KSTAR
Powering the Future

BluE-S Series Residential ESS

Single Phase / All-in-one Hybrid System / 3.68–6 kW



Save Your Energy Bill

- Optimized Time-of-use Profile
- 10000 Cycles Lifespan
- VPP Ready

Whole Home Energy Solution

- Support On-grid and Off-grid Switching
- AC-coupling or DC-coupling System
- Backup Power Support

Comprehensive Safety

- Alarm and Protection
- Online Monitoring
- Compliant with Global Grid Standards

Battery Model	
Physical	
Battery Type	LFP (LiFePO4)
Weight	54 kg
Dimensions (W x H x D)	540 x 490 x 240 mm
IP Protection	IP 65
Warranty	5 Year Product Warranty 10 Year Performance Warranty
Electrical	
Energy Capacity	5.12 kWh
Usable Capacity	4.6 kWh
Depth of Discharge (DoD)	90%
Nominal Voltage	51.2 V
DC Circuit Breaker	125 A
Operating Voltage Range	44.8 ~ 56.5 V
Internal Resistance	< 20 mΩ
Cycle Life	10000 cycle

BluE-PACK 5.1	
Operation	
Max. Charge/Discharge Current	50 A / 80 A
Rated DC power	4096 W
Max. Charge/Discharge Power	2825 W / 4096 W
Operating Temperature Range	-10 to 50°C (Charging); -10 to 50°C (Discharging) [1]
Humidity	0 ~ 95% (No condensation)
BMS	
Modules Connection	Max. 4
Capacity	100 ~ 400 Ah
Power Consumption	< 2 W
Communication	CAN & RS-485
Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
Certificate	
Safety(Cell)	Pack: IEC/EN 62619; UN 38.3 Cell: IEC/EN 62619; UN 38.3; UL 1973

*Maximum 4 battery pack in parallel.

1) The operating temperature parameters only apply to battery pack models with heating function. For battery pack models without heating function, the operating temperature range will be: 0 to 50°C(Charging), -10 to 50°C (Discharging).
2) Minimum voltage for inverter to start power output.
3) Nominal AC output power is 4999 W for Australia and 4600 W for Germany and South Africa.
4) Max. AC apparent power is 3680 VA for the UK.
5) Max. AC apparent power is 4999 VA for Australia, 5000 VA for Belgium and 4600 VA for Germany and South Africa.
6) Maximum output current is 21.7 A for Australia and 20 A for Germany and South Africa.

Hybrid Inverter Model	BluE-S 3680D-M1	BluE-S 5000D-M1	BluE-S 6000D-M1
PV Input			
Recommended Max. PV Array Input Power @STC	5.5 kWp	7.5 kWp	9 kWp
Max. DC Voltage		580 V	
Nominal Voltage		400 V	
MPPT Voltage Range		80 V ~ 560 V	
Start Voltage[2]		150 V	
Number of MPPT Tracker		2	
Strings per MPPT Tracker		1	
Max. Input Current per MPPT		15 A	
Max. Short-circuit Current per MPPT		18 A	
AC Output (Grid)			
Nominal AC Output Power	3680 W	5000 W[3]	6000 W
Max. AC Apparent Power	7360 VA[4]	7360 VA[5]	7360 VA
Max. AC Output Power	3680 W	5000 W[3]	6000 W
Nominal AC Voltage		230 Vac	
AC Grid Frequency Range		50 / 60 Hz ±5Hz	
Max. Output Current	16 A	22 A[6]	25 A
Max. Input Current		32 A	
Power Factor (cosΦ)		0.8 leading - 0.8 lagging	
THDi		< 3%	
Battery Input			
Battery Type		LFP (LiFePO4)	
Nominal Battery Voltage		48 V	
Charging Voltage Range		40 ~ 60 V	
Max. Charging Current	50 A	100 A	100 A
Max. Discharging Current	80 A	100 A	100 A
Battery Capacity		100 ~ 400 Ah	
Charging Strategy for Li-ion Battery		Depend on the BMS	
AC Output (Backup)			
Max. Output Apparent Power	4000 VA	5000 VA	5000 VA
Peak Output Apparent Power		6900 VA 10sec	
Max. Output Current	16 A	20 A	20 A
Nominal Output Voltage		230 V	
Nominal Output Frequency		50 / 60Hz	
Output THDv (@Linear Load)		< 3% (Linear Load)	
Efficiency			
Max. PV Efficiency		97.6%	
Euro. PV Efficiency		97.0%	
Protection			
DC Switch		Bipolar DC Switch (125 A / Pole)	
Anti-islanding Protection		Yes	
Output Over Current Protection		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 Specifications			
Dimensions (W x H x D)		540 x 590 x 240 mm	
Weight		32 kg	
Operating Temperature Range		-25°C ~+ 60°C	
Noise (dB)		< 25	
Cooling Type		Natural Convection	
Max. Operating Altitude		2000 m	
Operating Humidity		0 ~ 95% (No Condensation)	
IP Class		IP65	
Topology		Battery Isolation	
Communication		RS-485 / CAN 2.0 / WIFI / 4G	
Display		LCD / APP	
Certification & Standard	IEC/EN 62109-1&2; IEC/EN 61000-6-1; IEC/EN 61000-6-2; EN 61000-6-3; IEC/EN 61000-6-4; IEC/EN 61000-3-11; EN 61000-3-12; IEC 60529; IEC 60068; IEC 61683; IEC 62116; IEC 61727; EN 50549-1; AS 4777.2; NRS 097; VDE-AR-N-4105; CEI 0-21; G98/G99; C10/11		

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