

Blue Residential ESS

All In One Energy Storage System
CATL Battery Solutions



Safety

CATL LFP Battery, stable and safe
Module, pack, system, triple protection
IP65, outdoor installation, away from living room



Simple

Modular design, single person can carry and
install it. Plug and play, 30 min quick installation
Space saving; 0.15 sq. m foot print



Intercon-
nection

Global cloud platform & Mobile APP
anytime and any where
Open API, support power internet applications

Battery Model		Blue-PACK5.1	
Physical		Operation	
Battery type	LFP (LiFePO4)	Max. Charge/Discharge Current	50A/80A
Weight	54KG	Rated DC power	4096W
Dimension (W x H x D)	540*490*240mm	Max. Charge/Discharge Power	2825W/4096W
IP Protection	IP65	Operating Temperature Range	-10 to 50°C charging -10 to 50°C discharging
Warranty	5 Year Product Warranty, 10 Year Performance Warranty	Humidity	0~95% (No condensation)
Electrical		BMS	
Energy Capacity	5.12kwh	Modules Connection	Max. 4
Usable Capacity	4.6kwh	Capacity	100-400Ah
Depth of Discharge (DoD)	90%	Power Consumption	<2W
Nominal Voltage	51.2V	Communication	CAN & RS485
DC Circuit Breaker	125A	Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
Operating Voltage Range	44.8-56.5V	Certificate	
Internal Resistance	<20mΩ	Safety(Cell)	Pack: IEC/EN 62619;UN38.3 Cell: IEC/EN 62619;UN38.3;UL1973
Cycle Life	10000cycle		

*Maximum 4 battery pack in parallel.

Hybrid Inverter Model	BluE-S 3680D-M1	BluE-S 5000D-M1	BluE-S 6000D-M1
PV String Input			
Max. DC Voltage	580V	580V	580V
Nominal Voltage	400V	400V	400V
MPPT Voltage Range	80V-560V	80V-560V	80V-560V
Start Voltage	150V	150V	150V
Number of MPPT Tracker	2	2	2
Strings Per MPPT Tracker	1	1	1
Max. Input Current Per MPPT	15A	15A	15A
Max. Short-circuit Current Per MPPT	18A	18A	18A
AC Output (Grid)			
Nominal AC Output Power	3680W	5000W	6000W
Max. AC Apparent Power	7360VA (from grid)	7360VA (from grid)	7360VA (from grid)
Max. AC Output Power	3680W	5000W ¹	6000W
Nominal AC Voltage	230Vac	230Vac	230Vac
AC Grid Frequency Range	50 / 60Hz±5Hz	50 / 60Hz±5Hz	50 / 60Hz±5Hz
Max. Output Current	16A	22A ²	25A
Max. Input Current	32A	32A	32A
Power Factor (cosΦ)	0.8leading-0.8lagging	0.8leading-0.8lagging	0.8leading-0.8lagging
THDi	<3%	<3%	<3%
Battery Input			
Battery Type	LFP (LiFePO4)	LFP (LiFePO4)	LFP (LiFePO4)
Nominal Battery Voltage	48V	48V	48V
Charging Voltage Range	40-60V	40-60V	40-60V
Max. Charging Current	50A	100A	100A
Max. Discharging Current	80A	100A	100A
Battery Capacity	100-400Ah	100-400Ah	100-400Ah
Charging Strategy for Li-ion Battery	Depend on the BMS	Depend on the BMS	Depend on the BMS
AC Output (Backup)			
Max. Output Apparent Power	4000VA	5000VA	5000VA
Peak Output Apparent Power	6900VA 10sec	6900VA 10sec	6900VA 10sec
Max. Output Current	16A	20A	20A
Nominal Output Voltage	230V	230V	230V
Nominal Output Frequency	50/60Hz	50/60Hz	50/60Hz
Output THDv (@Linear Load)	<3% (Linear Load)	<3% (Linear Load)	<3% (Linear Load)
Efficiency			
Max. PV Efficiency	97.6%	97.6%	97.6%
Euro. PV Efficiency	97.0%	97.0%	97.0%
Protection			
DC Switch	Bipolar DC Switch (125A/Pole)	Bipolar DC Switch (125A/Pole)	Bipolar DC Switch (125A/Pole)
Anti-islanding Protection	Yes	Yes	Yes
Output Over Current	Yes	Yes	Yes
DC Reverse Polarity Protection	Yes	Yes	Yes
String Fault Detection	Yes	Yes	Yes
AC/DC Surge Protection	DC Type II;AC Type III	DC Type II;AC Type III	DC Type II;AC Type III
Insulation Detection	Yes	Yes	Yes
AC Short Circuit Protection	Yes	Yes	Yes
General Specifications			
Dimensions W x H x D	540*590*240mm		
Weight	32kg		
Operating Temperature Range	-25°C~+60°C		
Noise (dB)	<25		
Cooling Type	Natural Convection		
Max. Operation Altitude	2000m		
Operation Humidity	0~95% (No Condensation)		
IP Class	IP65		
Topology	Battery Isolation		
Communication	RS485/CAN2.0/WIFI/4G		
Display	LCD/APP		
Certification & Standard	IEC/EN 62109-1&2;IEC/EN61000-6-1;IEC/EN61000-6-2;EN61000-6-3; IEC/EN61000-6-4;IEC/EN61000-3-11; 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		

*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.

KSTAR

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