

Installing the Wireless Range Extender

The Wireless Range Extender (COMMS-24-EXT-INT-01) may be required when Enphase Encharge™ storage batteries are located at a distance from the Enphase Envoy™.

The Encharge communicates with the Envoy via 2.4GHz band wireless communication. Wireless communication range is affected by site layout and obstacles. An extender would be needed between Encharge and Envoy in the below cases:

1. For distances greater than 20m with line of sight (i.e. no obstacles between the devices).
2. For distances greater than 10m with no line of sight (i.e. there are obstacles present between devices).
3. Presence of more than 2 walls (with wooden studs and dry wall) between devices.
4. Presence of metallic obstacles i.e. studs or wire mesh inside walls between devices.

To use the COMMS-24-EXT-INT-01, you must purchase an off-the-shelf 5V DC USB adaptor and a suitable IP55 or better rated enclosure to house the extender if it is placed outdoors.

All installations must comply with national and local electrical codes. Professional installation is recommended.

SPECIFICATIONS

SPECIFICATION	COMMS-24-EXT-INT-01
Transmit Power Output (Nominal 25° C)	6.3 mW (8 dBm)
Receiver Sensivity	-103 dBm
Supply Voltage	5V from USB port
Transmit Current	45 mA
Receive Current	26 mA
Frequency Band	2.4 GHz ISM
Dimension (L x W x H)	5.8 x 2 x 1.1 cm
Operating Temperature	-40° C to +85° C
Connector	USB Type A

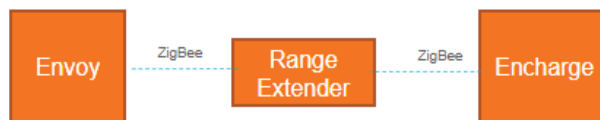
REGULATORY APPROVALS

FCC PART 15.247 (USA)	Approved, contains: MCQ-XBEE3
IC (Canada)	Approved, contains IC: 1846A-XBEE3
European Compliance	CE Marked

INSTALLATION

In the case where a Wireless Range Extender is required to enable communication:

- A) Purchase an off-the-shelf AC-5VDC USB adaptor and a suitable IP55 or better rated enclosure for the extender if placed outdoors. Visit the Enphase Support webpage for recommendations on the USB adaptor and the type of enclosure that can be used.
- B) Choose a location between Envoy and Encharge to place the Range Extender as shown in the image below. Make sure there is a power socket nearby to plug in the extender.



- C) Use the Enphase Installer Toolkit app to commission the Range Extender.
 - D) You must upgrade the Envoy software to version 7.2.x or higher to work with the COMMS-24-EXT-INT-01.
 - Download the Enphase Installer Toolkit version 3.x mobile app from the iOS App Store or Android Play Store and open it to log in to your Enlighten account. With this app, you can connect to the Envoy to track system installation progress. You may also download the app from the Enphase website at enphase.com/toolkit.
 - Log into the **Enphase Installer Toolkit** on your mobile device and download the latest version of Envoy software. To do so, go to the **Settings** tab in the installer toolkit and use the **Update Now** button under Envoy Software.
- NOTE:** The Envoy software update process may take up to 25 minutes. During the software update, the LEDs on the Envoy flash green one at a time from right to left. During this time the Envoy will reboot multiple times. All four LEDs flash red when the Envoy reboots.
- E) Tap on **Systems** in the Installer Toolkit App (ITK) -> Select the system you are working with or tap [+] to add a system. Make sure system details are added as part of Step 1 in ITK
 - F) In ITK Step 2 **Devices and Array** select the number of extenders in the system as one. Scan the QR code on extender using camera scanner to get the Serial number or manually enter the serial number.
 - G) Connect to the 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 "nnnnnn" equals the final six digits of the Envoy serial number).



- H) Go to Installer Toolkit Step 4 (Envoy connectivity) and make sure your mobile device is connected to Envoy. Proceed to Provision devices.
- I) During Provisioning of devices, with your mobile device in hand, walk from the Envoy toward the Extender. This helps to ensure that it is provisioned over Bluetooth Low Energy (BLE).
 - Starting near the Envoy, walk towards the Extender unit. Installer Toolkit shows the Extender units as **Not Discovered** while the circle next to these devices spins indicating that Installer Toolkit is trying to discover the device using Bluetooth.
 - Wait near the Extender until Installer Toolkit shows **"Waiting for Provisioning"**.
 - Return to the Envoy. The status is now shown as **"Waiting for Acknowledgment"**. Installer Toolkit is waiting for Envoy to confirm communication with the Extender.
 - Wait until it shows as **Provisioned**.
 - Once Provisioning is complete, the Extender is ready to communicate with the Envoy.




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.

	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 extender, 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.

Safety Instructions

	DANGER: Risk of electric shock. Risk of fire. Do not attempt to repair the extender. 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 or install the extender.
	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. Always de-energize the IQ Combiner if planning to remove the deadfront during 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.
	DANGER: Risk of electric shock. Risk of fire. Only use electrical system components approved for wet locations.