



PVPowered™ solaron® siteguard®

Solaron® 500 kW PV Inverter

500 kW PV inverter with high efficiency and better BoS for utility-scale, grid-tied photovoltaic installations

Achieve higher, faster PV system ROI and better BoS optimization with Advanced Energy's Solaron® 500 kW inverter. The durable Solaron® 500 inverter is ideally suited for utility-scale or large commercial installations. In addition to innovative, high-power, high-efficiency technology, you receive advanced monitoring and control capabilities to provide greater performance insight. An optional Remote PV Tie (RPT™) accessory can cut your BoS costs even further, and our SafeGuard® program offers proactive service that goes far beyond the standard warranty.

Benefits

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

Features

- 500 kW, high-power, transformerless, bipolar design
- Largest core engine in North America—with the industry's smallest footprint and lightest weight in its class
- 97.5% CEC efficiency
- Integrated IDS™ data monitoring and communications
- Grid integration controls
- Remote PV Tie (RPT™) accessory
- Over three decades of experience in solar PV industry
- 24/7/365 global service and support



Increase ROI with High Efficiency and Better BoS Optimization

The Solaron 500 kW PV inverter is ideally suited for utility-scale or large commercial PV installations. Higher power and 97.5% CEC efficiency translate to immediate out-of-pocket savings and greater returns on your investment—faster and at higher levels than previously possible.

Our field-proven, bipolar, transformerless PV architecture efficiently and reliably converts raw, solar DC power to high-quality AC grid electricity. The Solaron inverter has the largest core engine in North America—yet the industry's smallest footprint and lightest weight in its class. This innovative technology provides better balance-of-system (BoS) optimization, which means you can install fewer panels in your PV system for the same energy harvest. Or, alternatively, higher total system efficiency can contribute to years of higher kWh returns.

Control and Monitor Your System

To assist utilities with grid stability, the Solaron 500 comes with a suite of grid integration controls including active and reactive power (VAR and power factor) set point control, remote on/off capability, and ramp rate control.

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.

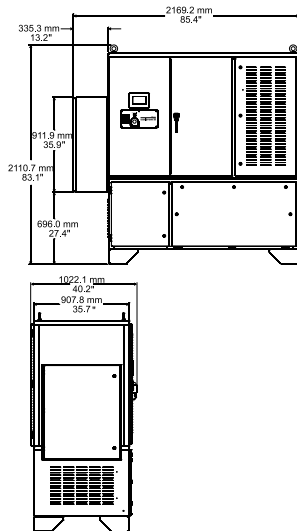
Cut PV System Wiring Costs with Remote PV Tie (RPT™) Accessory

With the addition of an AE Solaron Remote PV Tie (RPT™) accessory, you 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 Our 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. We also offer proactive services, including extended warranties (up to 20 years) and SafeGuard® service programs to help you maximize uptime and power generation. Our highly trained specialists can perform routine system queries, remote testing and diagnostics, and annual on-site inspections, all at a nominal cost.

Solaron 500 kW Dimensional Drawing



Solaron 500 kW 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 base coating, Electrostatically 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	98.6%
CEC Efficiency	97.5%
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°F (-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 – 97.5%

Specifications are subject to change without notice.



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