

DC-COUPLED STORAGE SYSTEMS

PVS-500 (500 kWAC) AND PVS-375 (375 kWAC)

SMART and SGIP Ready

Yaskawa Solectria® Solar's PVS-500 and PVS-375 provide the most robust and reliable Utility-Scale DC-Coupled Energy Storage Systems in the industry. A Solectria® PVS DC-Coupled Energy Storage System comes with Solectria XGI 1500 inverters, a Heila Edge Plant Master Controller and a bi-directional Dynapower DPS 500 DC/DC converter. Having the energy storage and the PV array on the same inverter allows this DC-coupled system to put the excessive PV production in storage and discharge to the grid at select times and conditions to maximize the value of the system.

MODELS AND KEY FEATURES

Model	Features
PVS-500	3 Solectria XGI 1500-166/166-3S Inverters rated at 498 kWac DC Re-combiner with up to 5 PV Array Inputs, allowing up to 1.25 MWdc and a DC/AC ratio of 2.5
PVS-375	3 Solectria XGI 1500-125/125-3S Inverters rated at 375 kWac DC Re-combiner with up to 5 PV Array Inputs, allowing up to 1.25 MWdc and a DC/AC ratio of 3.3
ALL MODELS	Dynapower DPS-500 DC/DC converter to interface the battery system Heila Edge controller to optimize energy utilization

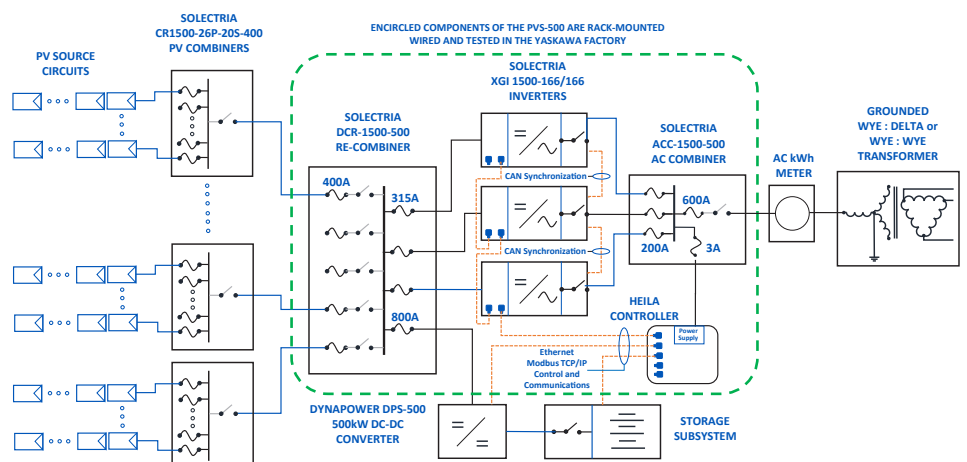
ADVANTAGES OF DC-COUPLED STORAGE

- Solar Peak Energy Re-capture
- Low-Voltage Harvesting
- Demand Charge Management
- Energy Time-Shifting
- Capacity Firming
- Ramp-Rate Control

SYSTEM DESCRIPTION

The PVS Systems include:

- Optional: Solectria 1500 VDC PV Source-Circuit Combiners with 400 A switch
- Solectria XGI 1500 utility-scale string inverters with synchronized switching, operating in parallel from the DC bus
- Solectria DC Re-combiner that serves as the overall DC Bus in the system
- Solectria AC Combiner with fusing for the inverter AC outputs, a combined output fuse and master switch
- Heila Edge controller, provides control and communications to optimize the system
- Dynapower's advanced DPS-500 DC/DC converter that interfaces a storage subsystem*



* Storage subsystem not included. Contact sales@solectria.com for assistance with compatible storage subsystems.



Dynapower Bi-Directional DC/DC Converters

- DPS-500 (500 kWdc) used in all DC-Coupled Storage systems
- 98.2% average efficiency
- 1500 Vdc
- Integrated fusing and switchgear
- Optimized for the Solectria XGI 1500 Inverters

PVS-500 / PVS-375

DC-COUPLED STORAGE SYSTEMS TECHNICAL DATA

SPECIFICATIONS

Solectria Inverter Specifications	XGI 1500-166/166-3S	XGI 1500-125/125-3S	3 x XGI 1500-166/166-3S	3 x XGI 1500-125/125-3S
Absolute Max Input Voltage	1500 Vdc			
Max Power Voltage Range (MPPT)	860 - 1250 Vdc			
Max. PV Rated Power (STC)	332 kWdc		1.25 MWdc	
Operating Voltage Range	860 - 1450 Vdc			
Max Operating Input Current	197.7 A	148.3 A	593.1 A	444.9 A
Nominal Output Voltage	600 Vac			
Continuous Real / Apparent Power Output	166 kW / 166 kVA	125 kW / 125 kVA	498 kW / 498 kVA	375 kW / 375 kVA
Maximum AC Output Current	160 A	120 A	480 A	360 A
CEC Avg / Peak Efficiency	98.5% / 99.0%	98.5% / 98.9%	98.5% / 99.0%	98.5% / 98.9%
Certifications	CA Rule 21 & HI 14H, UL 1741SA			
Warranty	5 Years			

For more information, please visit www.solectria.com.



Dynapower Converter Specifications	DPS-500
DC Input Voltage Range (Battery Port)	550 - 1500 Vdc
DC Input Voltage Range (PV Port)	550 - 1500 Vdc
Max Continuous Power Rating	500 kWdc
Max Continuous Current Rating	+/- 500 A
Avg Efficiency	98.2%
Operating Temperature Range	-25 to +50°C
Metering	Optional DC metering of converter's input or output

For more information, please visit www.dynapower.com

PV Combiner Specifications	PV Combiner Series: CR1500-xxP-yyS-400
Input Wire Compatibility	14 - 4 AWG, PV-Rated, Copper Wire Only
Output Wire Compatibility	1 Conductor at 750 kcmil / 2 Conductor at 500 kcmil
Integrated DC Disconnect	400 A, 2-pole
Fuse Configuration	Positive Polarity Fused
Number of Fuse Positions	Fuse Rating
16	20 A / 25 A / 30 A / 32 A
20	20 A / 25 A / 30 A / 32 A
24	20 A / 25 A / 30 A / 32 A
28	20 A / 25 A / 30 A / 32 A

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DC Re-Combiner Specifications	DCR-1500-500 (Used for both PVS-500 and PVS-375)
PV Source Circuit Connections	5 positions, 400 A PV-rated DC fuse (pos. pole only) and Disconnect
DC/DC Converter Connection	1 position, 800 A fuse
XGI 1500 Inverter Connections	3 positions, 315 A fuse

For more information, please visit www.solectria.com

AC Re-Combiner Specifications	ACC-1500-500
DC-Coupled Storage System Compatibility	PVS-500 and PVS-375
XGI 1500 Inverter Connections	3 positions, 200 A fuse
Main Fuse and Switch Rating	600 A fuse, 600 A switch

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HEILA Edge Controller Specifications	HEILA Edge Controller
Grid Integration Capabilities	DNP3, Multi-speak, IEEE-2030.5, IEC-61850, OpenADR
Battery, Meter and Sensor Integration Capabilities	Modbus TCP/RTU, CAN bus, BACnet, analog/digital signals
Operational Capabilities	Cloud-based access, data and event logs visualization, archival, reporting, and exporting
Autonomous Operational Capabilities	Local network, all metrics acquired and stored locally

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