DYNAPOWER
Part of Sensata Technologies

DPS-500 DC-DC Converter

Maximize PV generation and revenue with DC-coupled energy storage

FOR UTILITY-SCALE SOLAR PLUS STORAGE

This bi-directional 500kW DC-DC converter is designed to interface battery energy storage with new and existing 1000V and 1500V central inverter-based PV power plants.

The DPS-500 is ideal for utility-scale solar plus storage installations, offering advanced features including automated clipping recapture and low voltage harvesting that increase project revenues, while its DC-coupled architecture reduces installation and regulatory costs.

This DC-DC converter can operate in voltage, current, and power control modes, and is capable of on-the-fly switching between modes. Designed to be easily scaled, any combination of up to six units can be paralleled together to create building blocks of up to 3MW of storage power.

Key Technologies

- Clipping Recapture
- Low Voltage Harvesting
- Curtailment Recapture
- Energy Time Shifting
- Ramp Rate Control

System Advantages:

- Reduce installation and regulatory costs through DC-coupled architecture
- Scalable storage power up to 3MW with paralleled units

TECHNICAL SPECIFICATIONS

Electrical

DC Input Voltage Range (Battery Port):	**100-1500V_{DC}**
DC Input Voltage Range (PV Port):	**100-1500V_{DC}**
Maximum Power Rating:	**500kW (@1000V_{DC})** **600kW (@1200-1500V_{DC})**
Maximum Current Rating:	**+/-500A_{DC}**
Maximum Efficiency:	**99%**
Average Efficiency:	**98.2%**
Aux/Controls Power:	**Customer supplied 120V, 1-ph, 60Hz, 1kVA service**
	Customer supplied 230V, 1-ph, 50Hz, 1kVA service
	Customer supplied 277V, 1-ph, 50/60Hz, 1kVA service

Environmental

Operating Temp:	**-25 to +55°C**
Cooling:	**Forced Air Cooled**
Enclosure:	**UL 3R/IP 54**
Max Elevation:	**1000 Meters Full Power, 3000 Meters with Derating**
Dimensions (L x W x H):	**33.5" x 39.4" x 80.5"**
Weight:	**1300 lbs**
Cable Connections:	**Side or bottom entry**

Certifications & Standards Compliance

- UL 1741
- CSA C22.2 #107.1
- UL / IEC 62109-1
- IEC / EN 61000-6-4
- IEC / EN 61000-6-2
- CISPR 11 / EN 55011
- FCC Part 15 Class A
- IEEE Std C37.90.2

Hardware Protections

- DC Contactor and Precharge on Battery Port

Software Protections

- DC Over-voltage and Under-voltage
- DC Over-current
- Over-temperature
- Fuse monitoring

Options

- Integrated DC fuses
- DC high accuracy (0.2%) power metering

User Interface

Remote Communications:	**Modbus TCP/IP**
Local Indicators:	**Lamps on front panel indicating operation mode & alarm/fault status**

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POWERING A CLEANER PLANET

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