

23/28kW, 1000Vdc String Inverters for North America

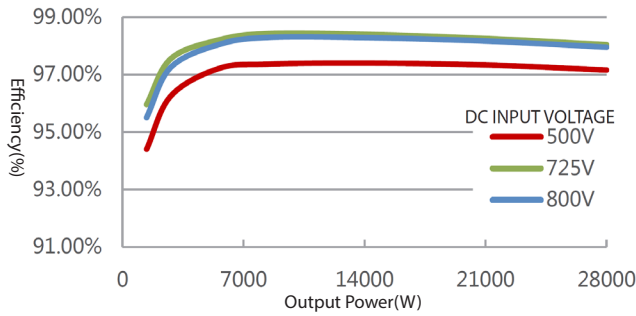
The medium power series of grid-tied, transformerless inverters help to accelerate the use of 1000Vdc and three phase string architecture for commercial and small ground mount utility applications. An NRTL approved, cost effective alternative to central inverters enabling BoS cost savings, high harvest performance and modular design building blocks. These models provide up to 98.6% conversion efficiency and wide operating window of 300-900Vdc and dual MPPT's for maximum cash-flow generation.



CPS SCA23KTL-DO/US-480
CPS SCA28KTL-DO/US-480

Efficiency Curve

CPS SCA28KTL-DO/US-480



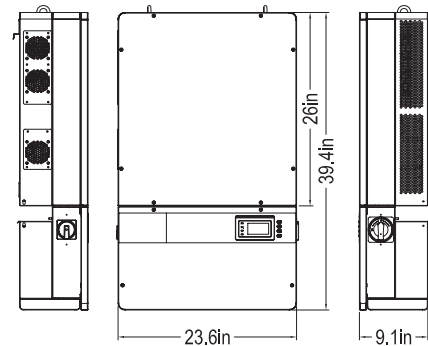
High Efficiency

- Maximum efficiency of 98.6%, CEC efficiency of 98%
- 3-level technology and enhanced control mechanism to achieve high efficiency over wide load range
- 2 MPPTs to achieve higher system efficiency
- Transformerless design

High Reliability

- "Electrolyte-free design" for improved long-term reliability
- Standard warranty: 10 years, extension up to 20 years
- Advanced thermal design, with variable speed fans
- Ground-fault detection and interruption circuit
- AFCI Integrated (per UL1699B)

Dimensions



Broad Adaptability

- NEMA 4X (IP65) rated for outdoor applications
- Utility interactive controls: Active power derating, reactive power control
- Separable wiring box design for fast service
- Integrated DC & AC disconnect switches
- Wide MPPT range for flexible string sizing
- 1000V Max. DC input voltage for flexible configuration
- 15 - 90 degree from horizontal installation angle



Model Name	CPS SCA23KTL-DO/US-480	CPS SCA28KTL-DO/US-480
DC Input		
Max. PV Power	31kW (15.5kW per MPPT)	38kW (19kW per MPPT)
Max. DC Input Voltage	1000Vdc	
Operating DC Input Voltage Range	240-950Vdc	
Start-up DC Input Voltage / Power	330V / 300W	
Number of MPP Trackers	2	
MPPT Voltage Range	480-800Vdc	500-800Vdc
Max. PV Short-Circuit Current (Isc x 1.25)	82A (41A per MPPT)	96A (48A per MPPT)
Number of DC Inputs	8 inputs, 4 per MPPT	
DC Disconnection Type	Load rated DC switch	
DC Surge Protection	Type II MOV, 2000V _C , 10kA I _{TM} (8/20 μ S)	
AC Output		
Rated AC Output Power	23kW	28kW
Max. AC Apparent Power	23kVA	28kVA
Rated Output Voltage	480Vac	
Output Voltage Range ¹	422 - 528Vac	
Grid Connection Type	3 Φ / PE / N	
Nominal AC Output Current @480Vac	27.7A	33.7A
Rated Output Frequency	60Hz	
Output Frequency Range ¹	57 - 63Hz	
Power Factor	>0.99 (\pm 0.8 adjustable)	
Current THD @ Rated Load	<3%	
Max. Fault Current Contribution (1 Cycle RMS)	69.6A	
AC Disconnection Type	Load rated AC switch	
AC Surge Protection	Type II MOV, 1500V _C , 10kA I _{TM} (8/20 μ S)	
System and Performance		
Topology	Transformerless	
Max. Efficiency	98.6%	
CEC Efficiency	98.0%	
Stand-by / Night Consumption	<1W	
Environment		
Enclosure Protection Degree	NEMA Type 4X	
Cooling Method	Variable speed cooling fans	
Operating Temperature Range	-22°F to +140°F / - 30°C to +60°C (derating from +113°F / +45°C)	
Non-Operating Temperature Range ²	No low temp minimum to +158°F / +70°C maximum	
Operating Humidity	0 to 95%, non-condensing	
Operating Altitude	13123.4ft / 4000m (derating from 6561.7ft / 2000m)	
Audible Noise	<50dBA @ 1m and 25°C	
Display and Communication		
User Interface and Display	LCD+LED	
Inverter Monitoring	Modbus RS485	
Site Level Monitoring	Up to 32 inverters per network	
Modbus Data Mapping	CPS	
Remote Diagnostics	Standard	
Mechanical		
Dimensions (HxWxD)	Inverter: 26 x 23.6 x 9.1in. (660 x 600 x 230mm); Wire-box 13.4 x 23.6 x 9.1in. (340 x 600 x 230mm)	
Weight	Inverter: 104lbs/47kg; Wire-box: 20lbs/9kg	
Mounting / Installation Angle ³	15 to 90 degrees from horizontal	
AC Termination	Screw Clamp Terminal Block (Wire range: #14 - 1/0AWG CU/AL)	
DC Termination	Screw Clamp Fuse Holder (Wire range: #14 - #6AWG CU)	
Fused String Inputs (4 per MPPT)	15A fuses provided (Fuse values up to 30A acceptable)	
Safety		
Certifications and Standards	UL1741-2010, UL1699B, CSA-C22.2 NO.107.1-01, IEEE1547; FCC PART15	
Selectable Grid Standard	IEEE 1547-2003	
Warranty		
Standard	10 years	
Extended Terms	15 and 20 years	

1) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.

2) See user manual for further requirements regarding non-operating conditions.

3) Shade Cover accessory required for installation angles of 75 degrees or less.