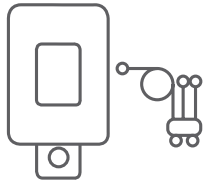
The Enphase Advantage
Competitive Analysis



Enphase Microinverters	String Inverters	String Inverters with DC Optimisers
✓ **Flexible Design** - No string sizing - Multiple configurations - All-AC design	✗ **Rigid Design** - String sizing - Minimum system size is 8 panels - DC and AC design required	✗ **Rigid Design** - String sizing - Minimum system size is 8 panels - DC and AC design required
✓ **Greater Productivity** - In independent studies, Enphase produced up to 3.1% more energy[1,2]	✗ **Lower Productivity** - Productivity varies by string length - Performance inhibited by shading/soiling	✗ **Lower Productivity** - Productivity varies by string length - Performance inhibited by shading/soiling
✓ **Higher Reliability** - Fully potted - Low operating temperature - No moving parts	✗ **Less Reliable** - Inverter is a single point of full system failure	✗ **Less Reliable** - Inverter is a single point of full system failure - Optimisers increase points of failure
✓ **Greater Durability** - IP67 enclosure - Ultra-reliable components	✗ **Less Durable** - Inverter has lower IP rated enclosure - Avoid installation in direct sunlight	✗ **Less Durable** - Inverter has low IP rated enclosure - Avoid installation in direct sunlight
✓ **Increased Safety** - Low voltage DC never exceeds 80 volts	✗ **Not as Safe** - Up to 600-1000 volts DC on roof	✗ **Not as Safe** - Up to 480-1000 volts DC on roof

1. https://enphase.com/sites/default/files/Study_Comparing_Enphase_and_SMA.pdf 2. https://enphase.com/en-au/support/study-energy-yield-evaluation-enphase-and-solaredge-side-side-varied-string-lengths

Safe

- Self-extinguishing AC arc fault technology
- No high voltage DC on the roof
- Rapid shutdown ready
- Standard AC wiring practices

Tough

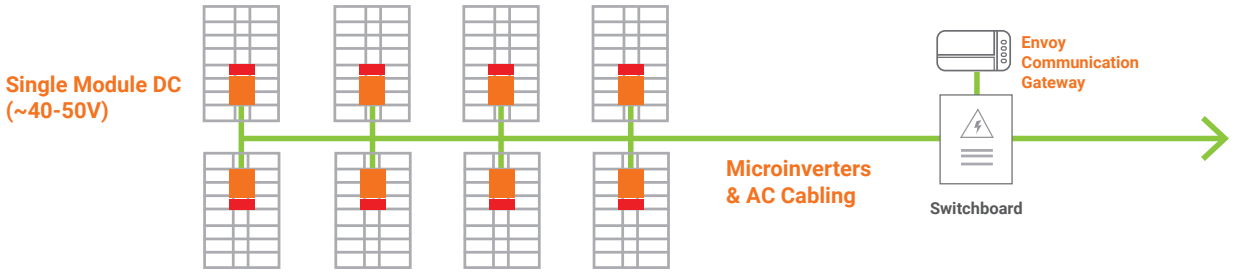
- One million power-on hours of testing per product
- No moving parts, resulting in greater reliability
- Highest quality with IP67 Class II enclosure
- Longest warranty on the market

Smart

- Enphase Enlighten™ app displays per-panel energy production
- Advanced Grid Function ready, power export limiting available
- Software defined architecture enables remote software upgrades and troubleshooting
- Plug-N-Play architecture lowers costs with faster and easier installations

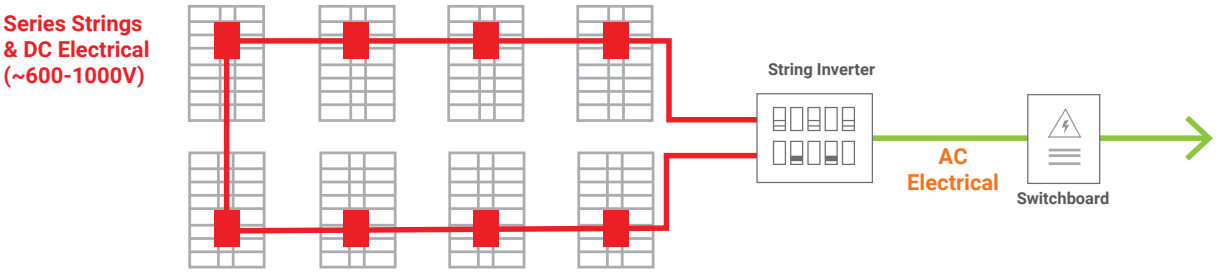
Enphase Microinverter Systems

In an Enphase system, the DC generated by the solar panels is converted to AC at the module-level by the microinverter attached beneath each panel. This architecture means that, unlike traditional DC string inverters, the Enphase IQ™ microinverter system provides a complete AC solution that uses no high-voltage DC, ensuring a safe solar solution for homeowners and PV professionals.



String-based Systems

With traditional string inverters, including optimisers or not, the solar panels are wired in series. Every panel added to the series increases the DC voltage in the circuit. These systems can generate up to 1,000 volts of dangerous high-voltage DC, which must run from the panels through the ceiling to the inverter. Even the smallest equipment failure, such as a damaged cable or a loose electrical connection, can cause a DC arc fault creating a serious fire risk.



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To learn more about the benefits of Enphase visit www.smartenergysa.co.za