



PV Powered™ solaron® siteguard®

Solaron 500 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 the best in power-class 98% CEC efficiency rating, Advanced Energy's Solaron 500 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 true 98% average efficiency without carve-outs for auxiliary power or other adjustments, the Solaron® 500 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 500 HE PV inverter is ideally suited for utility-scale or large commercial PV installations. Higher power and industry-leading 98% CEC efficiency leads to additional kilowatt-hours of energy produced, resulting in more cash and RECs generated from a solar PV system. By improving peak energy efficiency to 98.7% and weighted efficiency to 98%, which is one to three percentage points higher than comparable commercial and utility-scale solar PV inverters, Advanced Energy's Solaron 500 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

- 98% CEC 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
- 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 I²R 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™, Draker Labs, and DECK Monitoring.

Solaron 500kW HE Summary Specifications

Physical	
Dimensions	83.1" (H) x 89.5" (W) x 40.1" (D) 211 cm (H) x 227 cm (W) 102 cm (D) Dimensions include cabinet handles and connection box.
Weight	3760 lb (1705.5 kg) unit weight 4100 lb (1859.7 kg) shipping weight
Enclosure	Outdoor ready cabinet design: Environmentally applied paint, Sturdy corrosion resistance steel construction, Full lift-rated eye bolts
Environmental Rating	NEMA 3R with NEMA 4 electronics cabinet
Connector and Cable Specifications	
Output Power Connectors	4 x 500 MCM wires (Cu or Al)
Input Power Connectors	4 x 500 MCM wires (Cu or Al)
Optional AC/DC Switchgear	Configurable AC and DC switches, fused DC master combiner
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, 60 Hz, grounded Wye connection
Frequency	60 Hz
Line Power Factor	> 0.99 typical
AC Current Distortion/THD	<2% typical
AC Line Current	600 Arms typical 667 Arms continuous current output rating (configurable)
Peak Efficiency	98.7%
CEC Efficiency	98%
Input Power	
Array Configuration	Separable bipolar using standard PV modules
Voltage	± 330 to ± 600 VDC
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	0 kW to 500 kW; remotely adjustable set point
Reactive Power Range	0.90 leading to 0.90 lagging 526kVA maximum
Over-Voltage Response	110% ≤ VAC < 120%: 0.16 to 5.0 sec adjustable
Ramp Rate (on)	20%/s maximum; adjustable at 0.1% increments
Inverter On/Off	Remotely controllable
Frequency Tolerance	f ≥ 60.5 Hz: adjustable; instantaneous (< 10 cycles) f ≤ 59.3 Hz: adjustable; trip delay 0.16 to 540 sec f ≤ 57.0 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); DC sub-array monitoring (optional); IDS™ compatible with various 3rd party services
Environmental	
Ambient Operating Temperature	-4°F to 122°F (-20°C to 50°C) -31°F to 122° (-35°C to 50°C) Cold weather option
Storage Temperature	-22°F to 158°F (-30°C to 70°C)
Relative Operating Humidity	0% to 95% non-condensing
Atmospheric Pressure	778 to 1060 mbar (78 to 106 kPa)
Elevation	6562' (2000 m) max
Cooling Systems	Combination air and liquid cooling (self-contained system)
Regulatory	
Directives and Standards	NRTL certified to UL 1741-2005 by CSA International IEEE 519, 929, 1547/1547.1 NEC Article 690 (compatible) CEC eligible – 98%

Specifications are subject to change without notice.



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