DYNAPOWER

CPS-1250 & CPS-2500 Fuel Cell Inverters

UL-1741 Ed. 3 certified technology supporting fuel cell to grid power conversion

The CPS-1250 and CPS-2500 utility interactive inverters are ideal for connecting stationary hydrogen fuel cells to an AC grid. CPS Fuel Cell Inverters are capable of operating in grid-tied and standalone mode and feature advanced control algorithms to support both modes of operation.

Available in outdoor configurations from 585kVA to 2672kVA, modular units can be paralleled to scale with project size to meet fuel cell array requirements. Designed for utility interconnection, CPS Fuel Cell Inverters contain all required protective features and comply with applicable IEEE, IEC, CE, and UL standards.

The CPS-1250 and CPS-2500 offer best-in-class control modes including Dynamic Transfer, isochronous and droop-based islanding, black start capability with robust inrush AC current limiting, and are capable of power control and DC voltage control with active current and voltage curtailment to ensure fuel cell operation is maintained within optimal operating points.

System Advantages

- Proven 5th generation technology
- Designed for utility interconnection
- Capable of operating over a wide DC voltage range (511–1500V_{DC})
- Seamless transfer from grid-tied to stand-alone mode with patented Dynamic Transfer feature

Advanced Control Modes

- Islanded Operation (UF Mode)
- Dynamic Transfer
- Black Start (In-Rush Current Handling in UF Mode)
- Frequency Compensation Mode (F-Comp)
- VAR Compensation Mode (E-Comp)
- AC Current Limiting
- Low Voltage Ride-Through (LVRT) with Active Current Injection
- Multiple Parallel Inverter Microgrid Mode

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CPS-2500 TECHNICAL SPECIFICATIONS

Electrical

DC Voltage Range:	**511–1500V_{DC} (@350–800V_{AC})**
Maximum DC Current:	**2340A_{DC}**
Power Factor:	**Four quadrant**
Current Harmonics:	**IEEE 1547 Compliant, <5% TDD**
AC Input Voltage:	**800V_{AC} / 690V_{AC} / 660V_{AC} / 630V_{AC} / 600V_{AC} 540V_{AC} / 480V_{AC} / 415V_{AC} / 350V_{AC}**
Grid Frequency:	**60Hz (50Hz available in 2024)**
Maximum Apparent Power:	**2672 kVA (@800V_{AC}) 2304 kVA (@690V_{AC}) 2204 kVA (@660V_{AC}) 2104 kVA (@630V_{AC}) 2004 kVA (@600V_{AC}) 1803 kVA (@540V_{AC}) 1603 kVA (@480V_{AC}) 1386 kVA (@415V_{AC}) 1169 kVA (@350V_{AC})**
Maximum Real Power:	**2672 kW (@800V_{AC}) 2304 kW (@690V_{AC}) 2204 kW (@660V_{AC}) 2104 kW (@630V_{AC}) 2004 kW (@600V_{AC}) 1803 kW (@540V_{AC}) 1603 kW (@480V_{AC}) 1386 kW (@415V_{AC}) 1169 kW (@350V_{AC})**
Maximum AC Current:	**1928A_{RMS}**
Maximum Projected Efficiency:	**98.58 @1500V_{DC}**

Environmental

Operating Temp:	**-30 to +60°C, De-rated above +45°C**
Max Elevation:	**1,000 Meters Full Power Up to 3,000 Meters with De-rating**
Cooling:	**Forced Air Cooled**
Enclosure:	**NEMA 3R/IP 54**
Dimensions (HxWxD):	**80" x 85" x 43"**
Weight:	**3,970 lbs**

Certifications & Standards Compliance*

- UL1741 Ed. 3
- UL 1012 and IEC 62477 for unidirectional operation
- CE
- IEEE 1547
- CSA 22.2 #107.1
- IEEE 519

Hardware Protections

- AC Breaker with Shunt Trip
- AC Surge Protection
- DC Input Fuses
- DC Pre-Charge

Software Protections

- Current and Voltage Curtailment Limits
- AC Current Limiting Pending
- DC Over/Under Voltage, Over Current Fault
- AC Over/Under Voltage, Over/Under Frequency, Over Current Faults
- Anti-Islanding Protection (Open Phase at Inverter Terminals)
- Temperature Monitoring and Protective Power Curtailment

*Pending

DYNAPOWER

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dynapower.com

POWERING A CLEANER PLANET

CPS-1250 TECHNICAL SPECIFICATIONS

Electrical

DC Voltage Range:	**511–1500V_{DC} (@350–800V_{AC})**
Maximum DC Current:	**1170A_{DC}**
Power Factor:	**Four quadrant**
Current Harmonics:	**IEEE 1547 Compliant, <5% TDD**
AC Input Voltage:	**800V_{AC} / 690V_{AC} / 660V_{AC} / 630V_{AC} / 600V_{AC} 540V_{AC} / 480V_{AC} / 415V_{AC} / 350V_{AC}**
Grid Frequency:	**60Hz (50Hz available in 2024)**
Maximum Apparent Power:	**1336 kVA (@800V_{AC}) 1152 kVA (@690V_{AC}) 1102 kVA (@660V_{AC}) 1052 kVA (@630V_{AC}) 1002 kVA (@600V_{AC}) 902 kVA (@540V_{AC}) 802 kVA (@480V_{AC}) 693 kVA (@415V_{AC}) 585 kVA (@350V_{AC})**
Maximum Real Power:	**1336 kW (@800V_{AC}) 1152 kW (@690V_{AC}) 1102 kW (@660V_{AC}) 1052 kW (@630V_{AC}) 1002 kW (@600V_{AC}) 902 kW (@540V_{AC}) 802 kW (@480V_{AC}) 693 kW (@415V_{AC}) 585 kW (@350V_{AC})**
Maximum AC Current:	**964A_{RMS}**
Maximum Projected Efficiency:	**98.58 @1500V_{DC}**

Environmental

Operating Temp:	**-30 to +60°C, De-rated above +45°C**
Max Elevation:	**1,000 Meters Full Power Up to 3,000 Meters with De-rating**
Cooling:	**Forced Air Cooled**
Enclosure:	**NEMA 3R/IP 54**
Dimensions (HxWxD):	**80" x 49" x 43"**
Weight:	**1,980 lbs**

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