

Installing the Envoy[®] Communications Gateway

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.

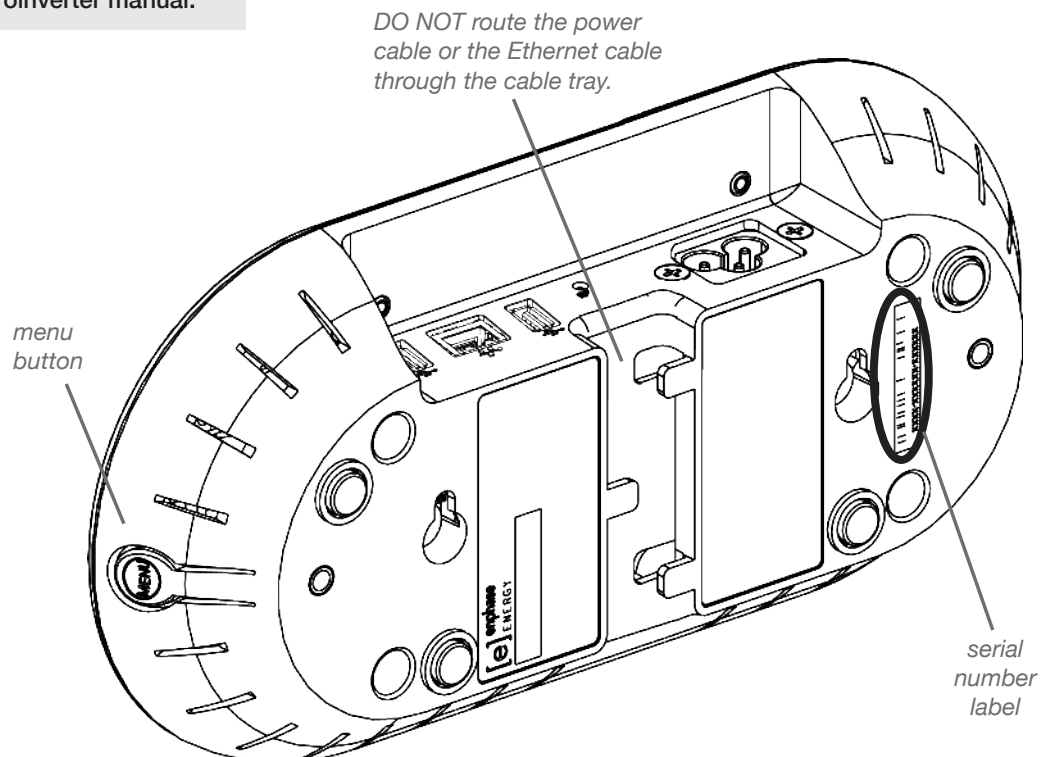
1

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.



Warning. Envoy warranty void if cover removed. No serviceable parts inside. Refer servicing to qualified personnel.

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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**.



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 Activation form

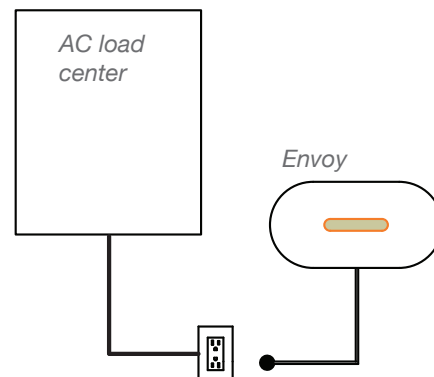
3

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 uninterruptible power supply (UPS). These devices impede power line communications.



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Connect to the Internet

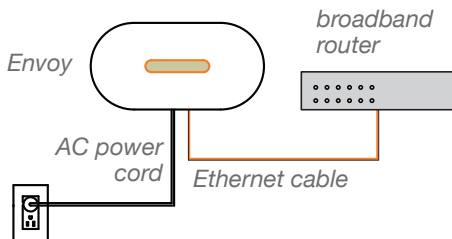
Connect to a broadband router using one of the following three methods:



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

Method A: Ethernet Cable

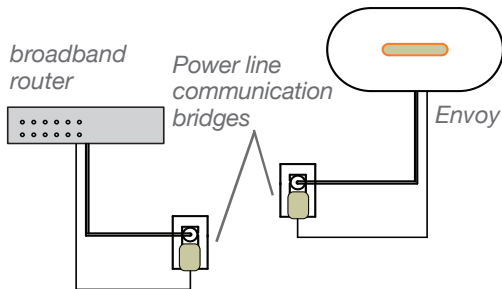
- Plug the Ethernet cable into the Ethernet port on the Envoy.
- Plug the other end of the cable into a port on the broadband router.



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**.

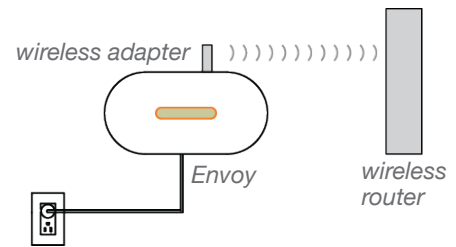


Method C: Wi-Fi (Enphase Wireless Adapter) (Included with ENV-120-02)

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**.



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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**.



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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.

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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**.



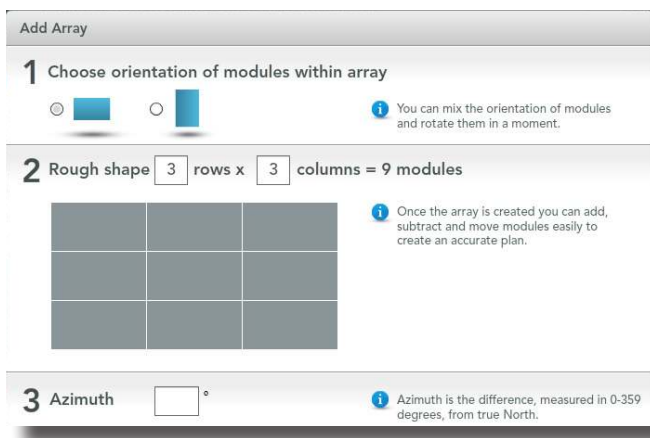
b. Stop the Scan When All Devices are Detected

- 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**.

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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>.



- 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.

e 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.

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.