solaredge | VDE RENEWABLES

Delivering measurable advantages in PV performance, safety, and cybersecurity
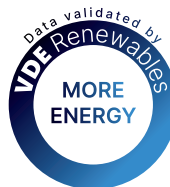
VDE Renewables' SolarEdge Report 2025 Top Takeaways

Catch up on the main highlights from VDE Renewables* landmark report demonstrating the benefits of SolarEdge technology.

Read the full report!

* VDE Renewables is a leading provider of quality assurance services for the global renewable energy sector

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SolarEdge System Performance

Data validated by **VDE** Renewables — **MORE ENERGY**

From VDE:

> SolarEdge's Module-Level Power Electronics (MLPE) topology addresses issues caused by PV module power losses. This ensures optimal performance for each module.

How SolarEdge achieves better system performance:

MLPE-based Power Optimizers
improve overall system performance and reliability compared to traditional string inverters

Patented Buck and Boost technology
continuously adjusts system voltage to maximize energy production

Flexible system design
supports different PV modules types and longer strings of uneven length, reducing system complexity

SolarEdge ONE energy optimization platform
enables real-time monitoring and management of system performance

25-year Power Optimizer warranty
far exceeds standard industry warranties

Up to **10.5%** more energy can be gained on SolarEdge residential sites, depending on roof type, compared to equivalent string systems
(based on SolarEdge internal analysis)

SolarEdge System Safety

SAFETY
Data validated by VDE Renewables

From VDE: " SolarEdge's integrated safety mechanisms have been independently tested and validated, confirming that they meet industry standards, and go beyond regulatory requirements.

The key elements of SolarEdge's safety approach:

SafeDC™ and Rapid Shutdown
reduces the inverter input voltage to touch-safe levels when an arc is detected

SolarEdge Sense Connect
effectively prevents fire hazards by interrupting the heating cycle in Power Optimizer connectors

Real-time alerts mechanism
monitors PV safety parameters to ensure safe operation, prevent costly failures and minimize downtime

SolarEdge Cybersecurity

CYBER
Data validated by VDE Renewables

From VDE: " SolarEdge provides a clear example of how robust cybersecurity mechanisms are essential to mitigating risks associated with cyber threats. Its approach to cybersecurity demonstrates alignment with international best practices.

SolarEdge's standout cybersecurity features:

Secure and certified data hosting
meets global cyber standards, ensuring high security in data hosting and compliance, with data centers based in Germany

Strong passwords and restricted inverter access
enables inverter security with encrypted communication, unique passwords from assembly, and real-time access control

Secure software update mechanism
that uses cryptographic firmware validation to block insecure updates. Only remote updates via secure, device-initiated connections are allowed

Multi-Factor Authentication (MFA)
for installer access, ensuring only authorized personnel can access system information or make modifications

Malware protections
featuring an embedded security agent in SolarEdge inverters, for anomaly detection and a secure boot process

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