36 kW, 1000 Vdc String Inverters for North America

The CPS 36 kW three-phase string inverter is designed for rooftop and carport applications. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 98.18% peak and 97.4% CEC, wide operating voltages, broad temperature ranges, and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications.

CPS 36KTL ships with either the Standard wire box or the Rapid Shutdown wire box, each fully integrated and separable with touch-safe fusing, monitoring, and AC and DC disconnect switches. The integrated PLC transmitter in the Rapid Shutdown Wire-box enables PVRSS certified module-level rapid shutdown when used with APS RSD-S-PLC/RSD-D products.

CPS SCA36KTL-DO/US-480

Key Features

- PVRSS certified for rapid shutdown
- UL-1699B compliant arc-fault circuit protection
- 15-90° mounting orientation for low-profile roof installs
- Integrated AC and DC disconnect switches
- Copper- and Aluminum-compatible AC connections
- 3 MPPTs with 5 inputs each for maximum flexibility
- NEMA Type 4X outdoor rated enclosure
- UL 1741-SA certified to CA Rule 21, including SA8-SA18 VW
- UL 1741-SB and IEEE 1547-2018 certified
- Separable wire-box design for fast service
- Standard 10-year warranty with extensions up to 20 years

36/50/60KTL Standard Wire-box

36/50/60KTL Rapid Shutdown Wire-box

C SP US

This device complies with part 15 of the FCC Rules

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Model Name	CPS SCA36KTL-DO/US-480
DC Input	
Max. PV power	61.2 kW (22.4 kW per MPPT)
Max. DC input voltage	1000 Vdc
Operating DC input voltage range	200-950 Vdc
Start-up DC input voltage / power	330 V / 80 W
Number of MPP trackers	3
MPPT voltage range for Pnom @ PF > 0.99	400-850 Vdc
Max. operating current per MPPT	31 A per MPPT
Production limits	19 kW per MPPT or 36 kW total output
Max. PV short-circuit current[1]	163.2 A (54.4 A per MPPT)
Number of DC inputs	15 inputs, 5 per MPPT
DC disconnection type	Load-rated DC switch
DC surge protection	Type II MOV
AC Output	
Rated AC output power @ PF > 0.99	36 kW
Max. AC apparent power	36 kVA
Rated output voltage	480 Vac
Output voltage range[2]	422-528 Vac
Grid connection type	3Φ / PE / N (neutral optional)
Max. AC output current @ 480 Vac	43.5 A
Rated output frequency	60 Hz
Output frequency range[2]	57-63 Hz
Power factor	>0.99 (±0.8 adjustable)
Current TRD	< 3%
Max. OCPD rating	125 A
AC disconnection type	Load-rated AC switch
AC surge protection	Type II MOV
System	
Topology	Transformerless
Max. efficiency	98.18%
CEC efficiency	97.4%
Night consumption	< 3 W
Environment	
Enclosure protection degree	NEMA Type 4X
Cooling method	Variable speed cooling fans
Operating temperature range[3]	-22°F to 140°F / -30°C to 60°C
Non-operating temperature range[4]	-40°F to 158°F (-40°C to 70°C)
Operating humidity	0-100%
Operating altitude	13123 ft / 4000 m (derating 9843 ft / 3000 m)
Audible noise	< 60 dBA @ 1 m and 77°F (25°C)
Display and Communication	
User interface and display	LCD and LED indicators
Inverter communication	Modbus RS485
Modbus data mapping	CPS
Mechanical	
Dimensions (H × W × D)	39.4 × 23.6 × 10.24 in (1000 × 600 × 260 mm)
Weight	Inverter: 123.5 lb (56 kg) Wire Box: 33 lb (15 kg)
Mounting / installation angle[5]	15 to 90° from horizontal (vertical or angled)
AC termination	M8 stud type terminal block (wire range: #6-3/0 AWG CU/AL; lugs not supplied)
DC termination[6]	Screw clamp, neg. busbar (RSD version[6]); wire range: #14-#6 AWG CU
Fused string inputs (5 per MPPT)	25 A fuses provided (fuse values up to 30 A acceptable)
Safety	
Certifications and standards	UL 1741-SA/SB Ed. 3, UL 1699B, UL1998, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC Part 15
Selectable grid standards	IEEE 1547a-2014, IEEE 1547-2018[7], CA Rule 21, ISO-NE, HECO
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt
Warranty	
Standard	10 years
Extended terms	15 and 20 years

1) The sum of parallel-connected PV module short-circuit currents.
2) The output voltage and frequency ranges may differ according to the specific grid standard.
3) Active power derating begins at 113°F (45°C) when PF=1 and MPPT≥Vmin, and at 122°F (50°C) when PF=1 and MPPT≥700 Vdc.
4) See user manual for further requirements regarding non-operating conditions.
5) Shade cover accessory required for installation angles of 75° or less.
6) RSD wire-box only includes fuses and fuse holders on the positive polarity.
7) Firmware version 18.0 or later required.