



Smart-Grid/PV Inverters

SGI 266KW SGI 300KW SGI 500KW
a breakthrough for utility PV



Best-in-class SGI 266KW, SGI 300KW and SGI 500KW inverters:
exceptional quality and efficiency with advanced features.



Product Information

UTILITY SCALE PV INVERTERS

- SmartGrid features for utilities.
- Fully integrated unit w/transformer.
- Low height, min array shade set back.
- User navigable LCD display.
- Preventative maintenance option.
- Premium efficiency.
- Smallest footprint.
- Ship in 1 or 2 pieces.
- Ethernet & RS485 standard.
- Uptime guarantee option.

The Solectria Renewables SGI 266KW, SGI 300KW and SGI 500KW are rugged, DSP-controlled, premium efficient PV inverters for grid-connected commercial and utility 3-phase PV and storage systems. With peak inverter power electronics efficiency over 98.5% (over 97% including the transformer and filters) and fully integrated packaging, these inverters set a new industry standard for efficiency, ease of installation and use, reliability and installed cost. Made in USA.

APPLICATIONS

- 266-500kWAC, 60Hz/50hz, 480VAC, 3-phase, grid-tied commercial PV systems (200-600kWDC STC array).
- Multiple inverters can be used together in any combination for 750kW, 1MW and multi-MW PV systems.
- Designed for mounting as convenient, in full sun, driving rain and drifting snow: rooftop/ground or indoors. Low height.
- Can be used (in future versions) for other renewable and distributed generation applications such as battery storage, fuel cell, wind power, hydro, geothermal, and biomass.

FEATURES & OPTIONS

- Fully integrated design includes transformer, filters, integrated AC & DC disconnects (with optional DC sub-combiner fuses).
- Industry-leading overall efficiency including isolation transformer.
- Simple set-up and connections (connect DC from PV combiners and 3-phase AC connections).
- Precision DSP-controlled Maximum Power Tracking Algorithm.
- High-reliability design, based on 20 years of power electronics development, includes modular, sealed power and signal electronics unit and high-efficiency magnetics.
- Fused DC sub-combiner (4-32 fuses, 100-400A).
- Optional SOLZONE sub-array current monitoring.
- Optional positive grounded version.

SMARTGRID FEATURES FOR ELECTRIC UTILITIES

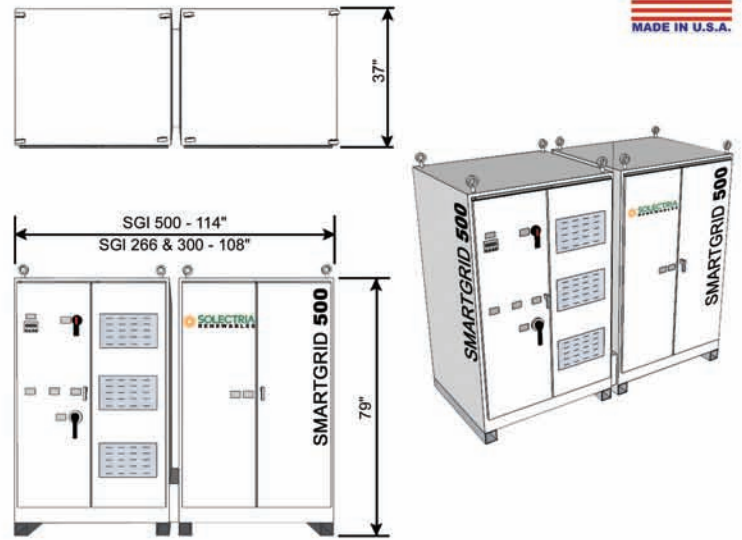
- VAR support to minimize transmission losses.
- Low-voltage ride-through capability.
- Remote control and command.

CONNECTIVITY

- RS485, MODBUS RTU standard for communication with SCADA system.
- User-navigable LCD display.
- SolrenView Inverter-Direct data monitoring option, Ethernet is standard. Compatible with other web-monitoring services.

SAFETY FEATURES

- Electronic temperature protection.
- DC ground-fault detection and interrupt.
- Current limit protections.
- Specifications: UL-1741, IEEE-1547, IEEE62.45, FCC-15 Part A.



Specifications	SGI 266KW	SGI 300KW	SGI 500KW
Output			
Continuous AC Power	266 kW	300 kW	500 kW
CEC Eligible AC Power 480VAC	266 kW	300 kW	500 kW
Power Factor	> 0.99		
Voltage (L-L), ±10%	480 VAC, 3-Ph		
Rated Current 480VAC	320A	360A	600A
Current Distortion	< 3% THD, Nom power		
Frequency	60 Hz / 50 Hz		
CEC Efficiency (estimated)	97.0%		
Overall Peak Efficiency ¹	97.4%		
Input			
Array Configuration:	Monopole, negative grounded (pos ground opt)		
Max V _{oc} ²	625 VDC		
Maximum DC Current	886A	1,000A	1,667A
CEC Eligible DC Current	886A	1,000A	1,667A
MPT Voltage Range	300-500 VDC (385VDC option)		
CEC Full Power Voltage Range	300-480 VDC		
Protection ³			
AC Grid-connection (Standards Compliance: See "Safety Features")	Over/Under Voltage, Over Current Over/Under Freq., DC Ground Fault (GFDI)		
AC Disconnect (Integral)	NEMA 3R, Integral		
DC Sub-Combiner w/Fuses	100A-400A fuses available, 4-32 pole, NEMA 3R, TVSS		
DC Disconnect (Integral)	Break load rated, NEMA 3R		
Environmental			
Ambient Temperature	-25 to 50 deg C (full power)		
Storage Temperature	-40 to 70 deg C		
Cooling	Automatic Forced Convection		
Enclosure	Rain Proof (UL1741)		
Electronics Enclosures	Sealed (IP62)		
General			
Weight lb (kg)	4170 (1895)	4760 (2163)	6510 (2959)
Dimensions: inch [mm]	PVI 266	79[2007] H x 108[2743] W x 37[940] D	
(Height w/o lifting eyes)	PVI 500	79[2007] H x 114[2895] W x 37[940] D	
Communications, Optional Data Acquisition	RS485 Modbus RTU, Ethernet, SolrenView web-based monitoring		
Warranty	5 years. Optional extensions to 10, 15, 20yr, Preventative Maintenance and Uptime Guarantee		

¹ Fully Integrated Package: Includes premium efficient transformer, filters, high-efficiency smart brushless blower, AC & DC disconnects.

² Max Open circuit voltage (V_{oc}) of PV array (= 1.25 x V_{oc} rated per NEC 690-7).

³ Complies with grid connection and safety standards ("Safety Features")