

The Enphase Advantage



Enphase Microinverters

Produces More Energy

- One microinverter per panel means more energy produced. Each module is independent, so energy is maximized.
- Third-party verified - Enphase outperforms others, even in unshaded situations.¹

More Reliable and Longer Warranty

- 25-year warranty and reliability to match.
- Industry-leading manufacturing and quality standards.
- Ruggedized for all environments.

Safest Solar

- No high-voltage DC in the system, unlike string inverters.
- Safety requirements are built-in (rapid shutdown), so no additional equipment is required.

Greater Flexibility

- Get the most you can out of your available roof space.
- Easy to add more panels as your needs grow.



String Inverter

Produces Less Energy

- Strings are old technology that is limited to the lowest performing panel. Similar to old Christmas lights - when one is underperforming the whole system is impacted.
- One partially covered panel can stop the production of your entire system.

Shorter Warranty and Less Reliable

- Typically only 10-12-year warranty.
- If extended warranty, a string inverter will have to be replaced at least every 10 years.

High Voltage DC

- Extra caution required when doing routine maintenance.
- Additional equipment required to meet rapid shutdown requirements.

Complicated and Limited Design Options

- Old technology has limitations and can't be customized to make the most of your roof.
- Very unlikely to be able to add panels / grow your system if your needs change.



String Inverter with Optimizer

Produces Less Energy

- String inverter is still a single point of failure.
- Productivity varies by string length.

Shorter Warranty and Less Reliable

- Typically only a 10-12-year warranty.
- Optimizer has a NEMA 3r enclosure.
- Avoid installation in direct sunlight.

High Voltage DC

- DC and AC design required, hundreds of volts of DC on the roof.
- Extra caution required when doing routine maintenance.
- Additional equipment required to meet rapid shutdown requirements.

Complicated and Limited Design Options

- Minimum system size is 8 panels.
- Design changes in field are difficult.

¹ https://enphase.com/sites/default/files/PVEL_Study-on-EE-vs-SolarEdge.pdf

Frequently Asked Questions

Are microinverters more expensive?

Not all microinverters are the same. With the Enphase Microinverter system, you get higher production, no single point of failure, and a 25-year warranty so your system can pay for itself more quickly.

Aren't there multiple points of failure in a microinverter system?

In the unlikely event a panel or microinverter has an issue, the rest of your system will keep producing and the overall impact is minimal. When something fails in a string inverter system your entire system is down while you wait for it to be diagnosed and repaired. A single point of failure is what you want to avoid.

Is it true that optimizers are the same as microinverters at a lower cost?

This is not true. DC optimizers do not function like a microinverter. A system using DC optimizers still relies on a single point inverter or string inverter for power conversion. This means there is still a single point of failure, and any issues with the inverter have a system-wide impact.

I've heard that microinverters are safer; is that true and why?

Enphase systems are inherently low-voltage. They don't exceed 48V DC, while conventional string inverters and string inverters with DC optimizers can have up to 600 volts on the roof. Plus, unlike string inverter systems, safety requirements are also built-in (rapid shutdown), so no additional equipment is required.

Does the Enphase system require more maintenance?

Enphase microinverters require less maintenance than string inverters. String inverters have moving parts that wear out and need replacement, including fans that are noisy on the outside of your house. In contrast, there are no fans or moving parts inside Enphase microinverters, they are designed and tested to work in extreme weather conditions.

About Enphase Energy, Inc.

Enphase Energy, a global energy technology company, is leading the charge to bring smart, connected solar energy to every home, business and community. The company delivers simple, innovative and reliable energy management solutions that advance the worldwide potential of renewable energy. Enphase has shipped approximately 13 million microinverters, and over 540,000 Enphase residential and commercial systems have been deployed in more than 100 countries. For more information visit www.enphase.com.

- Established in 2006 to create simple and smart solar technology.
- 5th generation microinverter now shipping.
- Over 13 million microinverters shipped.
- 151 issued patents.
- 500+ employees, 12 countries.
- AC Battery solution shipping in 2017.

To learn more about Enphase, visit enphase.com