

CPS-i Battery Energy Storage System

Reduce complexity and speed deployment of utility-scale energy storage

This fully integrated storage system combines our UL-1741 SA certified CPS energy storage inverters with Li-Ion batteries in an outdoor-rated battery enclosure with all associated controls and protection features.

The CPS-i is a high-performance system designed to provide consistent, reliable power. It is easily deployed on a concrete pad, crushed stone or on the ground with a forklift and minimal labor, reducing system installation costs. Multiple CPS-i systems can be paralleled together to meet the sizing needs of any front-of-the-meter or large behind-the-meter installation.

When needed for resiliency applications, the CPS-i utilizes our proprietary Dynamic Transfer™ technology to monitor grid stability and, in the event of disturbance, autonomously and immediately shift a microgrid from grid-tied to battery backup power, ensuring a steady flow of electricity for critical applications. In a complete system power outage, our black start capability restores power without the need for external power.

Features

- CPS-1500 or CPS-3000 Smart Energy Storage Inverter (UL 1741 SA)
- Li-ion Batteries in Outdoor Rated NEMA 3R/IP 54 Enclosures
- System Level Integrating Controller
- All LV AC and DC Switchgear
- Fire Suppression System
- DC Pre-Charge
- Anti-islanding with UL Compliant Trip Points
- Surge Protection



TECHNICAL SPECIFICATIONS

CPS-i1500

Batteries

Discharge Duration **1 to 6 hours**

Electrical

AC Input Voltage: **350V_{AC} / 480V_{AC} / 600V_{AC}**

Grid Frequency: **60 Hz**

Maximum Apparent Power: **875kVA (@350V_{AC})
1200kVA (@480V_{AC})
1500kVA (@600V_{AC})**

Maximum Real Power: **875kW (@350V_{AC})
1200kW (@480V_{AC})
1500kW (@600V_{AC})**

Maximum AC Current: **1444 A_{RMS}**

DC Voltage Range: **550-1500V_{DC} (@350V_{AC})
740-1500V_{DC} (@480V_{AC})
900-1500V_{DC} (@600V_{AC})**

Maximum DC Current: **1720A_{DC}**

Power Factor: **0 – 1.00 Leading or Lagging**

Current Harmonics: **IEEE 1547 Compliant, <5% TDD**

Maximum Efficiency: **98.5%**

CEC Efficiency: **97%**

Environmental

Operating Temp: **-35 to +60°C, De-rated above +45°C**

Max Elevation: **1000 Meters Full Power
Up to 3000 Meters with Derating**

Cooling: **Forced Air Cooled**

Enclosure: **NEMA 3R/IP 54**

Certifications & Standards Compliance

Batteries **UL 1973**

UL 9540A

Power Conversion **UL 1741 SA**

IEEE 1547

CSA 22.2 #107.1

IEEE 519

Hardware Protections

AC Breaker with Shunt Trip

DC Input Fuses

AC Surge Protection

DC Pre-charge

DC Disconnect

Software Protections

Battery Voltage and Current Curtail Limits to protect battery

AC Current Limiting Pending

DC Over/Under Voltage, Over Current faults

AC Over/Under Voltage, Over/Under Frequency, Over Current faults

Anti-islanding Protection (Open Phase at inverter terminals)

Temperature Monitoring and protective power curtailment

Key Technologies

Islanded Operation (UF Mode)

Dynamic Transfer

Black Start

Frequency Compensation Mode (F Comp)

Volt-VAR Compensation Mode (E Comp)

AC Current Limiting (In-Rush Current Handling in UF Mode)



DYNAPOWER

85 Meadowland Drive, South Burlington, Vermont USA 05403

1.802.860.7200 | sales@dynapower.com

[dynapower.com](https://www.dynapower.com)



TECHNICAL SPECIFICATIONS

CPS-i3000

Batteries

Discharge Duration **1 to 6 hours**

Electrical

| | |
|-------------------------|--|
| AC Input Voltage: | 350V_{AC} / 480V_{AC} / 600V_{AC} |
| Grid Frequency: | 60 Hz |
| Maximum Apparent Power: | 1750kVA (@350V_{AC}) 2400kVA (@480V_{AC}) 3000kVA (@600V_{AC}) |
| Maximum Real Power: | 1750kW (@350V_{AC}) 2400kW (@480V_{AC}) 3000kW (@600V_{AC}) |
| Maximum AC Current: | 1444 A_{RMS} x 2 |
| DC Voltage Range: | 550-1500V_{DC} (@350V_{AC}) 740-1500V_{DC} (@480V_{AC}) 900-1500V_{DC} (@600V_{AC}) |
| Maximum DC Current: | 1720A_{DC} x 2 |
| Power Factor: | 0 – 1.00 Leading or Lagging |
| Current Harmonics: | IEEE 1547 Compliant, <5% TDD |
| Maximum Efficiency: | 98.5% |
| CEC Efficiency: | 97% |

Environmental

| | |
|-----------------|---|
| Operating Temp: | -35 to +60°C, De-rated above +45°C |
| Max Elevation: | 1000 Meters Full Power Up to 3000 Meters with Derating |
| Cooling: | Forced Air Cooled |
| Enclosure: | NEMA 3R/IP 54 |

Certifications & Standards Compliance

| | |
|------------------|--|
| Batteries | UL 1973 UL 9540A |
| Power Conversion | UL 1741 SA IEEE 1547 CSA 22.2 #107.1 IEEE 519 |

Hardware Protections

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

Software Protections

| |
|--|
| Battery Voltage and Current Curtail Limits to protect battery |
| AC Current Limiting Pending |
| DC Over/Under Voltage, Over Current faults |
| AC Over/Under Voltage, Over/Under Frequency, Over Current faults |
| Anti-islanding Protection (Open Phase at inverter terminals) |
| Temperature Monitoring and protective power curtailment |

Key Technologies

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| Islanded Operation (UF Mode) |
| Dynamic Transfer |
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