



# Microinverters vs. String Inverters: What You Need To Know

All solar power systems are comprised of a number of components, including solar modules, wiring, a racking system and at least one **inverter**. The inverter transforms the Direct Current (DC) power generated by solar modules into the Alternating Current (AC) power used by commercial home appliances.

In recent years, inverters have evolved to offer additional functions, including data monitoring and introducing flexibility to system design engineering.<sup>1</sup>

Traditionally, a string of solar modules is wired to feed DC electricity into a single inverter, where it is converted into AC. Inverters connected to these systems are often referred to as **string inverters** or **central inverters**. Because data monitoring is sourced from a single inverter, performance data is only available for the complete system or for each string within the complete system.

In most **microinverter** systems, a small inverter is connected to each individual solar module in the system. DC power is converted at the single module level on the roof, directly below the module, and then routed directly into the home for consumption.

1. Zipp, Kathie. "What is a solar inverter and how does it work?" Solar Power World. April 18, 2013. Web. <https://www.solarpowerworldonline.com/2013/04/how-do-solar-inverters-work/>

## Advantages of Microinverters

### Installation:

Modules that include microinverters, such as the LG Solar NeON® R ACe, are relatively quick and easy to install. They meet shutdown requirements on their own, so fewer additional components are required. Also, because DC power is being converted to AC on the roof, safety components such as DC power safety labels or DC disconnects are not required.

### Monitoring:

Because the microinverters are located on each module, the performance of individual modules can be monitored. This can help identify shading issues and pinpoint problems if they occur in a single module.

### System Efficiency:

When power is converted at the module level, the performance of the other modules isn't affected if one module fails or doesn't perform well.

### Warranty:

With a module such as the NeON® R ACe, the microinverter is included in the 25-year limited warranty. With a single string inverter not supplied with the solar modules, the warranties may differ.

## Advantages of String Inverters

### Cost:

Because there is only one inverter, the system cost tends to be lower. New technologies and rapid shutdown requirements have driven the need to add additional components, however. Module-level power electronics (MLPE) must now be installed that can shut down the system in the case of an emergency, adding some time and cost to the installation process.

### Location:

String inverters are installed in a convenient, weather-safe location such as the garage, making them easily accessible from the ground if maintenance or repair is needed.

### Repair:

If there is an inverter issue, there is only one inverter to check and/or fix.

A recent survey from *Solar Power World* revealed that solar installers are divided on their preference toward string inverters or microinverters.<sup>2</sup> If you are uncertain which option is the best for your project, talk to your LG PRO installer to discuss what type of inverter will work best for your home.



When you go solar, ask for the brand you can trust: LG Solar

2. Misbrener, Kelsey. "How to choose between string and microinverters in residential solar projects." *Solar Power World*. August 12, 2019. Web. <https://www.solarpowerworldonline.com/2019/08/string-versus-microinverters-residential-solar/>.