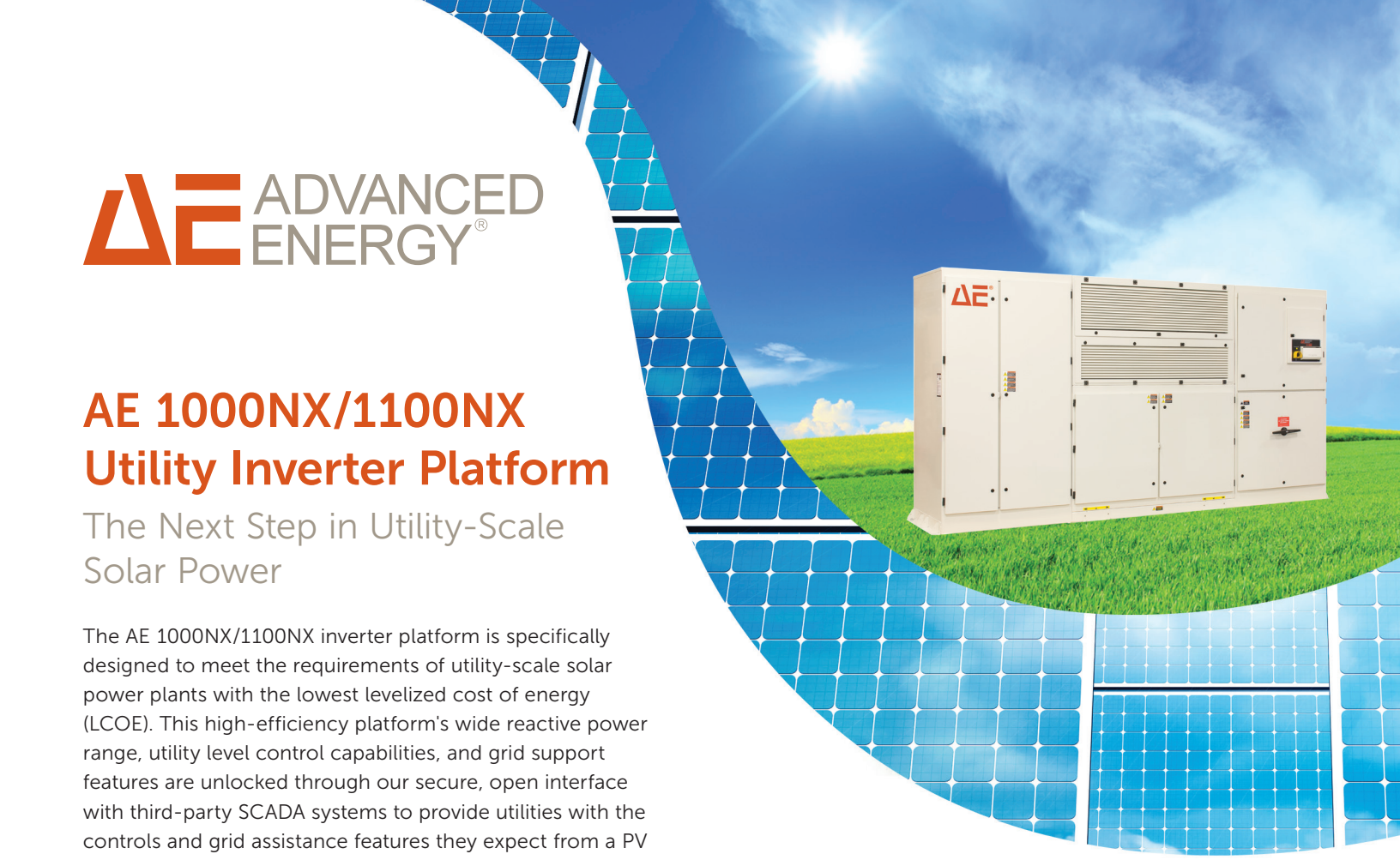

AE 1000NX/1100NX Utility Inverter Platform

The Next Step in Utility-Scale Solar Power

The AE 1000NX/1100NX inverter platform is specifically designed to meet the requirements of utility-scale solar power plants with the lowest levelized cost of energy (LCOE). This high-efficiency platform's wide reactive power range, utility level control capabilities, and grid support features are unlocked through our secure, open interface with third-party SCADA systems to provide utilities with the controls and grid assistance features they expect from a PV power plant.

The 1000NX inverter leverages a 1100 kVA rating to support wide power factor ranges without sacrificing active power production. Alternately, the 1100NX inverter enables full 1100 kW of active power production to allow for optimizing between seasonal voltage support requirements and additional overdrive capability for energy harvest, PM activities, and AC collection system losses. The bipolar 1000 V system topology drives down both DC and AC balance of system (BoS) costs, while the robust single engine design and cabinet details lead to low maintenance. These features work together with AE's world-class service offerings to help create PV plants with the lowest LCOE.

Lower O&M Costs

Advanced Energy® 1000NX and 1100NX inverters, with their robust outdoor-ready construction, have field-proven high availability and reliability for low-maintenance operation. To maximize uptime and power generation, AE offers extended warranties (up to 20 years) and an optional SafeGuard® service program. Based on our 30 years of experience serving mission-critical power-conversion equipment, this proactive O&M service program goes far beyond the standard warranty. Our highly trained specialists can perform a system test, remote diagnostics, and annual on-site inspections that keep your systems in operation and producing power.

Take Control with SCADA & Grid Support

The integrated data monitoring and controls solution enables SCADA connectivity, collects and stores a wide range of inverter real-time data, and can be connected to many third-party data services. AE 1000NX and 1100NX inverters respond to a full complement of utility interactive controls (UIC) and enable a broad range of frequency and voltage ride-through profiles based on regional requirements.

Increase Energy Harvest & Reduce BoS Costs

Putting AE 1000NX/1100NX inverters to work in your PV power plant puts you ahead of the competition with increased energy harvest and reduced BoS costs. The inverter topology allows the pairing of 1000 VDC equipment with in-field combiner level PV ties to reduce the PV array wire length by up to 50%, increasing harvest potential by reducing voltage drop and DC line losses compared to a conventional single-array system. This DC-side design allows higher AC output voltages that reduce AC wire size and over-current protection device ratings. Integration stays simple with multiple outdoor-rated inverters paralleling into a single medium-voltage transformer. Each inverter comes with a self-contained, closed-loop air-to-liquid cooling system that provides reliable performance in hot, sunny environments. There is no need to build air-conditioned shelters. Combined, these features reduce BoS cost and maximize your plant's power production.

AE 1000NX/1100NX Platform Specifications

Physical	
Dimensions	2286 mm (H) x 4420 mm (W) 1057 mm (D)
	90.0" (H) x 174.0" (W) x 41.6" (D)
	Dimensions include cabinet handles, tie down feet, and AC & DC cabinets
Weight	5450 lb (2472 kg) unit weight 5850 lb (2654 kg) shipping weight
Construction	Outdoor-ready cabinet design with electrostatically applied paint
Environmental Rating	NEMA 3R: Cooling cabinet NEMA 4: AC, DC, and electronics cabinet
DC Input Power Connectors	8 busbars per polarity standard with optional 10 busbars per polarity; BoS wire savings achieved with field connected neutrals via the combiner level PV tie (CPT)
AC Output Power Connectors	Busbars; (4) M10 studs per output phase
User Interface	Front panel LCD with keypad, shut-down button, and web interface
Electrical	
DC Inputs	
Array Configuration	Separable dual arrays with 1000 VDC strings
Maximum Operating Input Current	956 ADC Imp maximum, self-limiting in operation
MPPT Voltage Range	±550 to ±1000 VDC
Open-Circuit Turn-On Voltage	±700 VDC default
AC Output	
Nominal Apparent Power AC	1100 kVA
Rated Output Power AC	1000NX Inverters: 1000 kW
	1100NX Inverters: 1100 kW
Operating Voltage Range	800 VAC ±10%
Electrical Service Compatibility	Three-phase grounded wye (neutral conductor not utilized)
Maximum Continuous Current	800 A_{RMS}
Short Circuit Fault Current	1.2 PU (A_{RMS}), 22 ms duration
Nominal Frequency	60 Hz
Total Harmonic Distortion	< 3% (at rated power)
Efficiency	
Peak Efficiency	98.1% (includes brown power such as all standby, controls, and housekeeping losses)
Weighted Efficiency	98% (CEC method)
Standby Losses	< 250 W
Inverter Controls and Monitoring	
Inverter Controls	
Inverter On/Off	Remotely controllable
Turn-On Ramp Rate	1 kW/sec to 100 kW/sec, adjustable
Reconnection Delay	5 to 7200 sec, adjustable
Active Power Range	100% to 0%, remotely adjustable
Power Factor and Reactive Power	±0.80 PF range, ±485 kVAr maximum, remotely adjustable
Voltage Ride-Through Limits	Adjustable to regional requirements
Frequency Ride-Through Limits	Adjustable to regional requirements
Inverter Monitoring	
Communication Interfaces and Protocols	Ethernet TCP/IP, RS-485
	Modbus/TCP and Modbus/RTU
Inverter Monitoring Options	Integrated inverter data monitoring solution, compatible with third-party services
Data Storage	90 days at 1 minute resolution 10 years at 15 minute resolution 10 years historical fault and event log
Environmental	
Operating Ambient Temp Range	-4 to 122°F (-20 to 50°C)
Standby/Storage Ambient Temp Range	-22 to 158°F (-30 to 70°C)
Cooling	Self-contained, closed-loop, liquid to air
Elevation	7545' (2300 m) maximum
Regulatory	
Agency Approvals/Regulatory Compliance	Certified to UL 1741-2010 and IEEE 1547-2003 except where utility requirements supersede

Subject to change without notice.
Refer to user manual for detailed specification.

* Note: Not all performance window specifications can be achieved simultaneously. Performance varies per site. Consult your AE sales or service representative for specific PV system design questions at sales.support@aei.com.

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