

Installing the Enphase Ensemble™ Communications Kit

The Enphase Ensemble Communications Kit (COMMS-KIT-01) contains a wireless USB adapter to install in an Enphase IQ Combiner™ or near an Enphase IQ Envoy™. The kit enables wireless communication between the Enphase IQ Envoy or Enphase IQ Combiner™ and Enphase Encharge™ storage as well as Enphase Empower™ Microgrid Interconnection Device (MID). Note that you must install the Ensemble Communications Kit to enable complete functionality of the Ensemble energy management system. The kit includes both 2.4GHz and sub-GHz wireless radios. The Ensemble system seamlessly switches between the two bands to ensure reliable wireless communication.

Read and follow all warnings and instructions in 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.

SAFETY

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This guide contains important instructions that you must follow during installation of the Enphase Ensemble Communications Kit.

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 Enphase Ensemble Communications Kit. It contains no user-serviceable parts. If the equipment fails, contact Enphase Customer Support for assistance or replacement equipment (enphase.com/en-us/support/contact).
	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. Risk of fire. Only qualified personnel should troubleshoot, install, or add parts to the IQ Combiner or IQ Envoy.
	DANGER: Risk of electric shock. All sources to equipment being serviced must be disconnected external to the device. In particular, the storage system may energize conductors, so storage circuits must ALWAYS be isolated via circuit breaker or disconnect before working on any portion of the system.
	DANGER: Risk of electric shock. Risk of fire. Only use electrical system components approved for wet locations.

	DANGER: Risk of electric shock. Risk of fire. Ensure that all wiring is correct and that none of the wires are pinched or damaged.
	DANGER: 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.
	DANGER: Risk of electric shock. Risk of fire. Before making any connections verify that the circuit breakers are in the off position. Double check all wiring before applying power.
	WARNING: Before installing or using the IQ Combiner, read all instructions and cautionary markings in the technical description and on the equipment.
	NOTE: Using unapproved attachments or accessories could result in damage or injury.



INSTALLATION



DANGER! Risk of electric shock. Always de-energize the IQ Envoy or IQ Combiner before beginning the following procedure.



DANGER! Risk of electric shock. All sources to equipment being serviced must be disconnected external to the device. In particular, the storage system may energize conductors, so storage circuits must ALWAYS be isolated via circuit breaker or disconnect before working on any portion of the system

1 Preparation

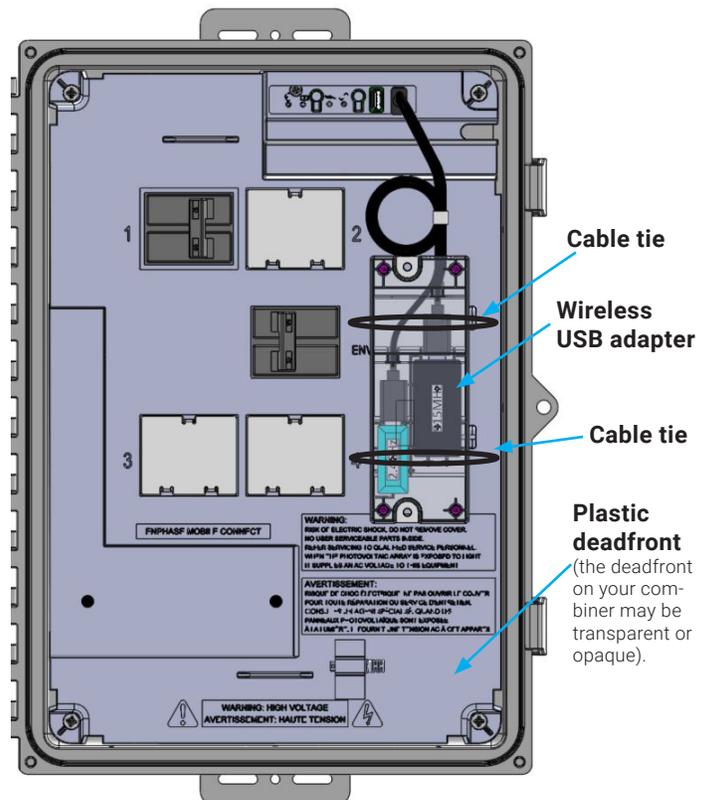
You can install the Ensemble Communications Kit at any point during the Ensemble system installation.

A) Check that the IQ Envoy or IQ Combiner is de-energized.

2 Install the Communications Adapter

The kit includes the wireless USB adapter with USB cable (for power and communications) and tie wraps. To install the adapter adjacent to an Enphase IQ Envoy or in an Enphase IQ Combiner, do the following:

- A) If installing in an IQ Combiner, open the enclosure door.
- B) Select or locate the installation position for the adapter:
- For IQ Combiner (Model X-IQ-AM1-240-B), place the adapter on the bottom interior surface of the enclosure, taking care to allow room for the door to close completely.
 - For IQ Combiner 3 and IQ Combiner 3C (Models X-IQ-AM1-240-3 and Model X-IQ-AM1-240-3C), place the adapter on the front side of the deadfront on the right side (see image to the right).
 - For the IQ Combiner+ (Model X-IQ-AM1-240-2), place the adapter on the front side of the deadfront on the left side.
 - For IQ Envoy (Model ENV-IQ-AM1-240), select a mounting location near the IQ Envoy, so that the USB cable can reach between the IQ Envoy and the adapter.
- C) Plug the free end of the USB cable into a USB port on the IQ Envoy.
- D) If installing in an IQ Combiner, use the tie wraps and adhesive patch to hold the adapter in place in the designated location. Either weave the tie wraps through the openings in the dead front, or use the adhesive patch to hold the adapter in place. You can use both, if needed.
- E) If installing the adapter with an IQ Envoy not housed in an Enphase Combiner, you can use screws to mount the adapter to the wall or a board. Use one screw in each of the two recesses of the adapter. To avoid damaging adapter housing, do not over tighten the screws



IQ Combiner 3C with Ensemble Communications Kit installed

3 Upgrade the IQ Envoy Software

You must upgrade the IQ Envoy software to version 6.0.x or higher to work with the COMMS-KIT-01 and other Ensemble components.

- 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 or scan the QR code at right.
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- B) Log into Enphase Installer Toolkit on your mobile device to download the latest version of Envoy software. To do so, go to the **Envoy Resources** screen in the Installer Toolkit settings.
- C) Ensure that the circuit feeding the IQ Envoy is turned on. For an IQ Combiner, the Envoy breaker must be turned on.
- D) On the IQ Envoy, if the **AP Mode LED** is not lit, press the **AP Mode button** .
- E) On your mobile device, go to **Settings** and join the Wi-Fi network "Envoy_nnnnnn" (where "nnnnnn" represents the final six digits of the Envoy serial number).
- F) 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.
- G) For a short period (5-10 minutes), you must keep your mobile device near the Envoy. Follow the on-screen instructions while the update takes place.

Note: 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. All four LEDs flash amber during boot up (approximately 3 minutes). When boot up is complete, the **Envoy's Device Communications LED**  lights solid amber, indicating that devices are not yet detected.

4 Verifying Wireless Communication During or After Commissioning

During or after commissioning, you can verify wireless communication between IQ Envoy or IQ Combiner and Enpower smart switch and Encharge Batteries using the Enphase Installer Toolkit mobile app

- A) Ensure that the IQ Envoy or IQ Combiner and Enpower are energized.
- A) Ensure that the AC circuit feeding the Encharge Batteries is turned on and that all Encharge Batteries have their DC switches turned ON.
- B) Ensure you have followed the Enphase Installer Toolkit instructions to add arrays, Enphase Microinverters, Enpower smart switch and Encharge Battery(ies) to your system.
- C) Log into Enphase Installer Toolkit on your mobile device
- D) On the IQ Envoy, if the **AP Mode LED** is not lit, press the **AP Mode button** .
- E) On your mobile device, go to **Settings** and join the Wi-Fi network "Envoy_nnnnnn" (where "nnnnnn" represents the final six digits of the Envoy serial number).
- F) In the Enphase Toolkit Mobile app use the **Connect to an Envoy** option to open the system details.
- G) On the **Overview** tab under **Wireless Connection Links**, you can view the overall status of wireless communication between IQ Envoy or IQ Combiner and Enpower smart switch.
- H) On the **Enpower** tab, you can view the status of wireless communication between IQ Envoy or IQ Combiner and Enpower smart switch. You can also view separate wireless communication levels for the 2.4GHz and sub-GHz bands.
- I) On the **Encharge** tab, you can view the status of wireless communication between IQ Envoy or IQ Combiner and each Encharge 3 Battery(ies). You can also view separate wireless communication levels for 2.4GHz and sub-GHz bands.

Note: Three or more bars (out of five) represents good communication level. The system continuously monitors and automatically chooses the band that shows best performance.