



Energy Storage Solution

Power Conversion System PCST5500 MV Power Station (33 kV)

- Pre-equipped with a medium voltage transformer (33 kV) and switchgear
- Combines the advantages of both central inverter and string architectures
- Allowing independent management of four battery systems



Utility Grid



Solar-Plus-Storage



Factory



Simplify Integration and Boost Efficiency for Energy Storage

The PCST5500 MV Power Station is designed for utility-scale energy storage applications. It bridges the gap between efficiency and flexibility by combining the advantages of both central inverter and string architectures. The PCST5500 MV Power Station incorporates the modularity of a string architecture, allowing independent management of two out of four battery systems for optimized storage capacity.

Delivering a nominal power output of 5.5 MW, the PCST5500 MV Power Station features exceptional compatibility with mainstream battery technologies. To further streamline on-site project delivery, it comes pre-equipped with an integrated 33 kV medium voltage transformer and switchgear, which significantly boosts installation and maintenance efficiency.

Feature Highlights



Plug & Play for Diverse Applications

- Two 2.782 MW power conversion systems
- Pre-equipped with 33 kV medium voltage transformer and switchgear



Rapid On-Site Deployment

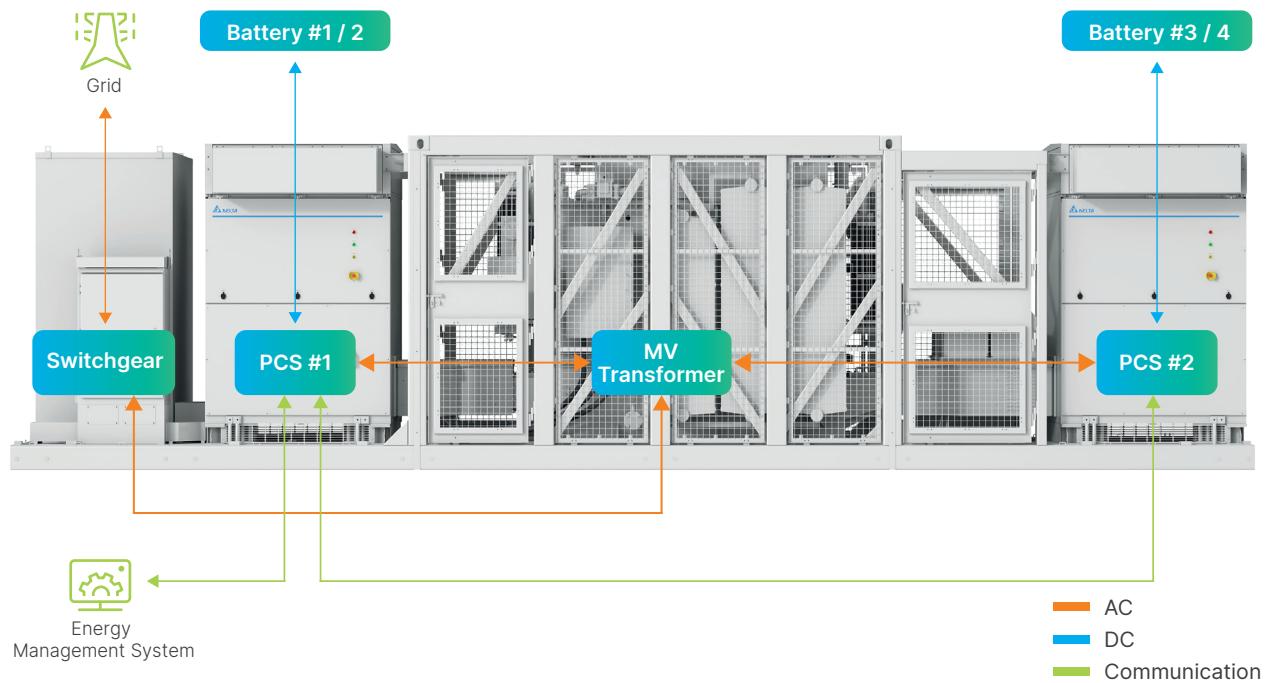
- Easy to transport and commission via skid-based design
- Built for outdoor installation, eliminating the need for housing
- Simplifies maintenance and troubleshooting for increased efficiency



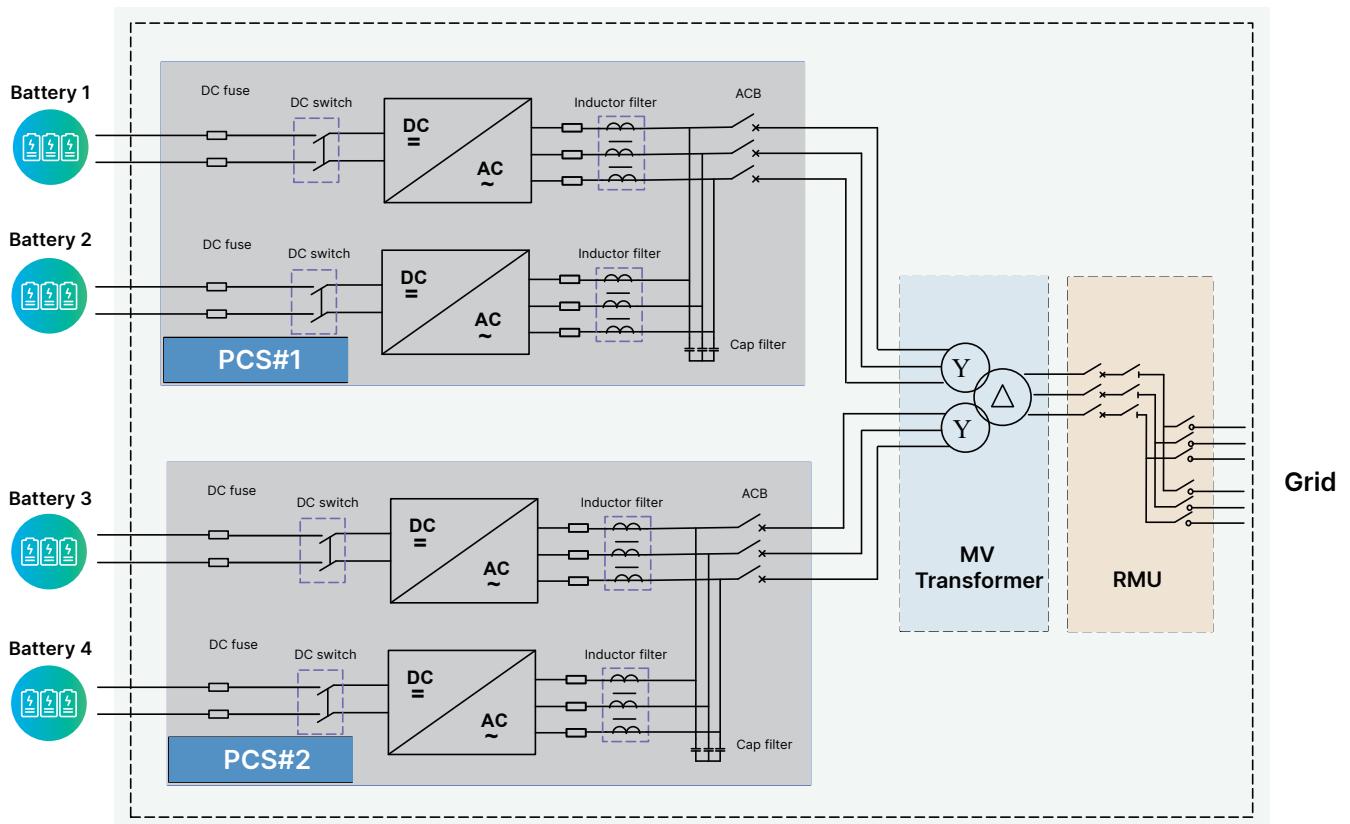
Flexibility and Compatibility

- Customizable for diverse applications
- Manage two or four battery systems independently
- Compatible with mainstream battery technologies and manufacturers

System Architecture



System Diagram



Specifications

Model Name	PCST5500 MV Power Station (33 kV)
DC Connection	
Full Power DC Voltage Range ⁽¹⁾	1040 - 1500 V
Number of DC Inputs	Max. 4
AC Connection (Grid)	
AC Output Power @ 40°C	5500 kVA
AC Output Power @ 45°C	5000 kVA
Grid Voltage Range Vrms	33 kV (35 kV optional)
LV voltage Range Vrms	690 V
Grid Frequency / Range	50 Hz / 45 - 55 Hz
Current Harmonic Distortion (THDi)	< 3% (at nominal power)
DC Current Injection	< 0.5% In
Medium Voltage Equipment	
Transformer Vector Group	Dy11y11
Transformer Cooling type	KNAN
Transformer loss and efficiency	> 99 %
Transformer protection and contacts	Liquid temperature indicator, pressure vacuum gauge, pressure relief valve oil filling valve, drain valve with sampler, moisture absorber, oil temp alarm oil temp trip, pressure relief trip, oil level trip
RMU configuration	CCV; double feeder
RMU Protection	Circuit breaker
Rated Continuous Current	630
Insulation Medium	SF6
RMU short circuit rating	20 kA / 3s
Protection	
DC Side	Load switch + fuse
PCS LV Side	Circuit breaker
General	
Dimensions (W x H x D)	10000 x 2680 x 2200 mm
Weight	< 20 t
Operating Temperature	-20 °C ~ +55 °C, de-rating > 45 °C
Noise Level	< 80 dBA @ 1m
Ingress Protection	IP55 (PCS), IP54 (switch gear), IP54 (transformer)
Communication	Modbus TCP
Compliance	
Safety	EN 62477-1
EMC	IEC 61000-6-2, IEC 61000-6-4
Transformer	EN 60076
RMU	IEC 62271-200 IEC 62271-100
Grid Connection	VDE-AR-N 4110:2023, VDE-AR-N 4120:2018, VDE-AR-N 4130:2018, EN50549-2

* Specifications are subject to change without prior notice.

(1) The minimum DC voltage for normal grid AC voltage and power factor = 1 depends on the AC voltage and power factor.



Delta Electronics (Netherlands) BV

Zandsteen 15, 2132 Hoofddorp, The Netherlands

TEL : +31 20 655-0900

PCS@deltaww.com

More Information

www.delta-emea.com