

ESS-GRID FlexiO Series

Resilient, Reliable and Quick Delivery Microgrid System



500kW / 1MWh

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.



3D visualization technology,
one-click monitoring



Parallel and off-grid,
maximum power 1MW



Support diesel power, utility
power, photovoltaic



Efficient energy management,
multiple modes of operation



Transportation of the whole
cabinet, easy to install



Intelligent system control for
optimal operation and
management



Advanced patented LFP
module technology



Intelligent temperature control
+ multi-level fire protection
architecture



Protection class IP54, perfect
for extreme weather

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	0~95% (non-condensing)
Noise Level	Less than 78dB
Ambient Temperature	-25°C~60°C (Derating above 45°C)
Cooling Method	Intelligent air cooling
EMS Communication	Ethernet / 485
Dimension (W*D*H)	1300*1000*2300mm
Weight	500kg

BATTERY CABINET PARAMETERS	
Model	ESS-GRID 241C
Rated Battery Capacity	241kW
Rated System Voltage	768V
System Voltage Range	672V~852V
Cell Capacity	314Ah
Battery Type	LiFePO4 battery (LFP)
Battery Series-parallel Connection	1P*16S*15S
Maximum Charge/Discharge Current	157A
Protection Grade	IP54
Protection Grade	I
Cooling And Heating Air Conditioning	3kW
Noise Level	Less than 78dB
Cooling Method	Intelligent air-cooling
BMS Communication	CAN
Dimension (W*D*H)	1150*1100*2300mm
Weight	1800kg

The system uses 5 clusters of 241kWh batteries for a total of 1.205MWh

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
Voltage Total Harmonic Distortion Rate THDU	<3% (linear load)
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
Off-grid Output THDu	≤ 2% (linear load)

DC SIDE	
PCS DC Side Voltage Range	625~950V (three-phase three-wire) / 670~950V (three-phase four-wire)
PCS DC Side Maximum Current	880A

SYSTEM PARAMETERS	
Protection Grade	IP54
Protection Grade	I
Isolation Mode	Transformer isolation: 500kVA
Self-consumption	<100W (without transformer)
Display	Touch LCD touch screen
Relative Humidity	0~95% (non-condensing)
Noise Level	Less than 78dB
Ambient Temperature	-25°C~60°C (Derating above 45°C)
Cooling Method	Intelligent air cooling
Altitude	2000m (over 2000m derating)
BMS Communication	CAN
EMS Communication	Ethernet / 485
Dimension (W*D*H)	1450*1000*2300mm
Weight	1700kg