[e] enphase®
E N E R G Y

Installing the
Envoy® Communications Gateway

Blue Pacific Solar™
www.BluePacificSolar.com

Read and follow all warnings and instructions in this Guide and in the *Envoy Communications Gateway Installation and Operation Manual* at: http://www.enphase.com/support. Use this guide as a quick reference during installation and setup of the Envoy.

1 **Find the Envoy Serial Number**

The serial number label is on the back of the Envoy, near the left mounting bracket.
- You can use the Enphase Installer Toolkit to scan the serial number. For more information, refer to http://enphase.com/products/arraygun.
- Or you can peel the label from the Envoy and affix it to the installation map.

Note: If needed, you can find an installation map at the back of the Enphase Microinverter manual.

DO NOT route the power cable or the Ethernet cable through the cable tray.

menu button

serial number label
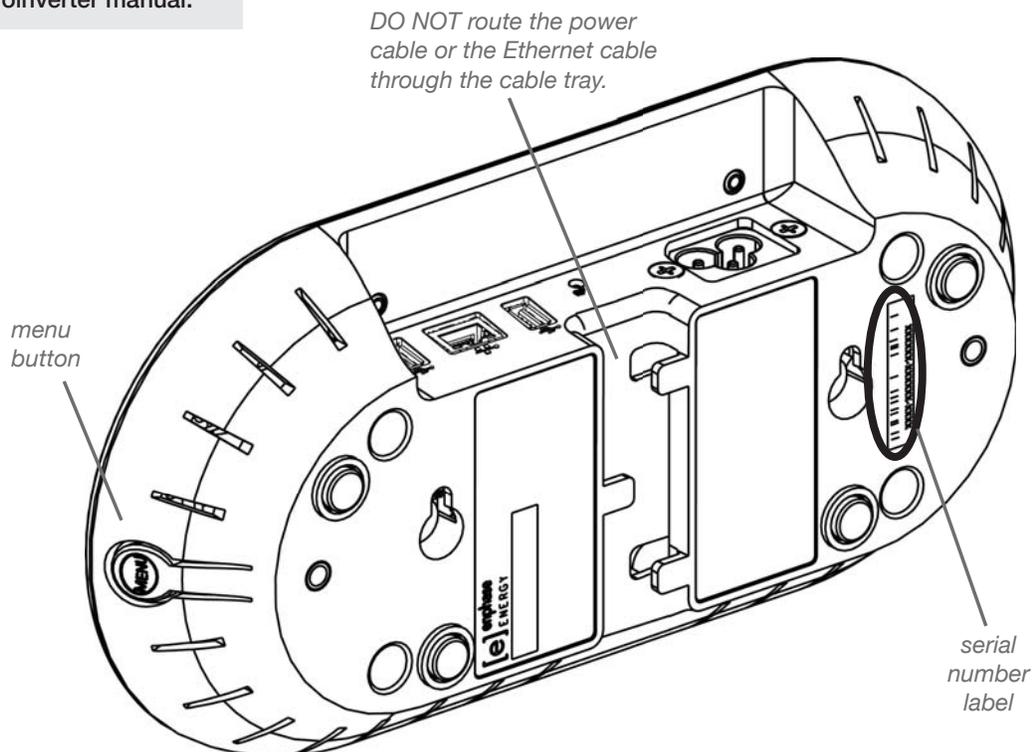
⚠️ **Warning.** Envoy warranty void if cover removed. No serviceable parts inside. Refer servicing to qualified personnel.

2 **Register the Envoy**

Register the Envoy at the Enlighten website: https://enlighten.enphaseenergy.com.

a. Log in to Enlighten

• At the installer dashboard, click **Add a New System**.

2 Installations In Progress		
Enter an installation name ...		
Name	**Stage**	
Sara Test 040813	1 - Started enter site information	
JoeSolarTest1	1 - Started enter site information	

Add a New System
See All Activations
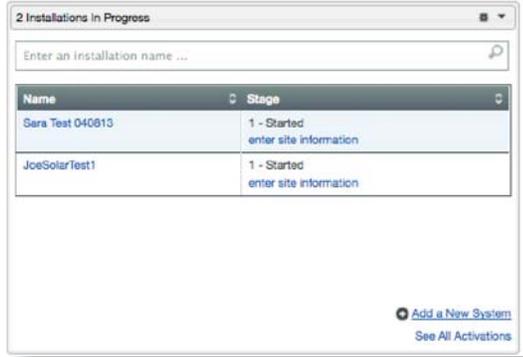
b. Enter System Activation Information

• Enter the System, Installer, Owner, and Location information.
• Enter the Envoy serial number.

c. Select the Grid Profile (if required)

In the continental US, you can skip this step because the factory settings meet requirements.

If you have selected a country other than the US, or if you select Hawaii as the state under **Location**, the Grid Profile menu appears.

• Select the appropriate profile from the Grid Profile menu.

• Click **Save** to submit the form.

For more information on Grid Profiles, see the *Envoy Communications Gateway Installation and Operation Manual* at: http://www.enphase.com/support.

System

*Name

Installer Reference

*Type
Residential

☐ Third Party Owned (ex: PPA or Leased)

Installer

Enphase Energy

Owner

First Name

Last Name

Email

Phone

Owner will receive **MyEnlighten** for system performance monitoring.

Change Enlighten Version

Location

Country
United States

Street Address

Street Address 2

City

State/Province
Hawaii

Zip/Postal Code

Envoy

*Internet Connection
Select one

Envoy Serial Number

Add Another Envoy

Grid Profile
Select one

Select one
IEEE1547
IEEE 1547 default
IEEE 1547 Mainland alternate
IEEE 1547 Hawaii alternate
IEEE 1547 Hawaii HELCO Utility
IEEE 1547 Hawaii HECO Utility
IEEE 1547 Hawaii MECO Utility
Hawaii KIUC 20121201

Modules

*Total Number of PV Modules (Panels)

PV Module
Select a Manufacturer

Installation

Microinverter Attachment Type
Select one

Array Type
Select one

Enter array-level details on the system settings page.

Installation Map

Scan or photograph the system's installation map and upload the file(s) here.

3 **Find a Location for the Envoy**

• Locate an AC outlet that is indoors or in an environmentally protected location and close to the load center.
• Place the Envoy so that its AC cord can reach this outlet.
• Plug the AC cord into a dedicated wall outlet.

⚠️
Do not plug the Envoy into a power strip, surge protector, or uninterruptable power supply (UPS). These devices impede power line communications.

AC load center
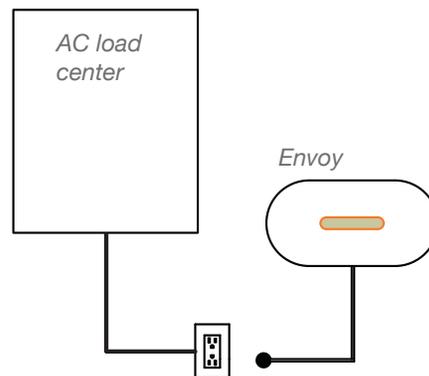
Envoy

4 **Connect to the Internet**

Connect to a broadband router using one of the following three methods:

⚠️

Warning: Do not remove power from the Envoy if the LCD displays: *"Upgrading. . . Do Not Unplug."*

Method A: Ethernet Cable
- Plug the Ethernet cable into the Ethernet port on the Envoy.
- Plug the other end of the cable into a port on the broadband router.
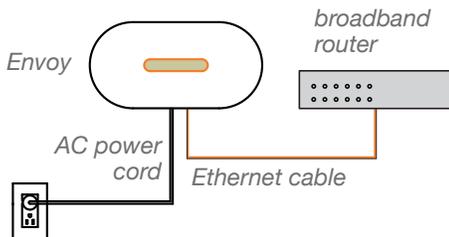
Method B: Power Line Communication Bridges (Included with ENV-120-01)

Use power line communication bridges *if* the Envoy needs to be located away from the broadband router.
- Plug one of the bridges into the same AC outlet as the broadband router and attach an Ethernet cable to the bridge.
- Plug the other bridge into an AC outlet near the Envoy and attach the Ethernet cable to the bridge.
- Press and hold the Envoy menu button; release the button when the LCD displays **Get New IP Address**.
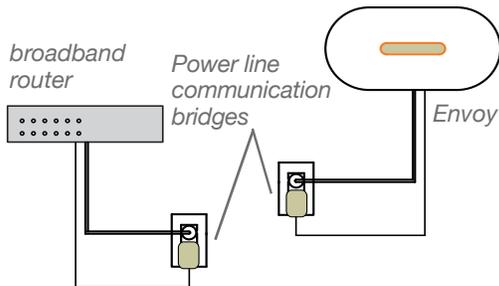
Method C: Wi-Fi (Enphase Wireless Adapter) (Included with ENV-120-02)

Requires a wireless router.
- On the Envoy, verify that no Ethernet cable is plugged into the Envoy RJ45 port.
- Verify that the startup message on the LCD screen reads "R3.8" or later.

- If not, upgrade the Envoy by connecting the Envoy Ethernet port to the broadband router with the Ethernet cable that came with the Envoy.
- After the upgrade completes, remove the Ethernet cable from the Envoy.
- Plug the Enphase wireless adapter into the left USB port (looking at Envoy from the front), and wait for 10 seconds.
- Press and hold the WPS button on the wireless router for two seconds. On many routers, the WPS button flashes at this point.
- Return to the Envoy. Press and hold the Envoy menu button. Release the Envoy menu button when the LCD displays **Enable Wi-Fi WPS**.
- Within two minutes an updated IP address appears on the Envoy LCD screen. This IP address begins with a "W" to indicate a wireless connection.
- If the connection fails, see *Troubleshooting* **a** .
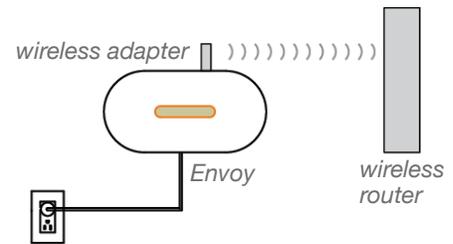
5 **Check the Internet Connection**

Look for the **+ Web** indication. If it does not appear within 5 minutes after connecting to the broadband router, see *Troubleshooting* **b** .


```
192.168.2.140    +Web
    0W       0kWh       0
```

6 **Install the Microinverters and Modules**
- Install the PV modules and microinverters as directed by the installation manuals. For Enphase installation manuals, go to http://www.enphase.com/support.
- Use the ArrayGun to scan the microinverters. For more information, go to http://enphase.com/products/arraygun.
- As an alternative, you can manually build the map: Peel the removable serial number label from each microinverter and affix it to the respective location on the map.

Refer to the Enphase Microinverter installation and operation manual for information on microinverter installation and commissioning.

7 Check the Envoy's Progress

An automatic device scan will detect the microinverters when the DC and AC connections are completed and the AC circuit is energized.

a. Check the Power Line Communications
- Check the number of bars shown on the Envoy LCD (Level/Devices screen). If fewer than three bars are shown, see *Troubleshooting* **c**.

```
Level:      [≡≡≡   ]
Devices:          25
```

b. Stop the Scan When All Devices are Detected
- Check that the Envoy LCD shows a complete device count after about 30 minutes. If it does not, see *Troubleshooting* **d** and **e**.
- Once all devices have been detected, disable the Envoy's device scan:
    - Press and hold the Envoy menu button (on the right side of the Envoy).
    - Release the menu button when the LCD displays **Disable Device Scan**.

8 Build the Virtual Array in Enlighten

- Log in to Enlighten.
- Use Array Builder to create the virtual array using the installation map as your reference.
- To see the Array Builder demo, go to http://enphase.com/support/videos.

Add Array

1 Choose orientation of modules within array
○ ▬   ○ ▮
ⓘ You can mix the orientation of modules and rotate them in a moment.

2 Rough shape 3 rows x 3 columns = 9 modules
ⓘ Once the array is created you can add, subtract and move modules easily to create an accurate plan.

3 Azimuth ⬚ °
ⓘ Azimuth is the difference, measured in 0-359 degrees, from true North.

- You can now view System Performance in Enlighten.

Troubleshooting

a Wi-Fi Connection Issue

If Wi-Fi connection fails, retry the connection steps as the connection window may have timed out.

Remember that metal enclosures or obstructions impede wireless communication.

If you remove the wireless adapter, wait 15 seconds before reinserting it.

b Internet Connection Issue

If, after 15 minutes, you see **-Web** instead of **+Web**, make sure that the broadband router is operational. Check that other devices at the site can access the Internet.

If the broadband router is operational, press and hold the Envoy menu button. Release the button when the LCD displays **Get New IP Address**. Wait for 5 minutes.

If this fails, unplug the Envoy, wait for 20 seconds, and plug it back in. Wait 5 minutes for connection.

c Power Line Communication Level is Low

If the number of bars is fewer than three as a result of a communication check, relocate the Envoy to the AC outlet closest to the load center. (You may also need to use power line communication bridges if the load center is remote from the router).

d Device Detection Slow

If, after 30 minutes (longer for large installations), the device count shown is lower than the number of microinverters installed, or if the number of bars is between zero and two, relocate the Envoy to the power outlet closest to the load center.

e Device Detection Stalled

If the number of bars is three or more, but the Envoy has not detected all of the installed microinverters within 30 minutes (longer for large installations), contact Enphase Customer Support.