

Grid-Tied & Off-Grid PV-Storage System

HEXSTS500-1028kWh-400-A

HEXSTS500-1543kWh-400-A



Intelligent Synergistic Energy Management Platform

Multi-Energy Complementary Control: Integrates PV, storage, and grid inputs via the EMS for intelligent dispatch and optimal power allocation.

Bidirectional Conversion Technology: The PCS achieves high-efficiency AC-DC conversion, supporting millisecond-level seamless transition between grid-tied and off-grid modes.

Comprehensive Monitoring & O&M: Dual-channel local + remote communication enables full-parameter visual management via mobile/PC.



Highly Reliable Battery Energy Storage System

Cell-Level: 314Ah high-capacity LiFePO4 cells, with cycle life $\geq 6,000$ cycles.

System-Level: 4 clusters in parallel \times 16 packs in series \times 16 cells, scalable to 1MWh-level capacity.

Management-Level: Dual BMU + BCMU management with real-time monitoring of 2,000+ cell parameters.



Comprehensive Safety Protection Solution

Electrical Safety: High-voltage cabinet features triple protection: soft start, short-circuit protection, and remote ON/OFF switching.

Thermal Safety: Liquid cooling system maintains $\leq 3^{\circ}\text{C}$ temperature difference between cells, extending lifespan by 30%.

Fire Safety: Dedicated Novec 1230 fire extinguishing agent + three-stage detection and execution unit, with suppression response < 10 seconds.



Flexible Grid-Forming & Emergency Power Support

Multi-Mode Operation: STS transfer switch ensures critical load power supply within 20ms.

Emergency Power Supply: Redundant dual-path auxiliary power design guarantees uninterrupted control system operation.

Rapid Deployment: Containerized design supports plug-and-play on-site installation, reducing construction costs by 40%.

Model	HEXSTS500-1028Wh-400-A	HEXSTS500-1543Wh-400-A
DC battery		
Cell type	LFP 314Ah	
Battery Pack capacity and configuration	16.077 kWh / 1 p16s	
Battery capacity/number of packs	1028kWh/ 64	1543kWh/ 96
Battery voltage range	716.8 V to 921.6 V	
Rated charge/discharge rate	0.5 C	
Cycle index	8000cls (0.5P, 25±2 ° C, @70%SOH)	
Number of temperature monitoring points	512	768
PV DC side		
Input branches number	8 channels (optional 2 PV MPPT controllers per cluster)	12 channels (optional 2 PV MPPT controllers per cluster)
Rated current	168Ax8 channels	168Ax12 channels
Rated power	120kWx8 channels	120kWx12 channels
PCS AC side (on-grid)		
Ac rated power	500kW	
Ac maximum power	550kW	
Rated current	722A	
THDi	<3%	
DC component	< 0.5% LPN	
System voltage format	3W+N+PE	
Voltage range	360VAC~440VAC	
Frequency range	45~55Hz/55~65Hz	
Power factor	1 ~ 1	-1 ~ 1
PCS DC side (off-grid)		
Rated output power 500kW	500kW	
Rated output voltage 400V	400V	
Rated output frequency 50/60Hz	50/60Hz	
THDu <1% linear, <5% nonlinear	<1% linear, <5% nonlinear	
Overload capacit	110% overload for 10 minutes	
Distribution and switching time		
Bypass maintenance switch	1250A	
Dc switch	1250A	
Load switch	1250A	
Grid switch	1250A	
STS unit	1155A/800kW	
STS switching time	<20ms	
System		
Factory SOC Settings	30% - 50%	
Maximum system efficiency	≥97.5%	
Operating temperature	-30 to 55 ° C (derating above 40 ° C)	
Relative humidity	0 to 95%RH, no condensation	
Dimension	6058(W)*2438(D)*2896(H)mm	
Weight	<26T	
IP grade	Container IP54	
Noise level	<70dB	
Networking	4G/WiFi/ Ethernet	
Fire protection	Aerosol	
Display screen	LCD touch	
Diesel generator		
Input branches number	220Vac	
Grid feedback input	220Vac	
Diesel engine drive output	Dry contact	