



Top Takeaways from DNV's SolarEdge TerraMax™ Inverter report

DNV validated the TerraMax solution as reliable and ready for successful deployment and operation

Contact your local SolarEdge team to download the full report



What makes the TerraMax a bankable utility-scale solution?

Developed by SolarEdge, a global-leading solar manufacturer

- Long track record deploying DC-optimized solar technology, with 4.4 million monitored systems worldwide (as of Q2 2025)
- Continual investment in R&D with a growing product portfolio
- ISO-certified global manufacturing footprint
- Extensive compliance with relevant corporate and PV industry standards



More energy, flexible design

“ We view positively the MPPT approach taken by SolarEdge ”

- Module-level MPPT and diagnostics maximize energy yield by reducing losses from module mismatch, degradation, or shading, for improved overall PV plant performance
- Enables greater design flexibility with varied PV module orientations, tilt angles, and types, with longer, uneven strings for optimal land use



Thorough reliability and manufacturing approach

“ DNV has a positive view of SolarEdge's reliability design practices ”

- Best industry practices are followed, including design for reliability, reliability testing and failure analysis
- Automated testing validates electrical safety, functionality, and performance pre-shipment



Standout inverter performance

” The SolarEdge TerraMax Inverter power conversion efficiency and de-rating curve are leading when compared to similar inverters on the market ”

- 99.2% max. efficiency, 98.8%-99% weighted efficiency (CEC/EU) depending on model
- Full rated output up to 45 °C. Derated performance up to 60 °C making it suitable for deployment in harsh environments



Comprehensive service and support framework

” SolarEdge has developed a structured service and support framework to ensure high availability and reliability of its TerraMax solution ”

- Effective service approach supporting installations worldwide, with module-level monitoring and remote troubleshooting
- Includes predefined spare parts provisioning, tiered technical support, global logistics planning, and certified installer training



Advanced solar safety and cybersecurity features

” DNV considers the TerraMax Inverter solution’s PV safety and cybersecurity capabilities positively ”

- Built-in SafeDC™ designed to automatically reduce string voltage to safe levels during inverter or grid shutdown, protecting people and property
- Integrated safety systems detect over-temperatures caused by improper connections and damage
- Multi-layered cybersecurity architecture designed to prevent unauthorized inverter access, data manipulation, and system-level cyber threats



Meticulous component selection

” DNV views the practice of component derating and evaluation to assess the actual margins, followed by SolarEdge, positively ”

- Strict derating requirements are enforced across inverter design cycles, enhancing component reliability and lifespan
- Careful consideration of component stress margins support compliance with grid reliability expectations and long-term system durability

Who is DNV?

A global leader in assurance and risk management with broad expertise in solar independent engineering and technology due diligence. This is DNV’s sixth SolarEdge review.