String inverter pros and cons



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String inverters need to be paired with DC optimizers or rapid shutdown devices to be up to code. There are pros and cons to each type of solar inverter, and the right one for you ultimately depends on your system design.

Pros of String Inverters Cost-Effectiveness: String inverters are generally the most affordable option compared to other types of inverters. This advantage includes both the upfront and installation costs, as fewer components and accessories and less labor are required.

Microinverters are mounted directly on each solar panel and convert the electrical current at the source of creation, whereas a string inverter is mounted on your house and converts the electrical currents from all the solar panels in one central location.

String inverters are the most commonly installed type of inverter worldwide. They're great if your roof isn't heavily shaded. Microinverters and optimized string inverters are typically more expensive than string inverters but are better for more complex roofs.

Solar panels generate direct current (DC), whereas home appliances rely on alternating current (AC) to function. Solar inverters take the DC generated by solar panels and convert it into AC, which can then be used to power lights, appliances, electronics, and anything else that requires electricity to function.

As soon as you start researching solar inverters, you"ll become aware of the microinverter vs. string inverter debate. While both types of inverters effectively convert DC to AC, they have some key differences.

A string inverter is a type of central inverter that receives solar panel inputs in strings (or groups) and converts their currents from DC to AC. An entire solar system is usually managed by only one or two string inverters.

String inverters usually have multiple inputs, allowing you to connect several strings to a single inverter. For example, if you have 24 panels and an inverter with four inputs (and a sufficient input voltage rating), you can create four strings of six panels each and use one inverter for your entire system.

As we'll discuss in greater detail later, a microinverter system requires you to purchase as many microinverters as you have solar panels. For a string inverter system, most households only need to buy one inverter. This also means less time and energy spent installing your inverter system.

String inverters can be paired with power optimizers to improve their efficiency and decrease the effect that a less powerful panel has on the entire series. In the event that one panel"s view of the sun is obstructed, power optimizers help the system continue generating energy efficiently.



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Since most existing older systems use a string inverter, optimizers are often added to string systems post-installation to make them behave more like microinverters, which we'll discuss in greater detail later on.

With string inverters, each string of panels is only as good as its weakest link. If one panel in a string malfunctions, all of the panels in that string malfunction. If shade or cloud coverage negatively impacts one panel"s efficiency, all other panels in its string are equally affected unless you"ve connected costly power optimizers to each of your panels.

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