200 kW / 200 kVA, 1500 Vdc PCS String Inverters for North America

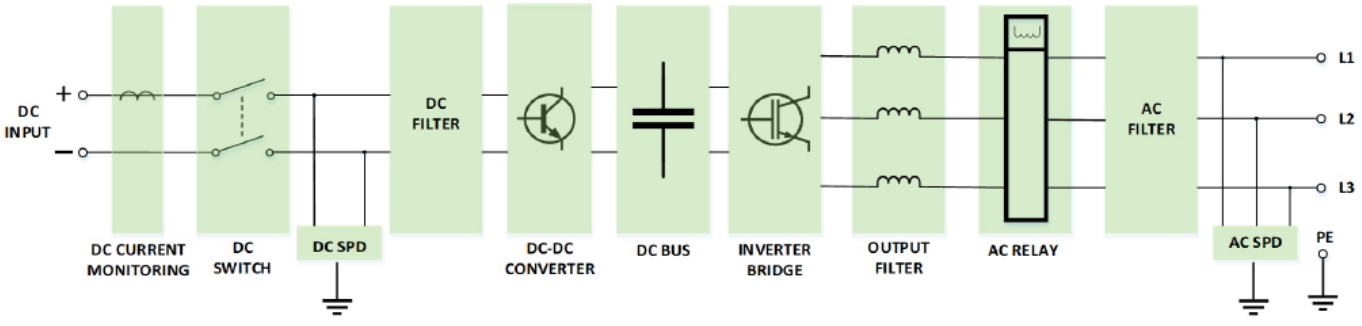
CPS ECB200KTL/US-800

The 200 kW / 200 kVA high-power CPS three-phase energy storage inverter is designed for use in commercial and utility-scale grid-tied energy storage systems. The inverter is optimized to meet the needs of the most demanding energy storage applications including demand charge reduction, power quality, load shifting, and ancillary grid support services such as frequency response and voltage support. The units are advanced and reliable inverters designed specifically for the North American environment and grid. High efficiencies, wide operating voltages, broad temperature ranges and NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications.

Key Features

- UL 1741-SB and IEEE 1547-2018 certified
- Integrated DC disconnect switch
- Protection functions for enhanced safety and reliability
- Copper- and Aluminum-compatible AC connections
- NEMA Type 4X outdoor rated
- Integrated DC-DC bi-directional converter
- Standard 5-year warranty with extension to 20 years
- Rack mountable up to 1 MW per rack
- Wide DC voltage range suitable for different batteries
- Modular design, easy for maintenance

Circuit Diagram



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This device complies with part 15 of the FCC Rules

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Model Name	CPS ECB200KTL/US-800
DC Input	
Max. DC input voltage	1500 V
Min. DC input voltage	875 V
Operating DC input voltage range	950-1500 (113°F / 45°C)
Max. DC input current	218 A
Max. DC input power	207 kW
DC disconnection type	Load-rated DC switch
DC surge protection	Type II
AC Output	
Rated AC output power @ PF > 0.99	200 kVA / 200 kW @ 113°F (45°C) 170 kVA / 170 kW @ 122°F (50°C)
Rated output voltage	800 Vac
Output voltage range	704-880 Vac
Grid connection type	Three-phase / PE
Max. AC output current @ 800 Vac	145 A
Nom. grid frequency / grid frequency range	60 Hz / 55-65 Hz
Adjustable reactive power	-100% to 100%
AC current TRD	< 3% (at nominal power)
DC current injection	< 0.5% Inom.
Max. OCPD rating	285 A
AC surge protection	Type II
System and Performance	
Max. efficiency	98.0%
CEC efficiency	97.0%
Standby consumption	< 30 W
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)
Operating humidity	0-100%
Operating altitude	9842 ft / 3000 m (no derating)
Display and Communication	
User interface and display	LED indicators, Wi-Fi, and app
PCS inverter monitoring	CAN / Ethernet / Modbus RS485
Modbus data mapping	CPS
Mechanical	
Dimensions (W × H × D)	29.5 × 13.1 × 33.5 in (750 × 332 × 850 mm)
Weight	264.4 lb (120 kg)
AC termination	Right angle plug (wire range: 3/0-4/0 AWG CU)
DC termination	Right angle plug (wire range: 4/0 AWG CU)
Safety	
Certifications and standards	UL 1741-, CSA-C22.2 NO.107.1-16, IEEE 1547-2018, FCC Part 15
Selectable grid standard	IEEE 1547-2018, IEEE 1547.1-2010
Smart-grid features	Volt-Ride Thru, Freq-Ride Thru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt
Protective Functions	
Black start	Yes
Overvoltage protection	Yes
Grid monitoring	Yes
Ground fault monitoring	Yes
Active / reactive power response time	< 100 ms
Warranty	
Standard	5 years
Extended terms	10, 15, and 20 years