



**PVPowered™ solaron® siteguard®**

## Solaron® 500E HE PV Inverter

500 kW PV inverter with record breaking high efficiency has the industry's best LCOE for utility-scale, grid-tied photovoltaic installations

With best in power-class 99.0% peak efficiency, Advanced Energy's Solaron 500E HE inverter generates more value for project developers, owners and financiers, and drives the industry's best levelized cost of energy (LCOE). The stable, high-voltage, transformerless engine inside this robust, 500 kW inverter allows many units to be wired in parallel into a single medium voltage transformer making it ideal for utility-scale PV installations. With 98.7 weighted efficiency, the Solaron 500E HE enables higher, faster PV system ROI and better balance of system (BoS) optimization. An optional Remote PV Tie (RPT™) accessory can further reduce BoS costs. AE's SiteGuard® solutions simplify operation and maintenance (O&M) on the entire PV site.

### Achieve best LCOE with highest efficiency and lower BoS and O&M Costs

The Solaron 500E HE PV inverter is ideally suited for utility-scale or large commercial PV installations. Higher power and industry leading 99.0% peak efficiency leads to additional kilowatt-hours of energy produced, resulting in more cash and RECs generated from a solar PV system. By improving peak efficiency to 99.0%, which is one to three percentage points higher than comparable commercial and utility-scale solar PV inverters, Advanced Energy's Solaron 500E HE inverter can generate more value for project developers, owners and financiers, and drive an industry-best levelized cost of energy (LCOE)

### Benefits

- Achieve the lowest levelized cost of energy (LCOE)
- Increase higher energy harvests
- Reduce balance-of-system (BoS) costs
- Rely on worldwide service and support
- Monitor and control with flexible, integrated communications

### Features

- 99.0% Efficiency – highest in its power class
- 500 kW, transformerless, bipolar design
- Largest core engine in its class—with the industry's smallest footprint and lightest weight per kW
- Integrated IDS™ data monitoring and communications
- Advanced grid integration controls
- Remote PV Tie (RPT™) accessory
- Three decades of experience in solar PV industry
- 24/7/365 global service and support



## Cut PV System Wiring Costs with Optional Remote PV Tie (RPT™) Accessory

The AE Solaron Remote PV Tie (RPT™) accessory can further reduce BoS installation costs and achieve even higher system efficiency. The RPT accessory reduces large-diameter copper cables as well as I<sup>2</sup>R losses for up to 4% more power output during operation. The RPT also offers flexibility in system design and inverter installation for large, utility-scale solar farms.

## Rely on AE Worldwide Service and Support

The Solaron inverter is durable, robust, and reliable for ongoing, low-maintenance operation. If needed, AE's worldwide service organization is available 24/7/365 for support. Extended warranties (up to 20 years) and SiteGuard® service programs to help you maximize uptime and power generation are also available. Highly trained specialists can perform routine system queries, remote testing and diagnostics, and annual on-site inspections, all at a nominal cost.

## Monitor and Control Your System

A secure, integrated LCD and keypad provide unit operating data and interconnection set points on the front of the inverter cabinet. In addition, the on-board Integrated Data System (IDS™) software—included at no additional charge—provides Internet connectivity and collects and stores a wide range of real-time data, including detailed unit configuration monitoring and control information.

Connect to any Solaron inverter with your web browser to view a suite of built-in graphical representations of minute-by-minute temperature, current, and voltage data—or gather data in Modbus® or CSV format to configure your own custom data and analysis reports.

IDS software also provides connectivity to many third-party data services like SEEDS®, Meteocontrol, and Skytron.

## Solaron 500E HE 500 kW Summary Specifications

Physical	
Dimensions	211 cm (H) x 227 cm (W) x 102 cm (D) 83.1" (H) x 89.5" (W) x 40.1" (D) Dimensions include cabinet handles and connection box.
Weight	1705.5 kg (3760 lb) unit weight 1859.7 kg (4100 lb) shipping weight
Enclosure	Outdoor ready cabinet design; ≥14-gauge corrosion resistant steel construction, Environmental base coating, Electrostatically applied paint, Full lift-rate eye bolts.
Environmental Rating	Electronics cabinet: Type 4 Cooling and Magnetics cabinets: Type 3R
Connectors and Cables	
Output AC Power Connectors	4 x 600 MCM wires (Cu or Al)
Input DC Power Connectors	4 x 600 MCM wires (Cu or Al)
User Display	Front panel LCD and keypad; security lock-outs; emergency shutdown button
Electrical	
Output Power	
Max Power	500 kW at 480 VAC
Voltage Range	432 to 528 VAC, 3 Φ, 50 Hz, grounded Wye connection
Frequency	50 Hz
Line Power Factor	> 0.99 typical
AC Current Distortion/THD	< 3% @ 500kW, 480VAC
AC Line Current	660 A typical 667 A max at 86°F (30°C) and low-line voltage; can be limited with field-adjustable settings 630 A max at 122°F (50°C)
Peak Efficiency	99.0% (auxiliary power for blowers, fans and low voltage electronics excluded) 98.7% (no exclusions)
Weighted Efficiency	98.5% (with exclusions) 98.4% (with no exclusions)
Input Power	
Array Configuration	Separable bipolar using standard PV modules
Voltage	± 330 to ± 600 VDC (max 1200 V differential)
MPP DC Current	750 ADC max
Open-Circuit Wake-Up Voltage	± 425 VDC default (configurable)
Standby Tare Losses	< 100 W
MPPT Window	± 330 to ± 550 VDC
Utility Power Capabilities	
Active Power Range	500 kW to 0 kW; remotely adjustable set point at 1 kW increments
Reactive Power Range	0.750 leading to 0.750 lagging 526 kVA at 50°C
Ramp Rate (on)	100kW/s maximum; adjustable at 0.1% increments
Delayed Reconnection	5 to 7200 seconds; adjustable
Inverter On/Off	Remotely controllable
Over-Voltage Response	110% ≤ VAC < 120%; 0.2 to 5.0 sec adjustable
Frequency Tolerance	f ≥ 50.5 Hz: adjustable; instantaneous (< 10 cycles) f ≤ 49.3 Hz: adjustable; trip delay 0.2 to 540 sec f ≤ 47.0 Hz: adjustable; instantaneous (< 10 cycles)
Factory-Installed Communication Interfaces	RS-232, RS-422, and RS-485, Ethernet, PCMCIA expansion slot, Modbus/TCP and Modbus/RTU
Data Storage	10 years / 2 GB SD card (upgradeable)
Data Monitoring	SEEDS™ data monitoring (optional); IDS™ compatible with various 3rd party services
Environmental	
Ambient Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-30°C to 70°C (-22°F to 158°F)
Relative Operating Humidity	0% to 95% non-condensing
Atmospheric Pressure	778 to 1060 mbar (78 to 106 kPa)
Elevation	2000 m max (6562')
Cooling Medium	Combination air and liquid cooling (self-contained system)
Regulatory	
Directives and Standards	CE Mark Meets applicable Directives: 2006/95/EC (Low Voltage), 2004/108/EC (EMC) EN 50178:1998 (Electronic equipment for use in power installations) EN 61000-6-2:2005 EN 61000-6-4:2007 (Evaluated to EN 61000-6-4, tested and complies with EN 55011:2007, Class A Group 2) See Declaration of Conformity

Specifications are subject to change without notice.



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