ESS-GRID FlexiO series

Resilient, Reliable and Quick Delivery Microgrid system



ESS-GRID FlexiO is an air -cooled industrial/commercial battery solution in the form of a split pcs and battery cabinet with 1+N scalability, combining solar photovoltaic, diesel power generation, grid and utility power. It is suitable for use in microgrids, in rural areas, in remote areas, or in large-scale manufacturing and farms, as well as for charging stations for electric vehicles.

964 - 3856kWh

375 - 1000kW

0.5C

716.8 - 768Vdc

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Faster Maintenance

Easy replacement of damaged battery cabinets



Modular design, Flexible configuration

Max. 241kWh for a single machine, supports parallel connection of multiple machines, easily realizes MWh level expansion, flexible configuration, quick replacement.

Highly integrated, Easy to install

Battery cabinets (BMS, EMS, FSS, TCS, IMS), DC/DC, DC/AC, with factory configurations made in advance, reduce the difficulty of system integration for C&I storage customers.

Smart EMS, Adaptive Control

The system utilizes pre-set logic algorithms to manage DC coupling, effectively reducing dependence on the EMS energy management system and thus reducing overall cost of use.

High Performance, Long Life

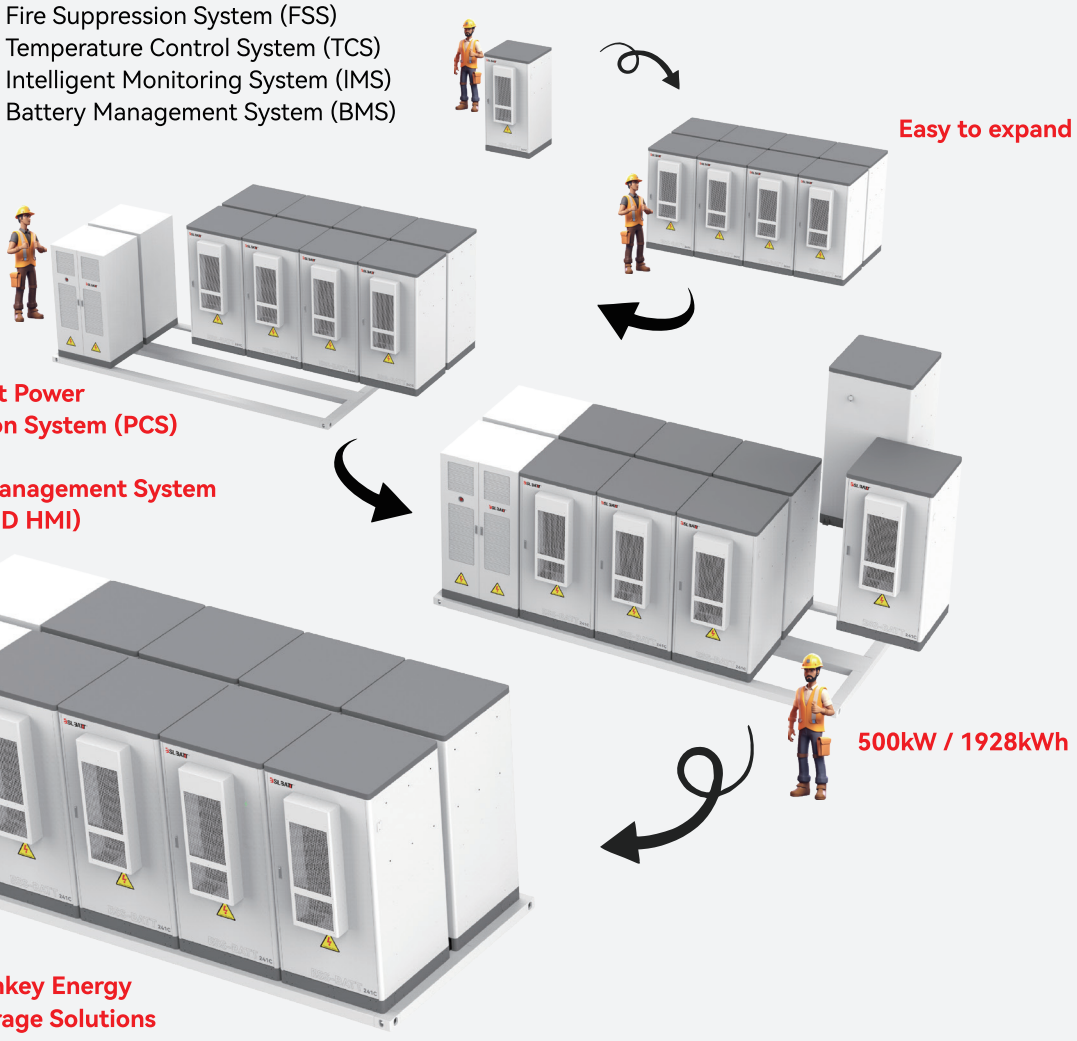
The battery section adopts the advanced LFP module patent technology, with a clear system hierarchy to improve energy efficiency. The cycle life is more than 6000 @ 80% DOD, and the service life is more than 10 years.

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Flexible and Scalable to Your Needs

200-241kWh Battery Cabinet

Fire Suppression System (FSS)
Temperature Control System (TCS)
Intelligent Monitoring System (IMS)
Battery Management System (BMS)



Easy to expand

Intelligent Power Conversion System (PCS)

Energy Management System (EMS & 3D HMI)

500kW / 1928kWh

Turnkey Energy Storage Solutions

Easy to layout » Easy to transport » Easy to install » Easy to maintain » Easy to scale up or expandable

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COMPONENTS

P500E DC/AC 500kW

- **375 / 500kW Rated Power**
- **Integrated STS and Transformer Module**

The P500E has a modular design with a built-in STS and transformer. With the P500E, you can transfer energy bi-directionally to the battery, grid and DG, helping you to achieve more functionality and maximise the benefits of your energy storage system.



P500L DC/DC 500kW

- **300 /350 / 375 / 400 450 /500kW Rated Power**
- **Maximum built-in 10 MPPTs**

The P500L has a modular design and its main role is to convert the DC power generated by the PV panels into AC power for integration into the grid or for local use. At the same time, the P500L is equipped with features such as Maximum Power Point Tracking (MPPT) to maximise the efficiency of the PV system.



ESS-BATT 241C 241kWh Battery Cabinet

- **200 / 215 / 225 / 241kWh Capacity Selection**
- **Integrated FSS, TCS, IMS, BMS All-in-one**

ESS-BATT Cubicon Series battery system is engineered to meet the vast energy demands of industrial andcommercial enterprises. As the most powerful model in BSLBATT's acclaimed ESS-GRID series, the systemoffers unmatched energy storage capacity, ensuring a reliable and continuous supply of power for demandingapplications.



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DC PV CABINET

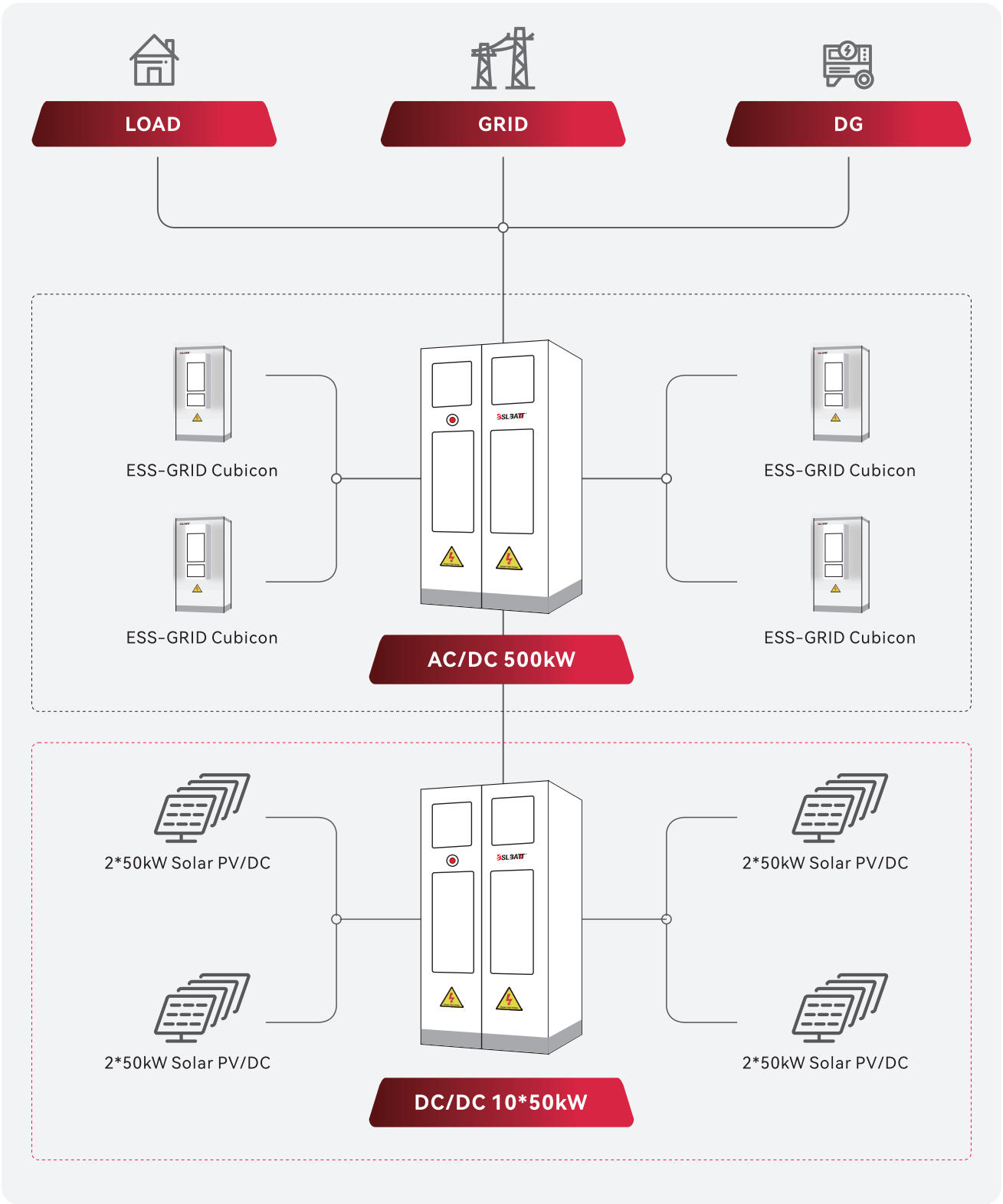
Model	ESS-GRID P500L
AC (GRID-CONNECTED)	
Photovoltaic (DC/DC) Power Rating	500kW
PV (Low Voltage Side) DC Voltage Range	312V~500V
PV Maximum DC Current	1600A
Number Of PV MPPT Circuits	10
Protection Grade	IP54
Protection Grade	I
Display	Touch LCD touch screen
Relative Humidity	10% ~ 90% RH (No Condensation)
Noise Level	Less than 80dB
Ambient Temperature	-25℃~60℃ (Derating above 45℃)
Cooling Method	Intelligent air cooling
EMS Communication	Ethernet / 485
Dimension (W*D*H,mm)	1300*1000*2300(±5)
Weight (With Battery Approx.)	900kg±3%

BATTERY CABINET PARAMETERS

Model	ESS-BATT 241C
Rated Battery Capacity	241.1kWh
Rated System Voltage	768.0V
System Voltage Range	672.0V~852.0V
Cell Capacity	314Ah
Battery Type	LiFePO4 battery（LFP）
Battery Series-parallel Connection	1P*16S*15S
Maximum Charge/Discharge Current	157A
Protection Grade	IP55
Protection Grade	I
Cooling And Heating Air Conditioning	3kW
Noise Level	70dB
Cooling Method	Intelligent air-cooling
BMS Communication	CAN / 485
Dimension (W*D*H,mm)	1150*1282*2300(±5)
Weight (With Battery Approx.)	2360kg ±3%

AC ENERGY STORAGE CABINETS

Model	ESS-GRID P500E
AC (GRID-CONNECTED)	
PCS Rated AC Power	500kW
PCS Maximum AC Power	550kW
PCS Rated AC Current	720A
PCS Maximum AC Current	790A
PCS Rated AC Voltage	400V，3W+PE/3W+N+PE
PCS Rated AC Frequency	50/60±5Hz
Total Harmonic Distortion Of Current THDI	<3% (rated power)
Power Factor	-1 overrun ~ +1 hysteresis
AC (OFF-GRID LOAD SIDE)	
Load Voltage Rating	400Vac，3W+PE/3W+N+PE
Load Voltage Frequency	50/60Hz
Overload Capacity	110% long term operation; 120% 1 minute
Voltage Total Harmonic Distoion Rate THDU	≤ 3% (linear load)
DC SIDE	
PCS DC Side Voltage Range	625~927V (three-phase three-wire) / 680~927V (three-phase four-wire)
PCS DC Side Maximum Current	800A
SYSTEM PARAMETERS	
Protection Grade	IP55
Protection Grade	I
Isolation Mode	Transformer isolation: 500kVA
Self-consumption	<100W (without transformer)
Display	Touch LCD touch screen
Relative Humidity	10% ~ 90% RH (No Condensation)
Noise Level	Less than 80dB
Ambient Temperature	-25℃~60℃ (Derating above 45℃)
Cooling Method	Intelligent air cooling
Altitude	3000m
BMS Communication	CAN / 485
EMS Communication	Ethernet / 485

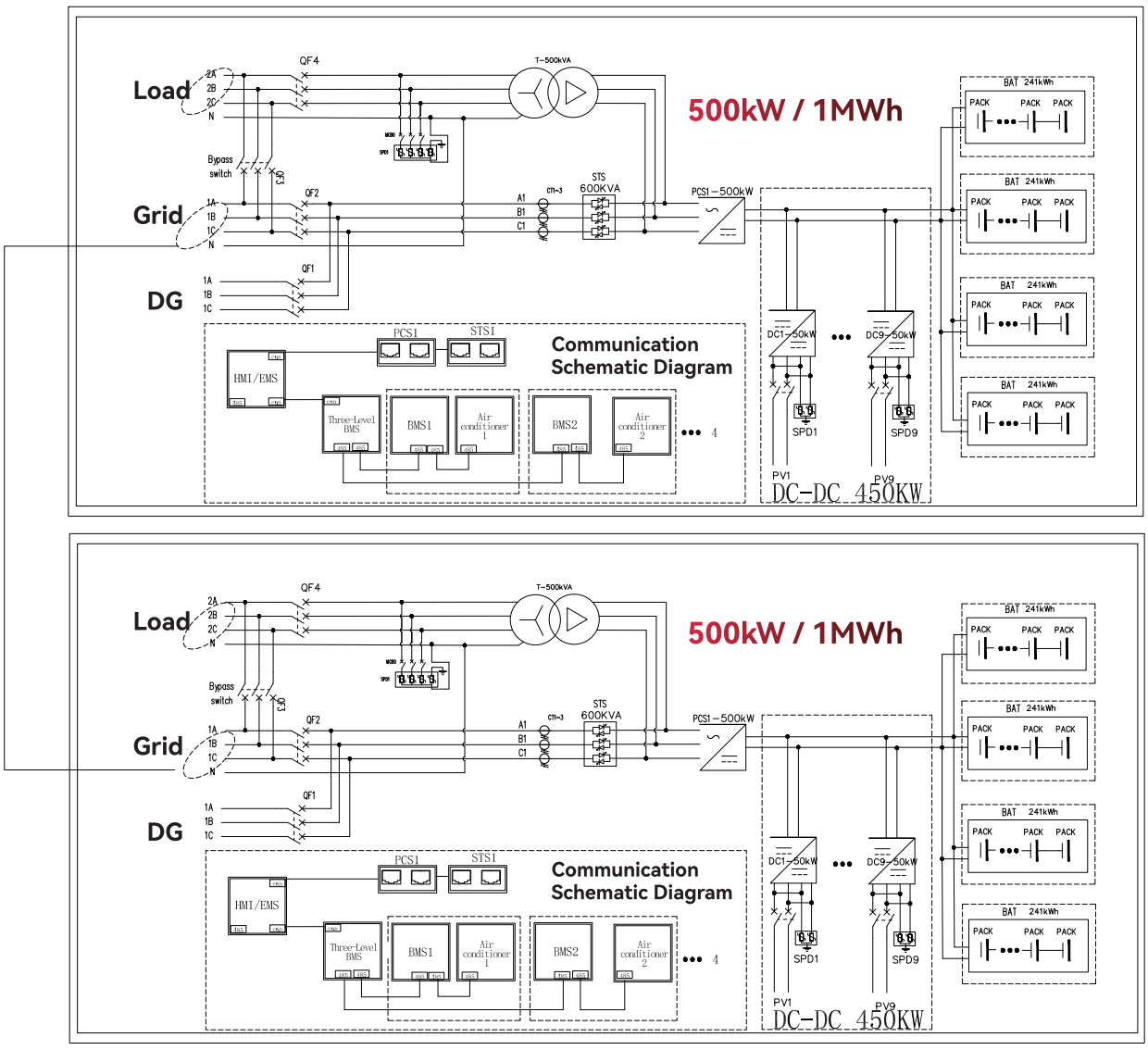




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2 Systems in parallel, Easily expandable to 1MW



Load
Grid
DG
Bypass switch
QF4
QF2
QF1
T-500kVA
500kW / 1MWh
STS 600KVA
PCS1-500kW
BAT 241kWh
PACK
DC1-50kW
DC9-50kW
SPD1
SPD9
PV1
PV9
DC-DC 450KW
PCS1
STS1
Communication Schematic Diagram
HMI/EMS
Three-Level BMS
BMS1
Air conditioner 1
BMS2
Air conditioner 2
4

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BSLBATT®

“Harnessing Energy, Elevating Lives.”

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