

SOFAR

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in f y t i SOFAR

EMAIL
info@sofarsolar.com

WEBSITE
www.sofarsolar.com

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Utility ESS PowerMaster

Utility ESS

POWER MASTER

Utility ESS – PowerMaster

LESS LCOS

High Efficiency
and Flexibility

Ultimate Security

Intelligent Stability

Utility-Scale Energy Storage System Solution



BESS



Smart String PCS

MVT

Air-Liquid Mixing

Air-Cooled+Liquid-Cooled
Intelligent Heat Dissipation



Modular Design

Minimal operation and maintenance
One rack for one management
Automatic coordination control,
to ensure full power operation of PCS.

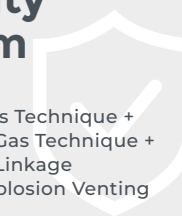


Suitable For Large Cells

Higher Energy Density
3.93MWh

3+2 Security System

Cell-Level Fire Extinguishing Gas Technique +
Cabin-Level Fire Extinguishing Gas Technique +
Water Firefighting Three-Level Linkage
Combustible Gas Emission + Explosion Venting
Design



Combined Design

A 40-foot Combined scheme can
be used to reduce the floor space
by more than 30%.

High conversion efficiency in the full power range

Smart coordination strategy to ensure high efficiency
performance of PCS full power-range





Product Advantages

- Uniform Flow Liquid-Cooled + Intelligent Air Cooled
- Better temperature uniformity, the temperature difference of cells in the battery pack is <2.5°C
- Anti-Condensation Design
- Combined Design: The 40-foot combination scheme reduces the floor area by more than 30%.
- Three-level linkage of cell-level gas fire protection + cabin-level gas fire protection + water fire protection
- Combustible Gas Emission + Explosion Venting Design
- Prevent secondary re-ignition in the battery compartment
- Ultimate Safety Design

BESS Specifications

Cell Type	LFP/280Ah	LFP/320Ah
Nominal Capacity (BOL)	3.44MWh	3.93MWh
Working Voltage Range	960 ~ 1401.6V	
Charge and Discharge Rate	≤0.5P	
Operating Ambient Temperature	-30℃ ~ 55℃	
Working Environment Relative Humidity	0 ~ 100% (No Condensation)	
Working Altitude	≤4000m	
Cooling Method	Air Cooling + Liquid Cooling	
Fire Fighting Method	Perfluoro Gas Firefighting (Cell Level & Cabin Level) + Backup Water FireFighting +Combustible Gas Emission + Explosion Venting Design	
Communication Interface	Ethernet/CAN/RS485	
Communication Protocol	IEC61850、IEC104/CAN2.0/Modbus	
Degree of Protection	IP55	
Anti-Corrosion Grade	C4	
Dimensions (W*D*H)	6058*2438*2896mm	
Weight	~34T	~35T
Standards & Certifications	GB/T36276/IEC62619/UL1973/UL9540A/UN3536	

PACK Specifications

Model	S1G-LP430	S1G-LP490
Cell Type	LFP	
Series and Parallel Mode	1P48S	
Nominal Capacity/Energy	280Ah/43kWh	320Ah/49kWh
Rated Voltage	153.6V	
Working Voltage Range	120 ~ 175.2V	
Charge and Discharge Rate	≤0.5P	
Working Temperature	-30℃ ~ 55℃	
Working Environment Relative Humidity	0 ~ 100% (No Condensation)	
Working Altitude	≤4000m	
Cooling Method	Liquid Cooling	
Fire Fighting Method	Cell-Level Firefighting (Perfluoro)	
Communication Interface	CAN	
Degree of Protection	IP67	
Dimensions (W*D*H)	765*1050*245mm	
Weight	≤310kg	≤322kg
Standards & Certifications	GB/T36276、IEC62619、UL1973、UN38.3	

Rack Specifications

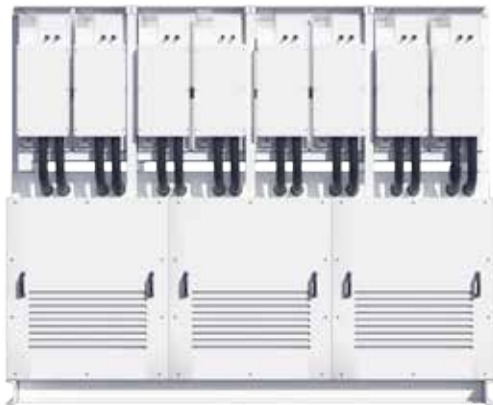
Nominal Energy	344kWh	393kWh
Configuration	1P384S	
Rated Voltage	1228.8V	
Working Voltage Range	960 ~ 1401.6V	
Charge and Discharge Rate	≤0.5P	
Working Temperature	-30℃ ~ 55℃	
Working Environment Relative Humidity	0 ~ 100% (No Condensation)	
Working Altitude	≤4000m	
Cooling Method	Liquid Cooling	
Fire Fighting Method	Perfluoro Gas Firefighting	
Communication Interface	CAN、Dry Contact	
Dimensions (W*D*H)	1050*1105*2400mm	
Weight	≤3.2T	≤3.3T
Standards & Certifications	GB/T36276、IEC62619	

* All specifications are subject to change without notice.

Smart String PCS



Product Advantages



- Support 1500Vdc battery system, higher system efficiency
- Three-level topology, 99% peak efficiency, lower power loss
- Modular design, easy installation, easy maintenance, lower OPEX
- Rack-level management, more available capacity
- Support active and reactive power response, four-quadrant operation
- Support high and low voltage ride through
- Power grid adaptability, support weak grid SCR1.2.
- Strong environmental adaptability: module, IP66, system, IP55
- Equipped with intelligent control algorithm, can be expanded in parallel



Specification	PCS Module		PCS System	
MODEL	EBI 215K	EBI 250K	EBI 1725K	EBI 2000K
DC Side Parameters				
Maximum DC Voltage	1500 V		1500 V	
DC Voltage Working Range	1000 ~ 1500 V	1180 ~ 1500 V	1000 ~ 1500 V	1180 ~ 1500 V
Maximum DC Current	242 A		968 A *2	
Grid Side Parameters				
Rated AC Power	215 kW	250 kW	1725 kW	2000 kW
Maximum AC Active Power	237 kW	275 kW	1898 kW	2200 kW
Rated AC Current	180 A		1443 A	
Maximum AC Current	198 A		1588 A	
Rated Grid Voltage	690 V	800 V	690 V	800 V
Grid Voltage Range	586.5~759V	680~880V	586.5~759V	680~880V
Rated Grid Frequency	50 / 60 Hz		50 / 60 Hz	
Grid Frequency Range	45~55Hz / 55~65Hz		45~55Hz / 55~65Hz	
Power Factor	-1~1, Adjustable		-1~1, Adjustable	
Current Total Harmonic Distortion (@Rated Power)	<1%		<3%	
System Characteristics				
Working Temperature	-35℃~60℃		-35℃~60℃	
Relative Humidity	0 ~ 100%（No Condensation）		0 ~ 100%（No Condensation）	
Maximum Working Altitude	4000m		4000m	
Ingress Protection	IP66		IP55	
Mechanical Parameters				
Dimensions (W*H*D)	770 x 850 x 310 mm		2790 x 2110 x 980 mm	
Weight	<87 kg		<1500 kg	

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