



Smart-Grid/PV Inverters

**SGI 225 SGI 250 SGI 266**  
**SGI 300 SGI 500**

*a breakthrough for utility PV*



Intertek

Best-in-class SGI 225, SGI 250, SGI 266, SGI 300 and SGI 500 inverters:  
exceptional quality, highest efficiency, advanced features for utilities



Product Information

## UTILITY SCALE PV INVERTERS



- SmartGrid features for utilities
- Built-in-redundancy
- RS485/MODBUS RTU, ethernet communications
- Options: web-based monitoring, uptime guarantee, stainless steel
- 97.5% CEC efficiency Highest in the industry!
- 480 or 600 VAC output
- Smallest footprint

The Solentria Renewables SGI 225, SGI 250, SGI 266, SGI 300 and SGI 500 are rugged, DSP-controlled, premium efficient PV inverters for grid-connected commercial and utility 3-phase PV and storage systems. The SGI series inverters have CEC efficiencies up to 97.5% and peak inverter efficiencies up to 97.8%. With top efficiencies and a fully integrated package, this series of inverters set a new industry standard for efficiency, ease of installation and use, reliability and installed cost. Manufactured in the USA & Canada.

### APPLICATIONS

- 225-500kWAC, 60Hz, 480VAC (600VAC option), 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
- Conveniently designed for mounting in full sun, driving rain and drifting snow: rooftop/ground or indoors, low height

### FEATURES & OPTIONS

- Fully-integrated design includes transformer, filters, integrated AC & DC disconnects and contactors
- 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 (6-32 fuses, 70-400A)
- Optional SOLZONE sub-array current monitoring
- Optional integrated revenue-grade metering
- Optional LV version for 285 VDC min input

### SMARTGRID FEATURES FOR ELECTRIC UTILITIES

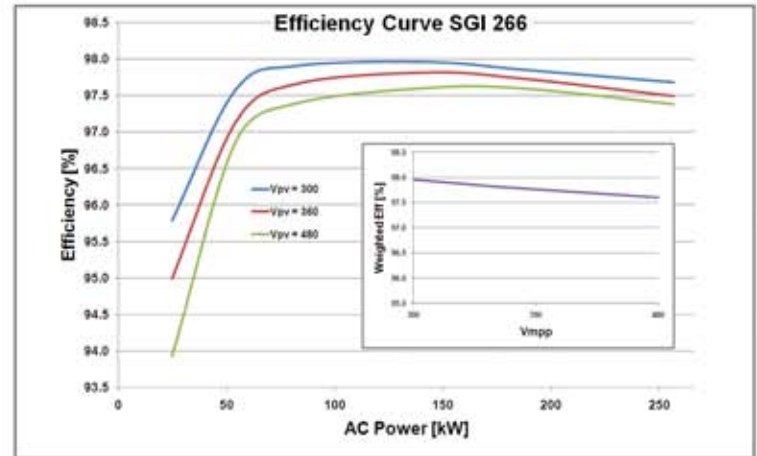
- VAR support to minimize transmission losses
- Low-voltage ride-through capability
- Remote power control
- Controlled ramp rates

### CONNECTIVITY

- RS485, MODBUS RTU standard for communication with SCADA system
- User-navigable LCD display
- Solentria Inverter-Direct data monitoring option; compatible with other web-monitoring services

### SAFETY FEATURES

- Electronic temperature protection
- Transformer isolation
- DC ground-fault detection and interrupt
- Current limit protections
- Certifications: UL1741, IEEE1547, IEEE1547.1, CSA 22.2 #107.1, IEEE62.41.2, FCC15 Part A



The SGI series inverters have the highest efficiencies in the PV industry.

Specifications	SGI 225	SGI 250	SGI 266	SGI 300	SGI 500
<b>AC Output</b>					
Continuous AC Power	225 kW	250 kW	266 kW	300 kW	500 kW
CEC Eligible AC Power (480VAC)	225 kW	250 kW	266 kW	300 kW	500 kW
Power Factor	> 0.99				
Voltage (L-L), ±10%	480 VAC, 3-Ph (600VAC option)				
Rated Current (480VAC)	271A	301A	320A	360A	600A
(600VAC)	217A	241A	256A	288A	480A
Current Distortion	< 3% THD, Nominal power				
Frequency	60 Hz				
CEC Efficiency	97.5%			97.0%	
Overall Peak Efficiency <sup>1</sup>	97.7%	97.7%	97.8%	97.7%	97.5%
<b>DC Input</b>					
Array Configuration:	Monopole, negative grounded (pos ground opt)				
Max V <sub>DC</sub>	625 VDC				
Operating DC Current	770A	857A	910A	1,030A	1,720A
CEC Eligible DC Current	770A	857A	910A	1,030A	1,720A
MPT Voltage Range	300-500 VDC (285VDC low-voltage option)				
CEC Full Power Voltage Range	300-480 VDC				
<b>Protection<sup>2</sup></b>					
AC Grid-connection (Standards Compliance: See "Safety Features")	Over/Under Voltage, Over Current Over/Under Freq., DC Ground Fault (GFDI)				
AC Circuit Breaker (Integral)	NEMA 3R				
DC Sub-Combiner with Fuses	70A-400A fuses available, 6-32 pole, NEMA 3R, TVSS				
DC Circuit Breaker (Integral)	Break load rated, NEMA 3R				
<b>Environmental</b>					
Ambient Temperature	-40 to 50°C (full power)				
Storage Temperature	-40 to 70°C				
Cooling	Automatic Forced Convection				
Enclosure	Rain Proof (UL1741)				
Electronics Enclosures	Sealed (IP62)				
<b>General</b>					
Weight lb [kg] (add 150 lb pallet)	5170 [2350]	5170 [2350]	5170 [2350]	5650 [2568]	6980 [3173]
Dimensions: inch [mm] (Height w/o lifting eyes)	79[2007] H x 109[2769] W x 41[1041] D				
Communications, Optional Data Acquisition	RS485 MODBUS RTU, Ethernet, Solentria web-based monitoring & revenue grade metering				
Warranty	5 years. Optional extensions to 10, 15, 20yr, Preventative Maintenance and Uptime Guarantee				

<sup>1</sup> Fully Integrated Package: Includes premium efficient transformer, filters, high-efficiency smart brushless blower, AC & DC disconnects.  
<sup>2</sup> Complies with grid connection and safety standards ("Safety Features")