

ENERGY STORAGE

ESS – BESS J

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RESIDENTIAL ESS-S

All In One Energy Storage System

Maximum efficiency of energy conversion.
Storage capacity up to 20 kWh



Safety



Simple



Interconnection



3,68 kW
5,1 kWh



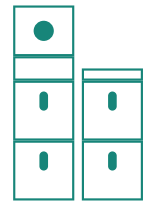
3,68 kW
10,2 kWh



5,0 kW
5,1 kWh



5,0 kW
10,2 kWh



5,0 kW
20,4 kWh

RESIDENTIAL ESS-S

Battery Model

ESS-S-PACK5.1



PHYSICAL	ESS-S-PACK5.1
Battery type	LFP (LifePO4)
System Weight	54Kg
Dimension W x H x D	540*190*240 mm
IP Protection	IP65
Warranty	5 Year Product Warranty, 10 Year Performance Warranty
ELECTRICAL	
Energy Capacity	5.12kwh
Usable Capacity	4.6kwh
Depth of Discharge (DoD)	90%
Nominal Voltage	51.2V
DC Circuit Breaker	125A
Operating Voltage Range	44.8-56.5V
Internal Resistance	<20mΩ
Cycle Life	10000cycle
OPERATION	
Max. Charge/Discharge Current	50A/80A
Rated DC Power	4096W
Max Charge/Discharge Power	2825W/4096W
Operating Temperature Range	0 to 50°C charging, -10 to 50°C discharging
Humidity	0~95% (No condensation)
BMS	
Modules Connection	Max. 4*
Capacity	100-400Ah
Power Consumption	<2W
Communication	CAN & RS485
Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
CERTIFICATE	
Safety(Cell)	Pack: IEC/EN 62619; UN38.3, Cell: IEC/EN 62619; UN38.3; UL1973

* Maximum 4 battery pack in parallel.

RESIDENTIAL ESS-S

Hybrid Inverter Model

ESS-S-3680D / ESS-S-5000D



PV STRING INPUT	ESS-S-3680D	ESS-S-5000D
Max. DC Voltage	580V	580V
Nominal Voltage	400V	400V
MPPT Voltage Range	80V-560V	80V-560V
Start Voltage	130V	130V
Number of MPP Tracker	2	2
Strings Per MPP Tracker	1	1
Max. Input Current Per MPPT	15A	15A
Max. Short-circuit Current Per MPPT	18A	18A
AC OUTPUT (GRID)		
Nominal AC Output Power	3680W	5000W
Max. AC Apparent Power	7360VA (from grid)	7360VA (from grid)
Max. AC Output Power	3680W	5000W ¹
Nominal AC Voltage	230Vac	230Vac
AC Grid Frequency Range	50 / 60Hz±5Hz	50 / 60Hz±5Hz
Max. Output Current	16A	22A ²
Max. Input Current	32A	32A
Power Factor (cos Φ)	0.8leading-0.8lagging	0.8leading-0.8lagging
THDi	<3%	<3%
BATTERY INPUT		
Battery Type	LFP (LiFePO4)	LFP (LiFePO4)
Nominal Battery Voltage	48V	48V
Charging Voltage Range	40-60V	40-60V
Max. Charging Current	50A	100A
Max. Discharging Current	80A	100A
Battery Capacity	100-400Ah	100-400Ah
Charging Strategy for Li-ion Battery	Depend on the BMS	Depend on the BMS

1. Nominal AC output power is 4999W for Australia and 4600W for Germany and South Africa.
 2. Maximum output current is 21.7A for Australia and 20A for Germany and South Africa.

AC OUTPUT (BACKUP)	ESS-S-3680D	ESS-S-5000D
Max. Output Apparent Power	4000VA	5000VA
Peak Output Apparent Power	6900VA 10sec	6900VA 10sec
Max. Output Current	16A	20A
Nominal Output Voltage	230V	230V
Nominal Output Frequency	50/60Hz	50/60Hz
Output THDv (@Linear Load)	<3% (Linear Load)	<3% (Linear Load)
EFFICIENCY		
Max. PV Efficiency	97.6%	97.6%
Euro. PV Efficiency	97.0%	97.0%
PROTECTION		
DC Switch	Bipolar DC Switch (125A/Pole)	Bipolar DC Switch (125A/Pole)
Anti-islanding Protection	Yes	Yes
Output Over Current	Yes	Yes
DC Reverse Polarity Protection	Yes	Yes
String Fault Detection	Yes	Yes
AC/DC Surge Protection	DC Type II; AC Type III	DC Type II; AC Type III
Insulation Detection	Yes	Yes
AC Short Circuit Protection	Yes	Yes
GENERAL SPECIFICATIONS		
Dimensions W x H x D	540*590*240mm	540*590*240mm
Weight	32kg	32kg
Operating Temperature Range	-25°C~+60°C	-25°C~+60°C
Noise (dB)	<25	<25
Cooling Type	Natural Convection	Natural Convection
Max. Operation Altitude	2000m	2000m
Operation Humidity	0~95% (No Condensation)	0~95% (No Condensation)
IP Class	IP65	IP65
Topology	Battery Isolation	Battery Isolation
Communication	RS485/CAN2.0/WIFI/4G	RS485/CAN2.0/WIFI/4G
Display	LCD/APP	LCD/APP
Certification & Standard	IEC/EN 62109-1 & 2; IEC/EN61000-6-1; IEC/EN 61000-6-2; EN61000-6-3; IEC/EN61000-6-4; IEC/EN 61000-3-11; EN61000-3-12; IEC60529; IEC 60068; IEC61683; IEC62116; IEC61727; EN50549-1; AS 4777.2; NRS 097; VDE-AR-N-4105; CEI0-21; G98; G99; C10/C11	

RESIDENTIAL ESS-S-3Ph

All In One Energy Storage System



Safety

CATL LFP Battery,
Stable Module, pack,
system, triple protection



Simple

Modular design,
Plug and play Mobile APP
Monitoring



Adaptable

Adjustable power
in each phase Support
diesel generator control



Efficient

Supporting 200% oversized PV
power On&OFF Grid parallel
system

RESIDENTIAL ESS-S-3Ph

Battery Model

ESS-S-3Ph PACK5.1



PHYSICAL	ESS-S-3Ph PACK5.1
Battery type	LFP (LifePO4)
System Weight	54Kg
Dimension W x H x D	540*190*240 mm
IP Protection	IP65
Warranty	5 Year Product Warranty, 10 Year Performance Warranty
ELECTRICAL	
Energy Capacity	5.12kwh
Usable Capacity	4.6kwh
Depth of Discharge (DoD)	90%
Rated Voltage	51.2V
Operating Voltage Range	44.8-56.5V
Internal Resistance	<20mΩ
Cycle Life	10000cycle
OPERATION	
Max. Charge/Discharge Current	50A/80A
Rated DC Power	4096W
Max Charge/Discharge Power	2825W/4096W
Operating Temperature Range	0 to 50°C charging, -10 to 50°C discharging
Humidity	0-95% (No condensation)
BMS	
Capacity	200-800Ah
Power Consumption	<2W
Communication	CAN & RS485
Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
CERTIFICATE	
Safety(Cell)	Pack: IEC/EN 62619; UN38.3, Cell: IEC/EN 62619; UN38.3; UL1973

Note. Maximum 4 battery pack in parallel.

RESIDENTIAL ESS-S-3Ph

Hybrid Inverter Model

ESS-S-3Ph 10KT



PV STRING INPUT	ESS-S-3Ph 10KT
Max. Continuous PV Input Power	20kW
Max. DC Voltage	1100V
Nominal Voltage	720V
MPPT Voltage Range	140V-1000V
MPPT Range (Full Load)	420V-850V
Start Voltage	130V
MPPT Tracker / Strings	2/2
Max. Input Current Per MPPT	15A
Max. Short-circuit Current Per MPPT	20A
AC OUTPUT (GRID)	
Nominal AC Output Power	10kW
Max. AC Apparent Power	11kVA
Nominal AC Voltage	400Vac 3W+N+PE
AC Grid Frequency Range	50 / 60Hz
Max. Output Current	14.5A
Max. Input Current	16A
Power Factor (cos ϕ)	0.8leading-0.8lagging*
BATTERY INPUT	
Battery Type	LFP (LiFePO4)
Nominal Battery Voltage	48V
Charging Voltage Range	40-60V
Max. Charging Current	200A
Max. Discharging Current	200A

* 0.95 leading-0.95 lagging for Germany

RESIDENTIAL ESS-S-3Ph

Hybrid Inverter Model

ESS-S-3Ph 10KT



AC OUTPUT (BACKUP)	ESS-S-3Ph 10KT
Max. Output Apparent Power	10kVA
Rated Output Power	9.2kW
Rated/Max. Output Current	14.5A/16A
Nominal Output Voltage	400V
Nominal Output Frequency	50/60Hz (±2%)
Output THDv (@Linear Load)	<3% (Linear Load)
PROTECTION	
Anti-islanding Protection	Yes
Output Over Current	Yes
DC Reverse Polarity Protection	Yes
String Fault Detection	Yes
AC/DC Surge Protection	DC Type II; AC Type III
Insulation Detection	Yes
AC Short Circuit Protection	Yes
GENERAL SPECIFICATION	
Dimensions W x H x D	540*980*240mm
Weight	42kg
Operating Temperature Range	-25°C~+60°C (Derating>45°C)
Noise (dB)	<25
Cooling Type	Natural Convection
Max. Operation Altitude	3000m (Derating>2000m)
Operation Humidity	0-95% (No Condensation)
IP Class	IP65
Topology	Battery Isolation
Communication	RS485/CAN2.0/V1/IFI/4G
Display	LCD/APP

OUTDOOR ALL IN ONE ESS CABINET

Battery Model

ESS-KAC50DP5



TECHNICAL PARAMETERS	ESS-KAC50DP5
Batter/ type	LFP
Battery module capacity	5.1.2kWh
Number of modules	10*2
Total battery capacity	102.4kWh
Nominal voltage	512V
Operating voltage range	448V~576V
Charge/Discharge rote	Max. 0.5C
DoD	100%
Standards	IEC62619-2017; UN38.3; IEC61000-6-2/4
GENERAL PARAMETERS	
Dimensions W x H x D	1100 x 1080 x 2380 mm
Installation site	Outdoor
IP protection	IP54
Anti corrosion level	C4
Operation humidity	0%~95% (no condensing)
Operation temperature	-30°C~+50.0°C
Max. operation altitude	4000m (>3000m dereting)
Communication port	Etherneth; CAN
Communication protocol	CAN; MODBUS TCP/IP
Cooling method	Air conditioner

OUTDOOR ALL IN ONE ESS CABINET

Hybrid Inverter Model

ESS-KAC50DP



PV SIDE	ESS-KAC50DP
Max. input voltage	1000V
MPPT voltage range	300V~800V
Max. current per MPPT	30A
Number of MPPT	3
Number of inputs per MPPT	2
BATTERY SIDE	
Max. input voltage	750V
Min. input voltage	350V
DC voltage at nominal operation	500V~750V
Max. DC Current	50A*2
Max. DC input power	50kW
Number of DC inputs	2
AC SIDE (ON GRID)	
Nominal AC output power	50kW
Max. AC output power	55kVA
Max. AC current	80A
Nominal AC voltage	400V
AC voltage range	320V~480V
Nominal grid frequency/ frequency range	50/60Hz±5Hz
THDv	<3%(100% load)
PF at nominal power	1
Adjustable PF range	-1(lagging)~1(leading)

OUTDOOR ALL IN ONE ESS CABINET

Hybrid Inverter Model

ESS-KAC50DP



AC SIDE (OFF GRID)	ESS-KAC50DP
Nominal AC voltage	400V±3%
THDv	<3%(linear load)
Nominal grid frequency/ frequency range	50/60Hz
Nominal AC output power	50kW
Max. AC output power	55kVA
EFFICIENCY	
Max efficiency	96.8%
PROTECTION	
Reverse connection protection	Yes
DC switch	Yes
AC switch	Yes
Over-temperature protection	Yes
Grid monitoring/ Earthing fault detection	Yes
Insulation monitoring	Yes
Surge protection	DC Type II; AC Type II
GENERAL PARAMETERS	
Dimensions W x H x D	665*610*335mm
Weight	62Kg
Topology	Transformerless
IP protection	IP65
Operation temperature range	-25~60°C (>50 r derating)
Operation humidity range	0~100%
Cooling method	Intelligent air cooling
Max. operation altitude	4000m(>3000m derating)
Display	LCD
Communication port	RS485/CAN
Communication protocol	Modbus RTU
Standards	IEC 62477, IEC61000, CE, GB/T



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