

# DC-COUPLED STORAGE SYSTEMS

PVS-500 (500 kW<sub>ac</sub>), PVS-375 (375 kW<sub>ac</sub>) AND PVS-250 (250 kW<sub>ac</sub>)

Yaskawa Solectria® Solar's PVS-500, PVS-375 and PVS-250 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 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 kW <sub>ac</sub> DC Re-combiner with up to 5 PV Array Inputs, allowing up to 1.25 MW <sub>dc</sub> and a DC/AC ratio of 2.5
PVS-375	3 Solectria XGI 1500-125/125-3S Inverters rated at 375 kW <sub>ac</sub> DC Re-combiner with up to 5 PV Array Inputs, allowing up to 1.25 MW <sub>dc</sub> and a DC/AC ratio of 3.3
PVS-250	2 Solectria XGI 1500-125/125-3S Inverters rated at 250 kW <sub>ac</sub> DC Re-combiner with up to 5 PV Array Inputs, allowing up to 1.25 MW <sub>dc</sub> and a DC/AC ratio of 5.0
All Models	Dynapower DPS-500 DC/DC converter to interface the battery system

## ADVANTAGES OF DC-COUPLED STORAGE

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



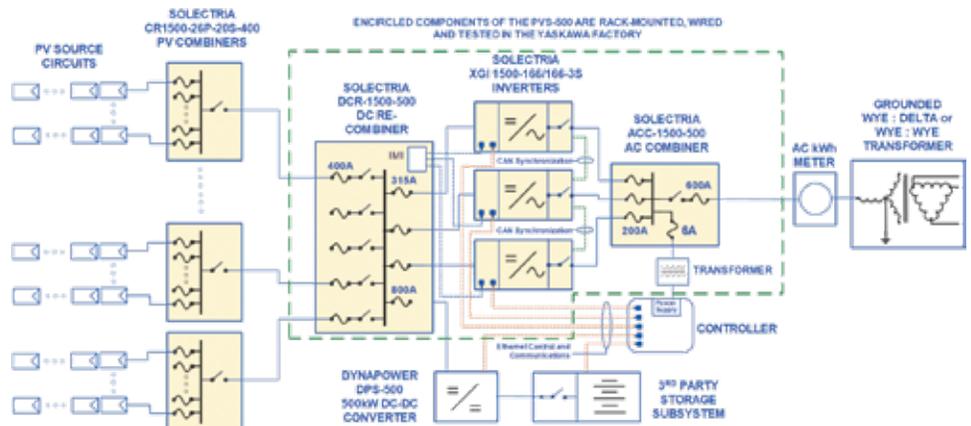
### Dynapower Bi-Directional DC/DC Converters

- DPS-500 (500 kW<sub>dc</sub>) used in all DC-Coupled Storage systems
- 98.2% average efficiency
- 1500 V<sub>dc</sub>
- Integrated fusing and switchgear
- Optimized for the Solectria XGI 1500 Inverters

## SYSTEM DESCRIPTION

### The PVS Systems include:

- 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
- Dynapower's advanced DPS-500 DC/DC converter that interfaces a storage subsystem\*
- *Optional: Solectria 1500 V<sub>dc</sub> PV Source-Circuit Combiners with 400 A switch*



\*Storage subsystem and controller not included. Contact [sales@solectria.com](mailto:sales@solectria.com) for assistance with compatible storage subsystems and approved controller options.

# PVS-500 / PVS-375 / PVS-250

## 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	2 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	296.6 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	250 kW / 250 kVA
Maximum AC Output Current	160 A	120 A	480 A	360 A	240 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, UL 1741 SB				
Warranty	5 Years				
Weight			2,400 lbs	2,400 lbs	2,100 lbs
Dimensions	Height: 77 in. (1955.8 mm) Length: 192 in. (4877 mm) Width: 78 in. (1982 mm)				



For more information, please visit [www.solectria.com](http://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	600 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 technical information, please visit [www.dynapower.com](http://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, PVS-375 and PVS-250)
PV Source Circuit Connections	5 positions, 400 A PV-rated DC fuse (positive pole only) and Disconnect
DC/DC Converter Connection	1 position, 800 A fuse
XGI 1500 Inverter Connections	3 positions, 315 A fuse

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AC Re-Combiner Specifications	ACC-1500-500
DC-Coupled Storage System Compatibility	PVS-500, PVS-375 and PVS-250
XGI 1500 Inverter Connections	3 positions, 200 A fuse
Main Fuse and Switch Rating	600 A fuse, 600 A switch

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Auxiliary Power Specification	
Power	500 VA
Voltage	600 VAC / 120VAC

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