

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

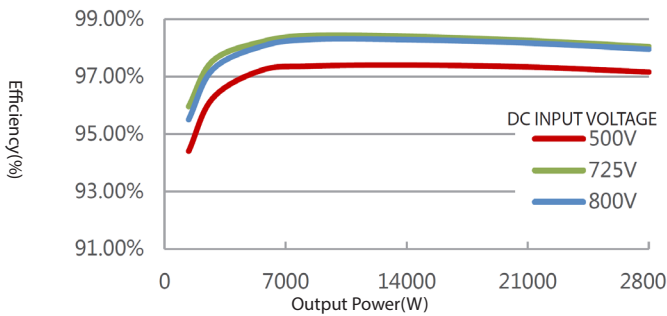
The medium power series of grid-tied, transformerless inverters help to accelerate the use of 1000Vdc and three phase string architecture for commercial and small ground mount utility applications. An NRTL approved, cost effective alternative to central inverters enabling BoS cost savings, high harvest 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



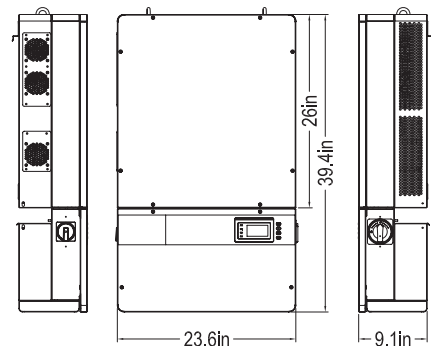
## High Efficiency

- 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
<b>DC Input</b>		
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 <sub>C</sub> , 10kA I <sub>TM</sub> (8/20..S)
<b>AC Output</b>		
Rated AC Output Power	23kW	28kW
Max. AC Apparent Power	23kVA	28kVA
Rated Output Voltage		480Vac
Output Voltage Range <sup>1</sup>		422 - 528Vac
Grid Connection Type		3Φ / PE / N
Max. AC Output Current @480Vac	27.7A	33.7A
Rated Output Frequency		60Hz
Output Frequency Range <sup>1</sup>		57 - 63Hz
Power Factor		>0.99 (±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 <sub>C</sub> , 10kA I <sub>TM</sub> (8/20..S)
<b>System and Performance</b>		
Topology		Transformerless
Max. Efficiency		98.6%
CEC Efficiency		98.0%
Stand-by / Night Consumption		<1W
<b>Environment</b>		
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 <sup>2</sup>		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
<b>Display and Communication</b>		
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
<b>Mechanical</b>		
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 <sup>3</sup>	15 to 90 degrees from horizontal (vertical or angled)	
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) <sup>4</sup>	15A fuses provided (Fuse values up to 30A acceptable) <sup>4</sup>	
<b>Safety</b>		
Certifications and Standards	UL1741-2010, UL1699B, CSA-C22.2 NO.107.1-01, IEEE1547; FCC PART15	
Selectable Grid Standard	IEEE 1547-2003	
<b>Warranty</b>		
Standard <sup>5</sup>	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.

4) Fuse values above 20A have additional spacing requirements. See user manual for further details.

5) 5 year warranty effective for units purchased prior to January 1st, 2015.