b>NOTE:</b> Install the IQ Combiner 3 in the field with 75°C or higher copper conductors sized per local code requirements and voltage drop/rise considerations.
	<b>NOTE:</b> Use Class 1 wiring methods for field wiring connections to terminals of a Class 2 circuit. Use 14 to 6 AWG wire for branch circuits and 14 to 3 AWG for output circuits. Select the wire gauge used based on the protection provided by the circuit breaker(s)/fuses. Overcurrent protection must be installed as part of the system installation.
	<b>NOTE:</b> To ensure optimal reliability and to meet warranty requirements, the Enphase IQ Combiner 3 must be installed according to the instructions in this manual.

