



PV Powered™ solaron® siteguard®

Solaron® 500C 1kV PV Inverter

500 kW, 50 Hz architecture with high efficiency and lower BoS costs for utility-scale, grid-tied PV at 1000 V

Advanced Energy's Solaron® inverter helps you achieve the lowest levelized cost of energy (LCOE) with higher energy harvests, lower balance-of-system (BoS) costs, and lower operations and maintenance (O&M) costs. This refined, robust PV inverter optimizes 1000 V panels and equipment for utility-scale PV installations. In addition to innovative, high-power, high-efficiency technology, each unit minimizes BoS costs and includes Integrated Data System (IDS™) monitoring and grid integration controls to assist in stable power generation. The optional SafeGuard® and SiteGuard® programs offer proactive O&M service that goes far beyond the standard warranty.

Benefits

- Achieve the lowest levelized cost of energy (LCOE)
- Increase energy harvests
- Reduce balance-of-system (BoS) costs
- Monitor and control with flexible, integrated communications
- Lower operations and maintenance (O&M) costs

Features

- 500 kW, high-power, transformerless design
- 1000 VDC compatible
- Integrated IDS™ data monitoring and communications
- Grid integration controls
- Parallel connections into single, medium-voltage transformer
- 97.8% peak efficiency
- Three decades of experience in solar PV industry
- 24 x 7 x 365 global service and support



PV Powered and Solaron products built in the U.S. are fully compliant with the Buy American Act and qualify for projects funded by the federal stimulus package.



Increase Energy Harvests and Reduce BoS Costs

Designed for utility-scale PV installations, the high-power Solaron® 500C 1kV inverter reduces BoS costs even further. Our field-proven, transformerless PV architecture efficiently and reliably converts raw, 1000 V solar power to high-quality AC grid electricity in a balanced, single-string configuration. In addition to 97.8% peak efficiency, you receive even better balance-of-system (BoS) optimization, backed by AE SafeGuard® and SiteGuard® services.

Solaron inverters have the largest core engines in their class—yet the industry's smallest footprint and lightest weight per kW. Compatible with 1000 VDC strings and many thin-film panels, the Solaron 500C 1kV inverter allows you to cut your budget by reducing the number of panel strings, combiner boxes, and associated wiring for your installation. Plus, the inverter can accommodate super-string configurations up to 1100 V (operating < 1000 V), subject to local codes and equipment. Fewer, longer strings also reduce DC line losses for years of higher kWh returns.

Monitor and Control Your System

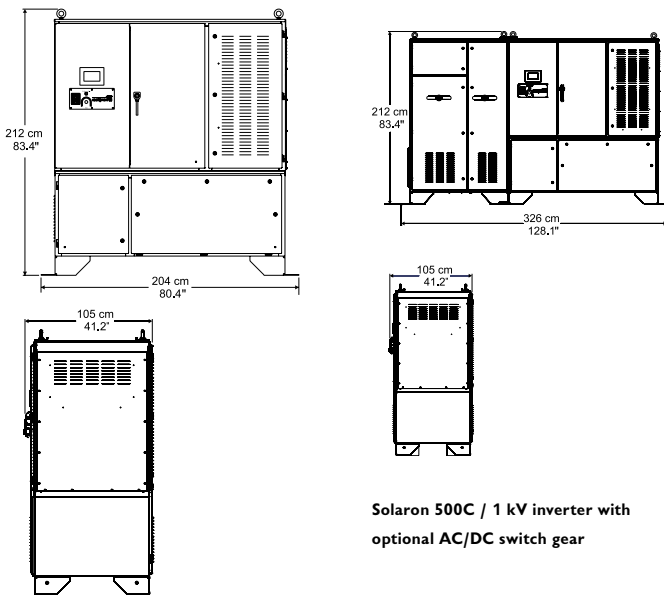
The on-board Integrated Data System (IDS™) software—included at no additional charge—enables Internet connectivity, collects and stores a wide range of real-time data, and provides access to detailed unit configuration information. IDS software also provides connectivity to many third-party data services like SunEdison SEEDS™, Draker Labs Sentalis™, and DECK Monitoring.

To assist utilities with grid stability, the Solaron 500C 1kV model comes with a suite of grid integration controls including active power and reactive power (VAR) set point control and remote turn-off capability.

Lower O&M Costs

Solaron inverters are robust and reliable for ongoing, low-maintenance operation. If needed, AE's worldwide service organization is available 24 x 7 x 365 for support. We also offer extended warranties (up to 20 years) and SafeGuard service programs to help you maximize uptime and power generation. Our highly trained specialists can perform system tests, remote diagnostics, and annual on-site inspections.

Solaron 500C 1kV Dimensional Drawing



Solaron 500C / 1 kV inverter

Solaron 500C / 1 kV inverter with optional AC/DC switch gear

Solaron 500C 1kV Summary Specifications

Physical	
Dimensions	212 cm (H) x 326 cm (W) x 105 cm (D) 83.4" (H) x 128.1" (W) x 41.2" (D) Dimensions include cabinet handles and tie-down feet.
Weight	1706 kg (3760 lb) unit weight 1860 kg (4100 lb) shipping weight
Enclosure	Outdoor-ready, sturdy steel cabinet
Environmental Rating	IP-55 electronics cabinet, NEMA 4 IP-45 cooling and exterior package, NEMA3R
User Display	Front panel LCD and keypad with security lock-outs
Electrical	
AC Output Power	
Max Power	500 kW at 440 VAC
Voltage Range	440 VAC ± 10% 3 Φ, 50 Hz, grounded Wye connection
Frequency	50 Hz
Line Power Factor	> 0.99 typical
AC Current Distortion/THD	< 2% typical
AC Line Current	660 A typical 675 A max; field-adjustable
Peak Efficiency	97.8%
DC Input Power	
Array Configuration	1000 V strings centered at AC neutral Optional 1100 V max super strings with < 1000 V operation
Input Voltage/Power Tracking Window	625 to 1000 VDC (± 312 to ± 500 VDC)
MPP DC Current	825 ADC max
Open-Circuit Wake-Up Voltage	800 VDC default (± 400 VDC); configurable
Standby Tare Losses	< 100 W
Grid Integration Controls	
Active Power Set Point	100% to 0%, remotely adjustable via Modbus TCP/IP
Reactive Power	± 165 kVAR, remotely adjustable via Modbus TCP/IP
Frequency Tolerance	f ≤ 47.5 Hz; adjustable trip delay 0.16 to 540 sec
Communication Interfaces	RS-232, RS-422, and RS-485 Ethernet TCP/IP PCMCIA expansion slot
Data Storage	> 10 years / 2 GB SD card (upgradeable)
Environmental	
Ambient Operating Temperature	-20°C to 50°C (-4°F to 122°F) Cold weather option to -35°C (-31°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	3200 m (9843') max
Cooling Medium	Combination air and liquid cooling (self-contained system)
Regulatory	
Directives and Standards	Golden Sun certified Designed in accordance with UL 1741-2010 except where grid integration controls supersede NEC 1000 V compatible

Specifications are subject to change without notice.



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