



Troubleshooting Your System's Internet Connection

Maintaining internet connection to your solar array is an important part of long term maintenance. We may use a variety of additional communication devices to get your system hooked up, and these may also change over time as this technology and site connectivity changes.

Your system may use one or more of the following devices to connect to the internet.

LAN/Ethernet/CAT5 hardwired connection

Description - You will see a LAN/Ethernet/CAT5 cable running from your solar equipment all the way to your router.

Troubleshooting Steps:

1. Make sure that the cable is plugged in securely to your router, and check the cable itself for damage
2. Reboot your router
3. Reboot the solar array (refer to specific guide based on equipment type)
4. Wait! It may take a few hours or even a full day for the system to reconnect
5. If it is still not connecting, and there are other devices connected to your router that are able to access the internet, try a different port that you know is working. It is possible for an individual port on your router to go bad over time.

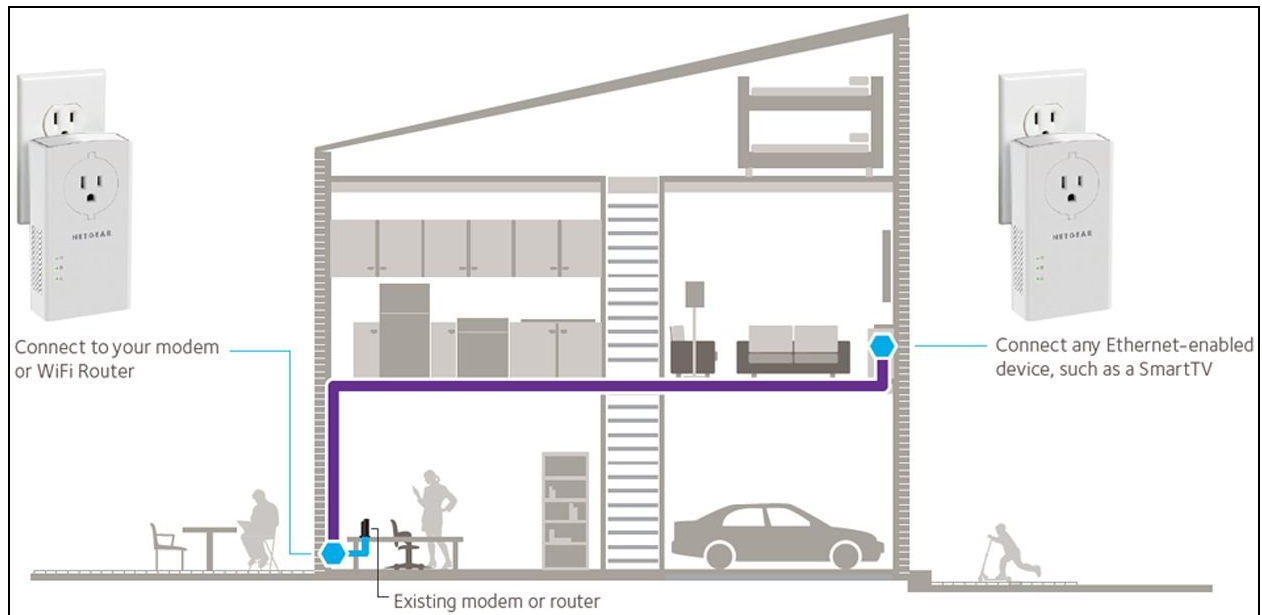
Reach out for more - If you're unable to get the system reconnected or think there may be a broader issue at play, please contact our service team at service@pvsquared.coop!

Ethernet-Over-Power-Line Adapter

Description - Also known as an EOPs, PLCs or PLAs, these work as a set of two small devices plugged into separate outlets that utilize your electrical wiring to send the internet signal from one "end" to the other. One end of the EOP is connected to your router, and the other end is connected to your solar equipment. Both ends must be plugged into a wall outlet in order to function properly.

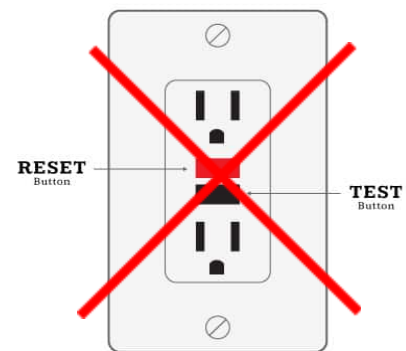


An EOP may be used on its own, or in addition to other communication devices (Ethernet switches, wifi range extenders, etc.)



Troubleshooting Steps:

1. Make sure both ends of the EOP are connected to their wall outlets.
 - a. These function best when plugged directly to a wall outlet rather than a power strip or extension cord.
 - b. May not work in a GFCI outlet because the signal gets interrupted.
2. Make sure that all Ethernet cables are plugged in firmly at both ends of the EOP and into the router and/or other intermediate connectivity devices.
3. Make sure the router end of the EOP is connected to the router.
 - a. If it is connected but doesn't seem to be receiving any signal and there are other devices connected to your router that are able to access the internet, try a different port that you know is working. It is possible for an individual port on your router to go bad over time.
4. Reboot your router
5. Reboot the solar array (refer to specific guide based on equipment type)
6. Wait! It may take a few hours or even a full day for the system to reconnect
7. If it is still not connecting, refer to additional instructions here:



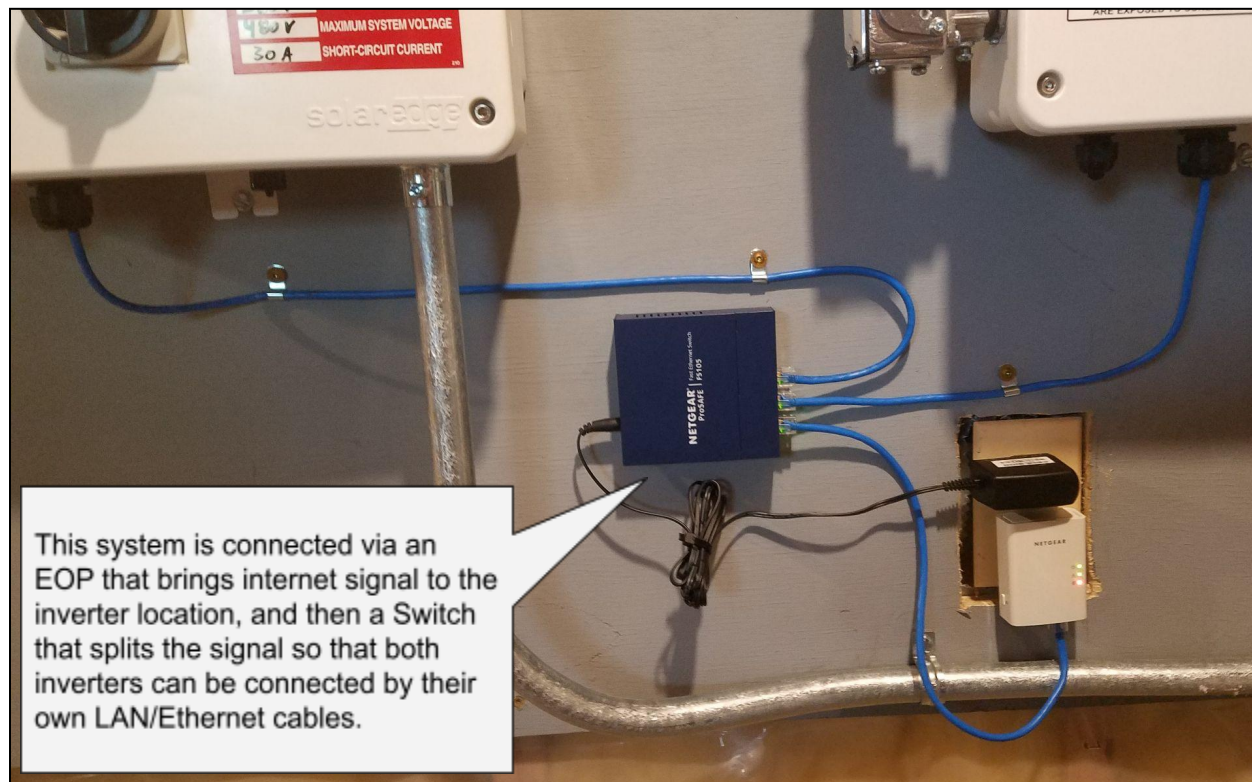
<https://kb.netgear.com/1096/How-to-troubleshoot-NETGEAR-powerlines-connectivity>

Reach out for more - If you're unable to get it reconnected, our service team is happy to help. It is possible for an EOP to stop working over time, as these are consumer-grade devices. They are also fairly inexpensive and easy to replace so if your EOP has failed this is something you may be able to address easily without a service visit.

Ethernet Switch (splitter)

Description - This is a device that takes the input from one ethernet cable, and splits the signal into multiple ports so that you can connect more than one device at a time. This can be used to hook up multiple inverters, meters, etc. to the same network connection.

An Ethernet Switch may be used on its own, or in addition to other communication devices (EOPs, wifi range extenders, etc.) or may be hardwired back to your router via a LAN cable.



Troubleshooting Steps:

8. Make sure the Ethernet Switch is plugged into a working outlet and powered on.
9. Make sure that all the “output” cables are firmly connected, try different ports to make sure one hasn’t gone bad.
10. Make sure the “input” Ethernet cable is plugged into your router
 - a. If it is connected but doesn’t seem to be receiving any signal and there are other devices connected to your router that are able to access the internet, try a different port that you know is working. It is possible for an individual port on your router to go bad over time.
11. Reboot your router
12. Reboot the solar array (refer to specific guide based on equipment type)
13. Wait! It may take a few hours or even a full day for the system to reconnect

14. If it is still not connecting, refer to additional instructions here:

<https://kb.netgear.com/31395/How-can-I-troubleshoot-LAN-connectivity-problems-on-my-NETGEAR-ProSAFE-or-Nighthawk-Switch>

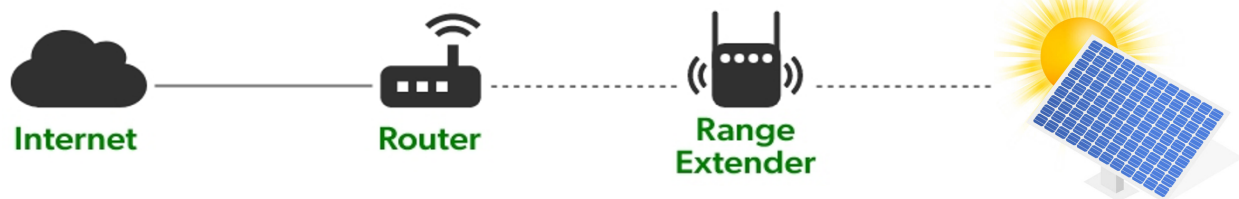
Reach out for more - If you're unable to get it reconnected, our service team is happy to help. It is possible for an Ethernet Switch to stop working over time, as these are consumer-grade devices. They are also fairly inexpensive and easy to replace so if your Ethernet Switch has failed this is something you may be able to address easily without a service visit.

WiFi Range Extender

Description - This device receives WiFi signal from your router, and can then connect via Ethernet cable to other devices (such as your solar equipment). These are especially useful in outbuildings or remote locations, but can be finicky over time especially when their power supply is interrupted (like from a power outage) or changes are made to other connectivity devices on site (such as a new router).



← These are examples of some common types of WiFi Range Extender.



Troubleshooting Steps:

15. Make sure the WiFi Range Extender is plugged into a working outlet and powered on.
16. Make sure that all the "output" cables are firmly connected, try different ports to make sure one hasn't gone bad.
17. Make sure the extender is receiving WiFi from your router

- a. Follow the instructions below if it seems your extender is no longer connected to your router.
 - i. <https://kb.netgear.com/25504/How-do-I-reconnect-my-NETGEAR-WiFi-range-extender-to-my-home-network>

18. Reboot your router

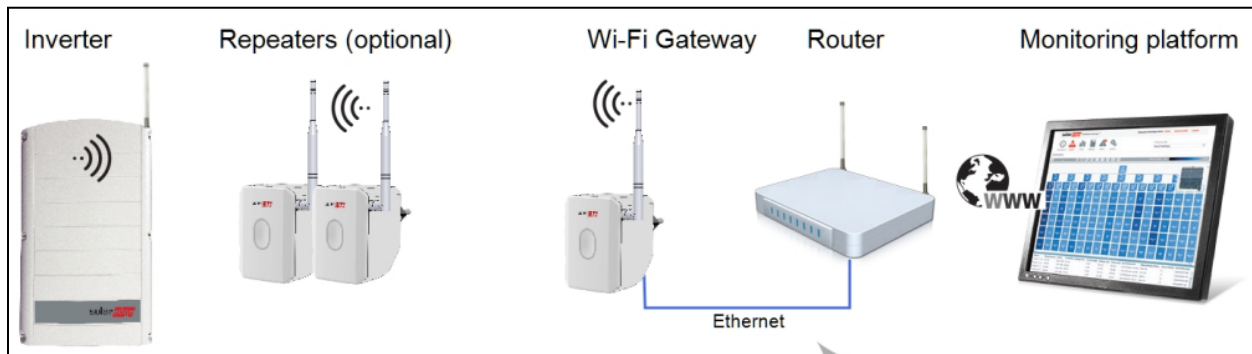
19. Reboot the solar array (refer to specific guide based on equipment type)

20. Wait! It may take a few hours or even a full day for the system to reconnect

Reach out for more - If you're unable to get it reconnected, our service team is happy to help. It is possible for an Ethernet Switch to stop working over time, as these are consumer-grade devices. They are also fairly inexpensive and easy to replace so if your Ethernet Switch has failed this is something you may be able to address easily without a service visit.

WiFi Gateway or Zigbee (SolarEdge only)

Description - These devices work by taking internet signal from your router (Via a LAN/Ethernet cable) and transmitting it via WiFi signal to a corresponding antenna on your SolarEdge inverter(s). They sometimes require a Repeater, but this is uncommon in our experience.

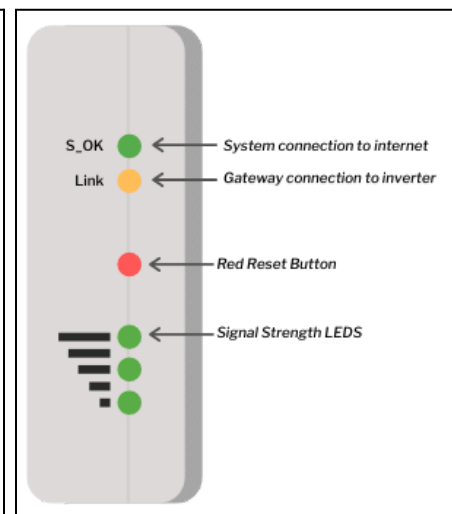


The Zigbee is the older style from SolarEdge, it has been replaced by the smaller and more simplified WiFi Gateway.



< New Style
"WiFi
Gateway"

"Zigbee >
Gateway"



Troubleshooting Steps:

1. Make sure the gateway is connected to your router
2. Reboot the gateway by unplugging it from the wall for about a minute
3. Reboot any repeaters (if there are any, this is uncommon)
4. Reboot your router
5. Reboot the solar array (refer to specific guide based on equipment type)
6. Wait five minutes to see if it reconnects.
7. If it is still not connecting, and there are other devices connected to your router that are able to access the internet, try a different port that you know is working. It is possible for an individual port on your router to go bad over time.

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